DIGESTIVE DISEASE DAYS

2023

PROGRAMMA

22 en 23 maart

Congrescentrum NH Koningshof
Veldhoven

NVGE
NEDERLANDSE VERENIGING
VOOR GASTRO-ENTEROLOGIE

DIGESTIVE DISEASE DAYS - DDD

Het programma van de DDD werd samengesteld met inbreng van de volgende verenigingen en secties:

Nederlandse Vereniging voor Gastro-enterologie
Nederlandse Vereniging voor Gastrointestinale Chirurgie
Nederlandse Vereniging voor Hepatologie
Nederlandse Vereniging van Maag-Darm-Leverartsen

Secties:
Sectie Gastrointestinale Endoscopie
Sectie Experimentele Gastroenterologie
Sectie Neurogastroenterologie en Motiliteit
Sectie Gastrointestinale Oncologie
Sectie Inflammatoire Darmziekten IBD
Sectie Kinder-MDL
Verpleegkundigen & Verzorgenden Nederland – MDL
PhD Netwerk

INHOUDSOPGAVE **pag.**

Tijdstippen diverse ledenvergaderingen woensdag:

Nederlandse Vereniging voor Gastroenterologie 22 maart, 12.30 uur Brabantzaal

INHOUDSOPGAVE **pag.**

Donderdag 23 maart 2023

Tijdstippen diverse ledenvergaderingen donderdag

Nederlandse Vereniging van Maag-Darm-Leverartsen	23 maart, 08.00 uur Zaal 80
Nederlandse Vereniging voor Hepatologie	23 maart, 12.45 uur Baroniezaal

Belangrijke mededeling
over de aanwezigheid van farmaceutische industrieën

Aan alle deelnemers tijdens de Digestive Disease Days op 22 en 23 maart 2023

De Nederlandse Vereniging voor Gastroenterologie kent een jarenlange samenwerking met de farmaceutische industrie. De vereniging stelt de farmaceutische industrie in de gelegenheid aanwezig te zijn bij de wetenschappelijke vergaderingen met een stand. Mede hierdoor kan de vereniging haar wetenschappelijke bijeenkomsten organiseren.

De Geneesmiddelenwet zegt dat - onder strikte voorwaarden - de farmaceutische industrie alleen reclame mag maken voor receptgeneesmiddelen voor personen die bevoegd zijn om dergelijke geneesmiddelen voor te schrijven. Alle andere personen (inclusief bijvoorbeeld verpleegkundigen, endoscopie-assistenten en biochemici) worden beschouwd als "publiek". De farmaceutische industrie mag geen reclame maken voor receptgeneesmiddelen voor publiek.

De Nederlandse Vereniging voor Gastroenterologie is een wetenschappelijke vereniging voor personen die beroepsmatig betrokken zijn bij zorg, onderwijs en onderzoek ten behoeve van patiënten met maag-darm- en leveraandoeningen. Dat betekent dat ook personen die geen arts zijn, lid van de NVGE zijn.
De aanwezigheid van artsen, niet-artsen en farmaceutische industrieën tijdens het congres kan de NVGE ongewild in aanraking brengen met de inspectie voor de gezondheidszorg, sectie reclametoezicht, en daarmee in diskrediet worden gebracht. Dat willen wij uiteraard voorkomen.

In verband met de Gedragscode Geneesmiddelenreclame van de CGR en de aan het NVGE-congres verbonden expositie van farmaceutische producten, medische instrumenten en voedingsmiddelen, zal bij uw congresregistratie via de NVGE-website worden gevraagd naar uw bevoegdheid om medicijnen voor te schrijven.

Alle congresdeelnemers dragen verplicht een congresbadge waarop behalve de naam ook beroep/ functie staat aangegeven. Farmaceutische standhouders benaderen uitsluitend congresdeelnemers die de bevoegdheid hebben om receptgeneesmiddelen voor te schrijven of ter hand te stellen. Om dit extra te verduidelijken zal wederom worden gekozen voor verschillende kleuren congresbadges.

Uit het bovenstaande volgt dat aanwezige reclame-uitingen en merkproductinformatie van farmaceutische industrieën alleen gericht zijn op personen die bevoegd zijn om de betreffende geneesmiddelen voor te schrijven. Wij maken u erop attent dat het voor niet-artsen dan ook niet is toegestaan de stands van de aanwezige farmaceutische industrieën te bezoeken.

De NVGE en farmaceutische industrie (sponsoren) vertrouwen erop u met bovenstaande voldoende te hebben geïnformeerd.

Bestuur van de NVGE

Symposium NVGIC I – Werkgroep zuur — Brabantzaal

Voorzitters: *W.E. Hueting en T. Weijs*

Thema: **Hoe is het nu met GERD?**

09.30 GORZ/PPI gebruik in de eerste lijn.
Prof. dr. M.E. Numans, LUMC afd PHEG, Leiden/Den Haag

09.45 Diagnostiek en behandeling GORZ
Dr. B. Scheffer, MDL-arts, Jeroen Bosch Ziekenhuis, 's Hertogenbosch

10.00 Zorgpad GORZ en Hiatale Hernia (voorbeeld Alrijne)
Dr. C.H.M. Clemens, MDL-arts, Alrijne Ziekenhuis, Leiden

10.15 Chirurgische behandeling van GORZ en Hiatale Hernia
Dr. F. Voskens, chirurg, Meander Medisch Centrum, Amersfoort

10.30 Chirurgie: technieken en resultaten HD-chirurgie in NL, netwerk Zuur in de nabije toekomst
Dr. W.E. Hueting, chirurg, Alrijne Ziekenhuis, Leiden

10.45 Koffie-/theepauze in de expositiehal

Plenaire opening DDD en President Select — Brabantzaal

Voorzitters: *C.J. van der Woude en A.E. van der Meulen*

11.15 Zeb1 downregulation sensitizes pancreatic cancer-associated fibroblasts to killing by oncolytic reovirus through upregulation of the reovirus receptor Junction Adhesion Molecule A (p. 52)
N. Dam[1,2,3], T.J. Harryvan[2*], B. Schmierer[4], E.A. Farshadi[5], L.J.A.C. Hawinkels[2#], V. Kemp[1#], [1]Dept. of Cell & Chemical Biology, Leiden University Medical Center, [2]Dept. of Gastroenterology & Hepatology, Leiden University Medical Center, [3]Dept. of Surgery, Erasmus Medical Center, Rotterdam, [4]Dept. of Medical Biochemistry and Biophysics, Division of Chemical Biology, Karolinska Institutet, Stockholm, Sweden, [5]Dept. of Pulmonary Medicine, Erasmus University Medical Center, Rotterdam, the Netherlands. [*/#] These authors contributed equally*

11.24 Clip placement does not prevent delayed bleeding after endoscopic mucosal resection (Clipper) for large polyps in the proximal colon: a multicentre, randomized controlled trial. (p. 53)
G. Kemper[1], A.S. Turan[1], R.M. Schreuder[2], R.W.M. Schrauwen[3], M. Hadithi[4], P. Didden[5], B.A.J. Bastiaansen[6], B. Van der Spek[7], J.S. Terhaar sive Droste[8], M.P. Schwartz[9], W.L. Hazen[10], J.W. Straathof[11], J.J. Boonstra[12], A. Alkhalaf[13], F.J. Voogd[14], D. Allajar[15], W. De Graaf[16], P. Koehestanie[17], R. Roomer[18], R.J.J. De Ridder[19], E.J.M. van Geenen[1], P.D. Siersema[1], [1]Dept. of Gastroenterology and Hepatology, Radboudumc, Nijmegen, [2]Dept. of Gastroenterology and Hepatology, Catharina Ziekenhuis, Eindhoven, [3]Dept. of Gastroenterology and Hepatology,

Bernhoven, Uden, [4]Dept. of Gastroenterology and Hepatology, Maasstad Ziekenhuis, Rotterdam, [5]Dept. of Gastroenterology and Hepatology, UMC Utrecht, [6]Dept. of Gatroenterology and Hepatology, Amsterdam UMC, [7]Dept. of Gastroenterology and Hepatology, Noordwest Ziekenhuisgroep, Alkmaar, [8]Dept. of Gastroenterology and Hepatology, Jeroen Bosch Ziekenhuis, 's-Hertogenbosch, [9]Dept. of Gastroenterology and Hepatology, Meander Medisch Centrum, Amersfoort, [10]Dept. of Gastroenterology and Hepatology, Elisabeth-Tweesteden Ziekenhuis, Tilburg, [11]Dept. of Gastroenterology and Hepatology, Máxima Medisch Centrum, Veldhoven, [12]Dept. of Gastroenterology and Hepatology, Leids Universitair Medisch Centrum, Leiden, [13]Dept. of Gastroenterology and Hepatology, Isala, Zwolle, [14]Dept. of Gastroenterology and Hepatology, Medisch Centrum Leeuwarden, [15]Dept. of Gastroenterology and Hepatology, St Jansdal Ziekenhuis, Hardewijk, [16]Dept. of Gastroenterology and Hepatology, Erasmus MC Rotterdam, [17]Dept. of Gastroenterology and Hepatology, Bravis Ziekenhuis, Roosendaal, [18]Dept. of Gastroenterology and Hepatology, Franciscus Gasthuis & Vlietland, Rotterdam, [19]Dept. of Gastroenterology and Hepatology, Maastricht UMC+, The Netherlands.

11.33 **Uitreiking van de NVGE Gastrostart subsidies**

Bekendmaking en uitreiking Proefschriftprijs NVGE 2023
Voordracht prijswinnaar

12.00 **Keynote lecture**
Viral Hepatitis: The Road to Elimination from Discovery to Treatment and Cure
Prof. dr. H.L.A. Janssen, MDL-arts, Erasmus MC, Rotterdam

12.30 Algemene ledenvergadering NVGE

12.45 Lunch in de expositiehal en gemodereerde postersessies

Abstractsessie NVGIC I — Brabantzaal

Voorzitters: *P. van Duijvendijk en J. Verhelst*

Voordrachten in het Nederlands, 6 minuten presentatie en 3 minuten discussie.

13.45 Long-term outcome of immediate versus postponed intervention in patients with infected necrotising pancreatitis (p. 54)
N.J. Sissingh[1], C.L. van Veldhuisen[2], L. Boxhoorn[3], S.M. van Dijk[2], J. van Grinsven[2], R.C. Verdonk[4], M.A. Boermeester[2], S.A.W. Bouwense[5], M.J. Bruno[6], V.C. Cappendijk[7], P. van Duijvendijk[8], C.H.J. van Eijck[9], P. Fockens[3], H. van Goor[10], M. Hadithi[11], J.W. Haveman[12], M.A.J.M. Jacobs[3], J.M. Jansen[13], M.P.M. Kop[14], E.R. Manusama[15], J.S.D. Mieog[16], I.Q. Molenaar[17], V.B. Nieuwenhuijs[18], A.C. Poen[19], J.W. Poley[20], R. Quispel[21], T.E.H. Romkens[22], M.P. Schwartz[23], T.C. Seerden[24], M.G.W. Dijkgraaf[25], M.W.J. Stommel[10], J.W.A. Straathof[26], N.G. Venneman[27], R.P. Voermans[3], J.E. van Hooft[1], H.C. van Santvoort[28], M.G. Besselink[2], [1]Dept. of Gastroenterology and Hepatology, Leiden University Medical Center, Leiden, [2]Dept. of Surgery, Amsterdam UMC, location University of Amsterdam, Amsterdam, [3]Dept. of Gastroenterology and Hepatology, Amsterdam UMC, location University of Amsterdam, [4]Dept. of Gastroenterology and Hepatology, St. Antonius, Nieuwegein, [5]Dept. of Surgery, Maastricht University Medical Center, Maastricht, [6]Dept. of Gastroenterology and Hepatology, Erasmus Medical Centre, Erasmus, [7]Dept. of Radiology, Jeroen Bosch Hospital.

Den Bosch, [8]Dept. of Surgery Gelre Hospital, Apeldoorn, [9]Dept. of Surgery, Erasmus Medical Centre, [10]Dept. of Surgery, Radboud University Medical Centre, Nijmegen, [11]Dept. of Gastroenterology and Hepatology, Maasstad Hospital, Rotterdam, [12]Dept. of Surgery, University Medical Center Groningen, [13]Dept. of Gastroenterology and Hepatology, OLVG, Amsterdam, [14]Dept. of Radiology, Amsterdam UMC, location University of Amsterdam, [15]Dept. of Surgery, Medical Center Leeuwarden, Leeuwarden, [16]Dept. of Surgery, Leiden University Medical Center, Leiden, [17]Dept. of Surgery, University Medical Center Utrecht, Utrecht, [18]Dept. of Surgery, Isala Clinics, Zwolle, [19]Dept. of Gastroenterology and Hepatology, Isala Clinics, Zwolle, [20]Dept. of Gastroenterology and Hepatology, Maastricht University Medical Center, Maastricht, [21]Dept. of Gastroenterology and Hepatology, Reinier de Graaf Gasthuis, Delft, [22]Dept. of Gastroenterology and Hepatology, Jeroen Bosch Hospital, Den Bosch, [23]Dept. of Gastroenterology and Hepatology, Meander Medical Centre, Amersfoort, [24]Dept. of Gastroenterology and Hepatology, Amphia Hospital, Breda, [25]Dept. of Epidemiology, Amsterdam UMC, location University of Amsterdam, Amsterdam, [26]Dept. of Gastroenterology and Hepatology, Maxima Medical Centre, Veldhoven, [27]Dept. of Gastroenterology and Hepatology, Medical Spectrum Twente, Enschede, [28]Dept. of Surgery, St. Antonius, Nieuwegein, The Netherlands.

13.54 Development of pancreatic diseases during long-term follow-up of patients with acute pancreatitis in a prospective nationwide multicenter cohort (p. 55)

F.E.M. de Rijk[1], N.J. Sissingh[2], T.T. Boel[3], H.C. Timmerhuis[4], M.J.P. de Jong[5], H.A. Pauw[4], C.L. van Veldhuisen[6], N.D. Hallensleben[1], M.P. Anten[7], M.A. Brink[8], W.L. Curvers[9], P. van - Duijvendijk[10], W.L. Hazen[11], S.D. Kuiken[12], A.C. Poen[13], R. Quispel[14], T.E.M. Römkens[15], B.W.M. Spanier[16], A.C.I.T.L. Tan[17], F.P. Vleggaar[18], A.M.C.J. Voorburg[19], B.J.M. Witteman[20], U. Ahmed Ali[21], Y. Issa[6], S.A.W. Bouwense[22], R.P. Voermans[3], E.J.M. van Geenen[5], J.E. van Hooft[2], P.J.F. de Jonge[1], H. van Goor[23], M.A. Boermeester[6], M.G. Besselink[24], M.J. Bruno[1], R.C. Verdonk[25], H.C. van Santvoort[4], [1]Dept. of Gastroenterology and Hepatology, Erasmus MC, Rotterdam, [2]Dept. of Gastroenterology and Hepatology, Leiden University Medical Center, [3]Dept. of Gastroenterology and Hepatology, Amsterdam UMC, location University of Amsterdam, Amsterdam, [4]Dept. of Surgery, St. Antonius Ziekenhuis, Nieuwegein, [5]Dept. of Gastroenterology and Hepatology, Radboud UMC, Nijmegen, [6]Dept. of Surgery, Amsterdam UMC, location University of Amsterdam, Amsterdam, [7]Dept. of Gastroenterology and Hepatology, Sint Franciscus Hospital, Rotterdam, [8]Dept. of Gastroenterology and Hepatology, Meander Medical Center, Amersfoort, [9]Dept. of Gastroenterology and Hepatology, Catharina Hospital, Eindhoven, [10]Dept. of Surgery, Gelre Hospital, Apeldoorn, [11]Dept. of Gastroenterology and Hepatology, Elisabeth TweeSteden Hospital, Tilburg, [12]Dept. of Gastroenterology and Hepatology, Onze Lieve Vrouwe Gasthuis, Amsterdam, [13]Dept. of Gastroenterology and Hepatology, Isala Clinics, Zwolle, [14]Dept. of Gastroenterology and Hepatology, Reinier de Graaf Hospital, Delft, [15]Dept. of Gastroenterology and Hepatology, Jeroen Bosch Hospital, 's Hertogenbosch, [16]Dept. of Gastroenterology and Hepatology, Rijnstate Hospital, Arnhem, [17]Dept. of Gastroenterology and Hepatology, Canisius Wilhelmina Hospital, Nijmegen, [18]Dept. of Gastroenterology and Hepatology, University Medical Center, Amsterdam, [19]Dept. of Gastroenterology and Hepatology, Diakonessenhuis, Utrecht, [20]Dept. of Gastroenterology and Hepatology, Gelderse Vallei Hospital, Ede, [21]Dept. of Surgery, Hospital Rivierenland, Tiel, [22]Dept. of Surgery, Maastricht University Medical Centre+, Maastricht, [23]Dept. of Surgery, Radboud UMC, Nijmegen, [24]Dept. of Gastrointestinal Surgery, Amsterdam UMC, location University of Amsterdam, Amsterdam, [25]Dept. of Gastroenterology and Hepatology, St. Antonius Ziekenhuis, Nieuwegein, The Netherlands.

14.03 Feasibility and safety of tailored lymphadenectomy using sentinel node navigated surgery with a hybrid tracer of technetium-99m and indocyanine green in high-risk T1 esophageal adenocarcinoma patients (p. 56)

C.N. Frederiks[1], A. Overwater[2], J.J.G.H.M. Bergman[3], R.E. Pouw[3], B. de Keizer[4], R.J. Bennink[5], L.A.A. Brosens[6], S. Meijer[7], R. van Hillegersberg[8], M.I. van Berge Henegouwen[9], J.P. Ruurda[8], S.S. Gisbertz[9], B.L.A.M. Weusten[2], [1]Dept. of Gastroenterology and Hepatology, UMC Utrecht, [2]Dept. of Gastroenterology and Hepatology, St. Antonius Hospital, Nieuwegein, [3]Dept. of Gastroenterology and Hepatology, Amsterdam UMC, [4]Dept. of Radiology and Nuclear Medicine, UMC Utrecht, Nieuwegein, [5]Dept. of Radiology and Nuclear Medicine, Amsterdam UMC, Amsterdam, [6]Dept. of Pathology, UMC Utrecht, Nieuwegein, [7]Dept. of Pathology, Amsterdam UMC, Amsterdam, [8]Dept. of Gastrointestinal Surgery, UMC Utrecht, Nieuwegein, [9]Dept. of Gastrointestinal Surgery, Amsterdam UMC, Amsterdam, The Netherlands.

14.12 Perfusion assessment by fluorescence time curves in esophagectomy with gastric conduit reconstruction (p. 57)

J.J. Joosten, M.I. van Berge Henegouwen, Dept. of Surgery, Amsterdam UMC, Amsterdam, The Netherlands.

14.21 The predictive value of mandard score and nodal status on recurrence patterns and survival of esophageal adenocarcinoma after neoadjuvant therapy and surgery (p. 58)

S.P.G. Henckens[1], D. Liu[2], S. Gisbertz[1], M.C. Kalff[1], M.C.J. Anderegg[1], M.F. Bijlsma[3], S.L. Meijer[4], M.C.C.M. Hulshof[5], C. Oyarce[3], S.M. Lagarde[6], H.W.M. Van Laarhoven[7], M.I. Van Berge Henegouwen[1], [1]Dept. of Surgery, Amsterdam UMC, Amsterdam, [2]Laboratory for Experimental Oncology and Radiobiology (LEXOR), Amsterdam UMC, Amsterdam, [3]Center for Experimental Molecular Medicine (CEMM), Amsterdam UMC, Amsterdam, [4]Dept. of Pathology, Amsterdam UMC, Amsterdam, [5]Dept. of Radiotherapy, Amsterdam UMC, [6]Dept. of Surgery, Erasmus MC, Rotterdam, [7]Dept. of Medical Oncology, Amsterdam UMC, The Netherlands.

14.30 Incidence, risk factors, treatment and survival of synchronous or metachronous peritoneal metastases in patients with gastric cancer: a nationwide study (p. 59)

A. Rijken[1], M. Pape[2], G.A. Simkens[1], I.H.J.T. de Hingh[1], M.D.P. Luyer[1], J.W. van Sandick[3], H.W.M. van Laarhoven[4], R.H.A. Verhoeven[2], F.N. van Erning[2], [1]Dept. of Surgery, Catharina Hospital, Eindhoven, [2]Dept. of Research & Development, Netherlands Comprehensive Cancer Organisation, Utrecht, [3]Dept. of Surgery, Netherlands Cancer Institute, Amsterdam, [4]Dept. of Medical Oncology, Amsterdam UMC location University of Amsterdam, Amsterdam, The Netherlands.

Symposium NVGIC II (werkgroep transplantatie) Brabantzaal

Voorzitters: *I.P.J. Alwayn en B. Reiber*

Thema: **Levertransplantatie**
De chirurg, de MDL-arts en de levertransplantatie patiënt

14.45 Bariatrische chirurgie bij levertransplantatie patiënten
Dr. R. Liem, chirurg, GHZ/NOK, Gouda

15.05 Levertransplantatie voor colorectale levermetastasen, een update
Dr. C.I. Buis, chirurg, UMCG, Groningen

15.25 De meerwaarde van een levertransplantatie stage voor de differentiant GE chirurgie
Dr. C. Tax, aios chirurgie, LUMC, Leiden

15.45 Koffie-/theepauze in de expositiehal

Symposium NVGIC III Brabantzaal

Voorzitters: *G. Patijn en R.J. Coelen*

Thema: **Lifestyle & Technology**

Voertaal: Engels

16.15 Integrative medicine in oncology: how we do it and why
Dr. E.M. Noorda, chirurg-oncoloog en arts integrative medicine, Isala, Zwolle

16.32 The promise of digital health
Dr. G.A. Patijn, chirurg, Isala, Zwolle

16.49 Robotics and Artificial Intelligence in Surgery
PD Dr. med. F. Nickel, surgeon, University Medical Center Hamburg-Eppendorf

17.09 Sustainable Surgery
Dr. Ir. Ing T. Horeman-Franse, Department of BioMechanical Engineering, TU Delft.

17.26 Einde symposium Lifestyle & Technology

17.30 Start van de plenaire sessie: Best abstracts NVGE 2023 in deze zaal

Best abstracts NVGE 2023 — Brabantzaal

Voorzitters: *W.M.U. van Grevenstein en P.P.J. van der Veek*

Voordrachten in het Nederlands, 6 minuten presentatie en 3 minuten discussie.

17.30 Fluorescently labelled vedolizumab identified macroscopic and microscopic mucosal drug distribution and target cells in patients with inflammatory bowel disease (p. 60)

A.M. van der Waaij[1], R.Y. Gabriels[1], M.D. Linssen[1], P. Volkmer[2], D.J. Robinson[3], M.A. Hermoso[2], A. Karrenbeld[4], E.A.M. Festen[2], G. Dijkstra[2], G. Kats-Ugurlu[2], W.B. Nagengast[2], [1]Dept. of Gastroenterology and Hepatology, UMCG, Groningen, [2]Dept. of Gastroenterology and Hepatology, Universitair Medisch Centrum Groningen, [3]Dept. of Otorhinolaryngology and Head and Neck Surgery, Erasmus Medical Center, Rotterdam, [4]Dept. of Pathology, Universitair Medisch Centrum Groningen, Groningen, Netherlands.

17.39 Dried chicory root – the intrinsic way to health The positive health effects of a high-fiber product on bowel function, fecal microbiota and short-chain fatty acid production in prediabetes (p. 61)

M.L. Puhlmann[1,2,1], Rijnaarts[3], R. Jokela[4], K.C.M. van Dongen[1,5], N. Bui1[6], R.W.J. van Hangelbroek[2,7], H. Smidt[1], W.M. de Vos[1,4], E.J.M. Feskens[2], [1]Laboratory of Microbiology, Wageningen University & Research, Wageningen, [2]Division of Human Nutrition and Health, Wageningen University & Research, Wageningen, [3]WholeFiber Holding BV, Espel, [4]Human Microbiome Research Program, Faculty of Medicine, University of Helsinki, Helsinki, Finland, [5]Division of Toxicology, Wageningen University & Research, Wageningen, [6]Caelus Health, Amsterdam, [7]Dept. of Data Science, Euretos BV, Utrecht, The Netherlands.

17.48 Routine sampling of lymph node station 16b1, 9, and 8a during pancreatoduodenectomy for pancreatic and periampullary carcinoma (PANODE): a prospective multicenter study (p. 62)

J.A. Suurmeijer[1], B.K. Pranger[2], L.W.F. Seelen[3], T.M. Mackay[1], J.L. Van Dam[4], H.C. Van Santvoort[5], B. Groot Koerkamp[4], A. Farina Sarasqueta[6], C.H. Van Eijck[4], M. Liem[7], V.B. Nieuwenhuijs[8], I.H. De Hingh[9], J.M. Klaase[2], J.I. Erdmann[1], O.R. Busch[10], I.Q. Molenaar[3], V.E. De Meijer[2], M.G. Besselink[1], [1]Dept. of Surgery, Amsterdam UMC, location University of Amsterdam, Amsterdam, [2]Dept. of Surgery, University of Groningen, University Medical Center Groningen, Groningen, [3]Dept. of Surgery, UMC Utrecht Cancer Center and St Antonius Hospital Nieuwegein, Utrecht, [4]Dept. of Surgery, Erasmus MC, University Medical Center Rotterdam, Rotterdam, [5]Division of Psychosocial Research and Epidemiology, UMC Utrecht Cancer Center and St Antonius Hospital Nieuwegein, Utrecht, Nederland[6] Dept. of Pathology, Amsterdam UMC, location University of Amsterdam, [7]Division of Psychosocial Research and Epidemiology, Medisch Spectrum Twente, Enschede, [8]Dept. of Surgery, Isala, Zwolle, [9]Dept. of Surgery, Catharina Hospital, Eindhoven, [10]Division of Psychosocial Research and Epidemiology, Amsterdam UMC, location University of Amsterdam, The Netherlands.

17.57 Post-colonoscopy colorectal cancers in a FIT-based CRC screening program (p. 63)

P.H.A. Wisse[1], M.C.W. Spaander[1], S.Y. de Boer[2], M. Oudkerk Pool[3], J.S. Terhaar sive Droste[3], C. Verveer[3], G.A. Meijer[4], E. Dekker[5], [1]Dept. of Gastroenterology and Hepatology, Erasmus MC, Rotterdam, [2]Dept. of Gastroenterology, Bevolkingsonderzoek Rotterdam, [3]Dept. of Gastroenterology and Hepatology, Bevolkingsonderzoek Rotterdam, [4]Dept. of Pathology, Nederlands Kanker Instituut, Amsterdam, [5]Dept. of Gastroenterology and Hepatology, Amsterdam UMC - locatie AMC, Amsterdam, Netherlands.

18.06 TGFβ signaling in colorectal cancer-associated fibroblasts (CAFs) initiates a GP130-dependent IL-6 family signaling cascade in hepatocytes, neutrophil accumulation and pre-metastatic niche formation (p. 126)

I. Stouten[1], T.J. Harryvan[2], E.J. van der Wel[2], S.G.T. Janson[2], N. van Montfoort[2], E. Verdegaal[3], L.J.A.C. Hawinkels[2], [1]Dept. of Gastroenterology and Hepatology, LUMC, Leiden, [2]Dept. of Gastroenterology and Hepatology, Leiden University Medical Centre, Leiden, [3]Dept. of Medical Oncology, Leiden University Medical Centre, Leiden, The Netherlands.

18.15 Informele afsluiting eerste congresdag in de expositiehal

19.30 Diner in de Beneluxhal

22.00 Koffie/thee in Meierij foyer, informeel netwerken

Symposium NVMDL — Auditorium

Voorzitters: *M.E. van Leerdam en V.M.C.W. Spaander*

Thema: **Update van de richtlijn coloscopie surveillance; less is more**

09.30 Introductie op de nieuwe richtlijn
Prof. dr. M.E. van Leerdam, MDL-arts, Antoni van Leeuwenhoek NKI en LUMC

09.40 Coloscopie surveillance voor personen met adenomen
A.W.H. de Klaver, PhD, Amsterdam UMC

09.55 Coloscopie surveillance voor personen met serrated poliepen
Dr. Y. Hazewinkel, MDL-arts, Tergooi MC, Hilversum

10.10 Beëindiging coloscopie surveillance
Prof. dr. V.M.C.W. Spaander, MDL-arts, Erasmus MC, Rotterdam

10.20 Coloscopie surveillance na CRC
Dr. A.M. van Berkel, MDL-arts, Noordwest Ziekenhuisgroep, Alkmaar

10.30 Discussie

10.45 Koffie-/theepauze in de expositiehal

11.15 Voor de Opening en President Select kunt u zich begeven naar de Brabantzaal.

12.45 Lunch in de expositiehal en gemodereerde postersessies

Abstractsessie Sectie Gastrointestinale Oncologie — Auditorium

Voorzitters: *C.M.C. le Clercq en V.M.C.W. Spaander*

Voordrachten in het Nederlands, 6 minuten presentatie en 3 minuten discussie.

13.45 Adjuvant hyperthermic intraperitoneal chemotherapy in patients with locally advanced colon cancer (COLOPEC): 5-year results of a randomized multicenter trial (p. 64)
E.S. Zwanenburg[1], C.E.L. Klaver[2], P.J. Tanis[3], [1]Dept. of Surgery, Amsterdam UMC, Amsterdam, [2]Dept. of Digestive Diseases, Amsterdam UMC, Amsterdam, [3]Dept. of Gastrointestinal Surgery, Erasmus MC, Rotterdam, The Netherlands.

13.53 A novel computer-aided polyp detection system in daily clinical care: an international multicentre, randomized, tandem trial (p. 65)

M.H.J. Maas[1], H. Neumann[2], H. Shirin[3], L.H. Katz[4], A. Benson[4], A. Kahloon[5], E. Soons[1], R. Hazzan[6], M.J. Landsman[7], B. Lebwohl[8], S.K. Lewis[8], V. Sivanathan[2], S. Ngamruengphong[9], H. Jacob[4], P.D. Siersema[1], [1]Dept. of Gastroenterology and Hepatology, Radboudumc, Nijmegen, [2]Dept. of Gastroenterology and Interventional Endoscopy, University Medical Center Mainz, Interventional Endoscopy Center, Mainz, Germany [3]Dept. of Gastroenterology and Hepatology, Institute of Gastroenterology, Liver, Shamir (Assaf Harofeh), Medical Center, Zerifin, Israël [4]Dept. of Gastroenterology and Hepatology, Hadassah Medical Center and Faculty of Medicine, Hebrew University of Jerusalem, Israël [5]Dept. of Gastroenterology, Erlanger Health System, Gastroenterology, Chattanooga, USA [6]Dept. of Gastroenterology, Assuta Centers, Haifa Gastroenterology Institute, Haifa, Israël, [7]Dept. of Gastroenterology, Metro Health Medical Center, Gastroenterology, Cleveland, USA, [8]Dept. of Gastroenterology, Columbia University Irving Medical Center, Gastroenterology, New York, USA. [9]Dept. of Gastroenterology, Johns Hopkins University, Baltimore, USA

14.01 Adenoma recurrence after piecemeal endoscopic mucosal resection of 10-20mm non-pedunculated colorectal adenomas (p. 66)

M.H.J. Maas[1], Y. Hazewinkel[2], J.S. Terhaar Sive Droste[3], R.W.M. Schrauwen[4], A. Tan[5], P.D. Siersema[1], [1]Dept. of Gastroenterology and Hepatology, Radboudumc, Nijmegen, [2]Dept. of Gastroenterology, Ter Gooi Ziekenhuis, Hilversum, [3]Dept. of Gastroenterology and Hepatology, Jeroen Bosch Ziekenhuis, Den Bosch, [4]Dept. of Gastroenterology and Hepatology, Bernhoven Ziekenhuis, Uden, [5]Dept. of Gastroenterology and Hepatology, Canisius Wilhelmina Ziekenhuis, Nijmegen, The Netherlands.

14.09 Metachronous Colorectal Cancer Risk in Lynch Syndrome: Is Extensive Colectomy Necessary for all Carriers? (p. 67)

S. Moen[1], E.L. Eikenboom[1], M.E. van Leerdam[2], G. Papageorgiou[3], E.J. Kuipers[1], M. Doukas[4], P.J. Tanis[5], E. Dekker[6], A. Wagner[7], M.C.W. Spaander[1], [1]Dept. of Gastroenterology and Hepatology, Erasmus University Medical Center Rotterdam, Rotterdam, [2]Dept. of Gastroenterology and Hepatology, Leiden University Medical Center, Leiden, [3]Dept. of Biostatistics, Erasmus University Medical Center Rotterdam, Rotterdam, [4]Dept. of Pathology, Erasmus University Medical Center Rotterdam, Rotterdam, [5]Dept. of Gastrointestinal Surgery, Erasmus University Medical Center Rotterdam, Rotterdam, [6]Dept. of Gastroenterology and Hepatology, Amsterdam University Medical Center, Amsterdam, [7]Dept. of Clinical Genetics, Erasmus University Medical Center Rotterdam, Rotterdam, The Netherlands.

14.17 Limited risk of residual cancer after endoscopic resection of early Barrett's neoplasia with confirmed vertical R1 margin: a nationwide cohort in the Netherlands (p. 68)

L. van Tilburg[1], E.P.D. Verheij[2], S.E.M. van de Ven[1], S.N. van Munster[2], B.L.A.M. Weusten[3], L. Alvarez Herrero[4], L.A.A. Brosens[5], G.M. Raicu[6], W.B. Nagengast[7], J. Westerhof[7], G. Kats-Ugurlu[8], E.J. Schoon[9], W.L. Curvers[9], I.G. van Lijnschoten[10], A. Alkhalaf[11], F.C.P. Moll[12], P.J.F. de Jonge[1], M.H.M.G. Houben[13], J.S. van der Laan[14], T.J. Tang[15], A.H.A.G. Ooms[16], J.J.G.H.M. Bergman[2], R.E. Pouw[2], L. Oudijk[17], M. Doukas[17], S.L. Meijer[18], M. Jansen[19], A.D. Koch[1], [1]Dept. of Gastroenterology and Hepatology, Erasmus MC Cancer Institute, Rotterdam, [2]Dept. of Gastroenterology and Hepatology, Amsterdam UMC location AMC, Amsterdam, [3]Dept. of Gastroenterology and Hepatology, University Medical Center Utrecht, Utrecht, [4]Dept. of Gastroenterology and Hepatology, St. Antonius Hospital, Nieuwegein, [5]Dept. of Pathology, University Medical Center Utrecht, Utrecht, [6]Dept. of Pathology, St. Antonius Hospital, Nieuwegein, [7]Dept. of Gastroenterology and Hepatology, University Medical Center Groningen, Groningen, [8]Dept. of Pathology, University Medical Center Groningen, Groningen,

[9]Dept. of Gastroenterology and Hepatology, Catharina Hospital, Eindhoven, [10]Dept. of Pathology, PAMM, Eindhoven, [11]Dept. of Gastroenterology and Hepatology, Isala Clinics, Zwolle, [12]Dept. of Pathology, Isala Clinics, Zwolle, [13]Dept. of Gastroenterology and Hepatology, Haga Teaching Hospital, The Hague, [14]Dept. of Pathology, Haga Teaching Hospital, The Hague, [15]Dept. of Gastroenterology and Hepatology, IJsselland Hospital, Capelle aan den IJssel, [16]Dept. of Pathology, Pathan B.V., Rotterdam, [17]Dept. of Pathology, Erasmus MC Cancer Institute, Rotterdam, [18]Dept. of Pathology, Amsterdam UMC[19]Dept. of Pathology, University College London Hospital, London, UK.

14.25 Surveillance for pancreatic cancer in high-risk individuals leads to improved outcomes: a propensity scorematched analysis (p. 69)

D.C.F. Klatte[1], B. Boekestijn[2], A.M. Onnekink[3], F.W. Dekker[4], L.G. van der Geest[5], M.N.J.M. Wasser[2], S. Shahbazi Feshtali[2], J.S.D. Mieog[6], S.A.C. Luelmo[7], H. Morreau[8], T.P. Potjer[9], A. Inderson[1], J.J. Boonstra[1], H.F.A. Vasen[1], J.E. van Hooft[1], B.A. Bonsing[6], M.E. van Leerdam[1], Dept. of Gastroenterology and Hepatology, Leiden University Medical Center, Leiden, [2]Dept. of Radiology, Leiden University Medical Center, Leiden, [3]Dept. of Gastroenterology, Leiden University Medical Center, Leiden, [4]Dept. of Epidemiology, Leiden University Medical Center, Leiden, [5]Dept. of Research & Development, Netherlands Comprehensive Cancer Organisation, Utrecht, [6]Dept. of Surgery, Leiden University Medical Center, Leiden, [7]Dept. of Gastrointestinal Oncology, Leiden University Medical Center, Leiden, [8]Dept. of Pathology, Leiden University Medical Center, Leiden, [9]Dept. of Clinical Genetics, Leiden University Medical Center, Leiden, The Netherlands.

14.33 Aberrant p53 expression is the strongest predictor for neoplastic progression in patients with Barrett's esophagus (p. 70)

P.A. Zellenrath, J. Honing, P.J.F. de Jonge, A.D. Koch, M.C.W. Spaander, Dept. of Gastroenterology and Hepatology, Erasmus MC, Rotterdam, The Netherlands.

14.45 Einde abstractsessie

Symposium Sectie Gastrointestinale Endoscopie — Auditorium

Voorzitters: M.J.M. Groenen en L.M.G. Moons

Bariatric Endoscopy

14.45 Endoscopic treatment of obesity.
Dr. R. Haidry, Consultant Gastroenterologist, Interventional endoscopist, University College Hospital, London

15.15 Endoscopic treatment of early complications of bariatric surgery
M.J.M. Groenen, Gastroenterologist, Ziekenhuis Rijnstate, Arnhem

15.30 Endoscopic treatment of late complications
Dr. A. Al-Toma, Gastroenterologist, St. Antonius Ziekenhuis, Nieuwegein

15.45 Koffie-/theepauze in de expositiehal

Symposium NVMDL-Kennisagenda **Auditorium**

Voorzitters: *J.J.G.H.M. Bergman en M.P. Schwartz*

Zinnige Zorg en Zinnige Kennisagenda's

16.15 Presentatie NVMDL-Kennisagenda 2023 en aanbieden rapport aan Dr. E.J. Kuipers, minister van Volksgezondheid, Welzijn en Sport
Dr. M.P. Schwartz, voorzitter projectgroep Kennisagenda en MDL-arts, Meander MC

16.45 Zorg niet meer doen, ook al staat het in de richtlijn (?)
Prof. dr. J.J.G.H.M. Bergman, lid projectgroep Kennisagenda/AUMC

17.00 Wat betekent het ZEGG-programma en Passende zorg (IZA) voor de MDL-praktijk?
Prof. dr. S. Repping, Voorzitter ZE&GG en Hoogleraar Zinnige Zorg, Amsterdam UMC

17.15 Discussie

17.30 Einde van deze sessie.
Voor de sessie Best abstracts NVGE 2023 begeeft u zich naar de Brabantzaal.

Abstractsessie Sectie Gastrointestinale Endoscopie — Baroniezaal

Voorzitters: *M. van Schaik en E.J. Schoon*

Voordrachten in het Nederlands, 6 minuten presentatie en 2 minuten discussie.

09.30 Optimal timing of simethicone administration prior to upper endoscopy: a multicenter single-blinded randomized controlled trial (p. 71)

I.N. Beaufort[1], R.E. Verbeek[2], J.H. Bosman[2], A. Al-Toma[1], A. Bogte[3], L. Alvarez Herrero[1], B.L.A.M. Weusten[1], [1]Dept. of Gastroenterology, St. Antonius Ziekenhuis, Nieuwegein, [2]Dept. of Gastroenterology, Groene Hart Ziekenhuis, Gouda, [3]Dept. of Gastroenterology, UMC Utrecht, Utrecht, The Netherlands.

09.38 Endoscopic ultrasonography-guided gastroenterostomy for the management of malignant gastric outlet obstruction: does etiology affect procedural and clinical outcomes? (p. 72)

M.I.D. Pheifer[1], Y.L. van de Pavert[1], L.M.G. Moons[1], N.G. Venneman[2], R.P. Voermans[3], R.L.J. van Wanrooij[3], T. de Wijkerslooth[4], F.P. Vleggaar[1], [1]Dept. of Gastroenterology and Hepatology, UMC Utrecht, Utrecht, [2]Dept. of Gastroenterology and Hepatology, Medisch Spectrum Twente, Enschede, [3]Dept. of Gastroenterology and Hepatology, Amsterdam UMC, location Vrije Universiteit, Amsterdam, [4]Dept. of Gastrointestinal Oncology, Netherlands Cancer Institute, Amsterdam, The Netherlands.

09.46 ERCP discharge tool combined with rapid trypsinogen-2 test to predict same-day discharge – a prospective cohort study (p. 73)

M.M.L. Engels[1], C.J. Sperna Weiland[2], R.C.H. Scheffer[3], B. van Balkom[4], K. van Hee[3], B.J.T. Haarhuis[4], J.E. van Hooft[5], J.P.H. Drenth[2], P.D. Siersema[2], E.J.M. Geenen[2], [1]Dept. of Gastroenterology and Hepatology, Leiden University Medical Center, Leiden, [2]Dept. of Gastroenterology and Hepatology, Radboudumc, Nijmegen, [3]Dept. of Gastroenterology and Hepatology, Jeroen Bosch Ziekenhuis, 's-Hertogenbosch, [4]Dept. of Gastroenterology and Hepatology, Bernhoven, Uden, [5]Dept. of Gastroenterology and Hepatology, LUMC, Leiden, The Netherlands.

09.54 Validation of the Charlson comorbidity index for prediction of mortality caused by other causes than esophageal adenocarcinoma after successful endoscopic eradication therapy for Barrett's neoplasia (p. 74)

E.P.D. Verheij[1], S.N. van Munster[2], C.C. Cotton[3], Ö. Ozdemir[4], E. Toes-Zoutendijk[5], E.A. Nieuwenhuis[4], I. Lansdorp-Vogelaar[5], B.L.A.M. Weusten[6], L. Alvarez Herrero[6], A. Alkhalaf[7], B.E. Schenk[7], E.J. Schoon[8], W. Curvers[8], A.D. Koch[9], P.J.F. De Jonge[9], T.J. Tang[10], W.B. Nagengast[11], J. Westerhof[11], M.H.M.G. Houben[12], N.J. Shaheen[3], J.J.G.H.M. Bergman[4], R.E. Pouw[13], [1]Dept. of Gastroenterology and Hepatology, Amsterdam UMC, location University of Amsterdam, Amsterdam, Amsterdam, [2]Dept. of Gastroenterology and Hepatology, Amsterdam UMC, location University of Amsterdam, Amsterdam, Amsterdam, [3]Dept. of Gastroenterology and Hepatology, University of North Carolina School of Medicine, Chapel Hill, USA, [4]Dept. of Gastroenterology and Hepatology, Amsterdam UMC, location University of Amsterdam, Amsterdam, [5]Dept. of Public Health, Erasmus MC University Medical Center, Rotterdam, [6]Dept. of Gastroenterology and Hepatology, St. Antonius hospital, Nieuwegein, [7]Dept. of Gastroenterology and Hepatology, Isala hospital, Zwolle, [8]Dept. of Gastroenterology and Hepatology, Catharina hospital, Eindhoven, [9]Dept. of Gastroenterology

and Hepatology, Erasmus MC University Medical Center, Rotterdam, [10]Dept. of Gastroenterology and Hepatology, IJsselland ziekenhuis, Capelle aan den IJssel, [11]Dept. of Gastroenterology and Hepatology, University Medical Center Groningen, [12]Dept. of Gastroenterology and Hepatology, Haga Teaching Hospital, Den Haag, [13]Dept. of Gastroenterology and Hepatology, Amsterdam UMC, The Netherlands.

10.02 Endoscopic Follow-up Of Radically Resected Submucosal Adenocarcinoma In Barrett's Esophagus: Interim Results Of An Ongoing Prospective, International, Multicenter Cohort Registry (PREFER Trial) (p. 75)

M.W. Chan[1], E.A. Nieuwenhuis[1], M. Jansen[2], A.D. Koch[3], M.C.W. Spaander[3], W.B. Nagengast[4], J. Westerhof[4], R. Bisschops[5], G. De Hertogh[6], M.J. Bourke[7], H. Neuhaus[8], B.L.A.M. Weusten[9], A. Alkhalaf[10], O. Pech[11], S. Seewald[12], R. Haidry[13], C. Schlag[14], E.J. Schoon[15], M.H.M.G. Houben[16], D. De Wulf[17], H. Messmann[18], P. Dewint[19], S.L. Meijer[20], J.J.G.H.M. Bergman[1], R.E. Pouw[1], [1]Dept. of Gastroenterology and Hepatology, Amsterdam UMC, [2]Dept. of Pathology, University College London Hospital NHS Trust, London, UK, [3]Dept. of Gastroenterology and Hepatology, Erasmus MC Cancer Institute, University Medical Center, Rotterdam, Rotterdam, [4]Dept. of Gastroenterology and Hepatology, University Medical Center Groningen, Groningen, [5]Dept. of Gastroenterology and Hepatology, University Hospitals Leuven, Leuven, Belgium, [6]Dept. of Pathology, University Hospitals Leuven, Leuven, Belgium, [7]Dept. of Gastroenterology and Hepatology, Westmead Hospital, Sydney, Australië, [8]Dept. of Gastroenterology and Hepatology, Evangelisches Krankenhaus Düsseldorf, Germany, [9]Dept. of Gastroenterology and Hepatology, Sint Antonius Hospital, Nieuwegein, [10]Dept. of Gastroenterology and Hepatology, Isala Clinics, Zwolle, [11]Dept. of Gastroenterology and Hepatology, St John of God Hospital, Regensburg, Germany, [12]Dept. of Gastroenterology and Hepatology, Gastro Zentrum, Klinik Hirslanden, Zurich, Switserland [13]Dept. of Gastroenterology and Hepatology, University College London Hospital NHS Trust, London, UK, [14]Dept. of Gastroenterology and Hepatology, Klinikum rechts der Isar, Technical University of Munich, Germany, [15]Dept. of Gastroenterology and Hepatology, Catharina Hospital, Eindhoven, [16]Dept. of Gastroenterology and Hepatology, Haga Teaching Hospital, Den Haag, [17]Dept. of Gastroenterology and Hepatology, AZ Delta Roeselare, Roeselare, België, [18]Dept. of Gastroenterology and Hepatology, University Hospital Augsburg, Germany, [19]Dept. of Gastroenterology and Hepatology, AZ Maria Middelares, Ghent, België, [20]Dept. of Pathology, Amsterdam UMC, The Netherlands.

10.10 Endoscopic Mucosal Resection Site Inspection for Predicting Recurrence, an International Survey (p. 76)

G. Kemper[1], R.M. Schreuder[2], R.W.M. Schrauwen[3], J.S. Terhaar sive Droste[4], P.D. Siersema[1], E.J.M. Van Geenen[1], [1]Dept. of Gastroenterology and Hepatology, Radboudumc, Nijmegen, [2]Dept. of Gastroenterology and Hepatology, Catharina Ziekenhuis, Eindhoven, [3]Dept. of Gastroenterology and Hepatology, Bernhoven, Uden, [4]Dept. of Gastroenterology and Hepatology, Jeroen Bosch Ziekenhuis, 's-Hertogenbosch, The Netherlands.

10.18 Initial experiences with a vacuum-stent as novel treatment option for transmural defects in the upper gastrointestinal tract: a single-center case series (p. 77)

L.M.D. Pattynama[1], W.J. Eshuis[2], J.J.G.H.M. Bergman[1], M.I. van Berge Henegouwen[2], R.E. Pouw[1], [1]Dept. of Gastroenterology and Hepatology, Amsterdam UMC, [2]Dept. of Surgery, Amsterdam UMC, Amsterdam, The Netherlands

10.26 Adherence to upper gastrointestinal endoscopy quality indicators: a multicenter prospective cohort study (p. 78)
L.M. Koggel[1], J.P.E. van Berlo[1], F.A. Indemans[2], R.W.M. Schrauwen[3], M.A. Lantinga[4], P.D. Siersema[1], [1]Dept. of Gastroenterology and Hepatology, Radboudumc, Nijmegen, [2]Dept. of Gastroenterology and Hepatology, Maasziekenhuis Pantein, Beugen, [3]Dept. of Gastroenterology and Hepatology, Bernhoven, Uden, [4]Dept. of Gastroenterology and Hepatology, University Medical Centers Amsterdam, Amsterdam, The Netherlands.

10.34 Exploring the incidence of juvenile Barrett's esophagus and progression to dysplasia and adenocarcinoma (p. 79)
I.C. Noordzij[1], C.J. Huysentruyt[2], W.L. Curvers [1], G. van Lijnschoten[2], A.A.M. Masclee[3], E.J. Schoon[1], [1]Dept. of Gastroenterology and Hepatology, Catharina Ziekenhuis, Eindhoven, [2]Dept. of Pathology, PAMM, Eindhoven, [3]Dept. of Gastroenterology and Hepatology, MUMC, Maastricht, The Netherlands.

10.45 Koffie-/theepauze in de expositiehal

11.15 Voor de plenaire openingssessie en President Select kunt u zich begeven naar de Brabantzaal.

12.45 Lunch in de expositiehal en gemodereerde postersessies

Abstractsessie Sectie Gastrointestinale Endoscopie II — Baroniezaal

Voorzitters: A.M. van Berkel en W.B. Nagengast

Voordrachten in het Nederlands, 6 minuten presentatie en 2 minuten discussie.

13.45 EUS-guided choledochoduodenostomy using single step lumen-apposing metal stents for primary drainage of malignant distal biliary obstruction (SCORPION-p): a prospective pilot study (p. 80)
J.A. Fritzsche[1], P. Fockens[1], M.G. Besselink[2], O.R.C. Busch[2], F. Daams[3], J.W. Wilmink[4], R.P. Voermans[1], R.L.J. van Wanrooij[5], [1]Dept. of Gastroenterology and Hepatology, Amsterdam UMC, location University of Amsterdam, Amsterdam, [2]Dept. of Surgery, Amsterdam UMC, location University of Amsterdam, Amsterdam, [3]Dept. of Surgery, Amsterdam UMC, location Vrije Universiteit, Amsterdam, [4]Dept. of Medical Oncology, Amsterdam UMC, location University of Amsterdam, [5]Dept. of Gastroenterology and Hepatology, Amsterdam UMC, location Vrije Universiteit, Amsterdam, The Netherlands.

13.53 Standardizing training for endoscopic mucosal resection of large non-pedunculated colorectal polyps to reduce recurrence (*STAR-LNPCP study): a multicenter, cluster randomized trial. (p. 81)
L.W.T. Meulen[1], R.M.M. Bogie[1], P.D. Siersema[2], B. Winkens[3], M.S. Vlug[4], F.H.J. Wolfhagen[5], M. Baven-Pronk[6], M. van der Voorn[7], M.P. Schwartz[8], L. Vogelaar[9], W.H. de Vos tot Nederveen Cappel[10], T. Seerden[11], W.L. Hazen[12], R.W.M. Schrauwen[13], L. Alvarez Herrero[14],

R.M. Schreuder[15], A.B. van Nunen[16], E. Stoop[17], G.J. de Bruin[18], P. Bos[19], W.A. Marsman[20], E. Kuiper[21], M. de Bièvre[22], Y. Alderlieste[23], R. Roomer[24], J.N. Groen[25], M. Bigirwamungu-Bargeman[26], M. van Leerdam[27], L. Roberts-Bos[28], F. Boersma[29], K. Thurnau[30], R.S. de Vries[31], J.M. Ramaker[32], R.J.J. de Ridder[1], M. Pellisé[33], M.J. Bourke[34], A.A.M. Masclee[1], L.M.G. Moons[35,] [1]Dept. of Gastroenterology and Hepatology, Maastricht University Medical Center+, Maastricht, [2]Dept. of Gastroenterology and Hepatology, Radboud University Medical Center, Nijmegen, [3]Dept. of Mathematics and Statistics, Maastricht University, [4]Dept. of Gastroenterology and Hepatology, Dijklander Hospital, Hoorn, [5]Dept. of Gastroenterology and Hepatology, Albert Schweitzer Hospital, Dordrecht, [6]Dept. of Gastroenterology and Hepatology, Groene Hart Hospital, Gouda, [7]Dept. of Gastroenterology and Hepatology, Haga Hospital, Den Haag, [8]Dept. of Gastroenterology and Hepatology, Meander Medical Center, Amersfoort, [9]Dept. of Gastroenterology and Hepatology, Diakonessenhuis, Utrecht, [10]Dept. of Gastroenterology and Hepatology, Isala Clinics, Zwolle, [11]Dept. of Gastroenterology and Hepatology, Amphia Hospital, Breda, [12]Dept. of Gastroenterology and Hepatology, Elisabeth-Tweesteden Hospital, Tilburg, [13]Dept. of Gastroenterology and Hepatology, Bernhoven, Uden, [14]Dept. of Gastroenterology and Hepatology, St. Antonius Hospital, Nieuwegein, [15]Dept. of Gastroenterology and Hepatology, Catharina Ziekenhuis Eindhoven, Eindhoven, [16]Dept. of Gastroenterology and Hepatology, Zuyderland Medical Center, Sittard-Geleen, [17]Dept. of Gastroenterology and Hepatology, Haaglanden Medical Center, Den Haag, [18]Dept. of Gastroenterology and Hepatology, Tergooi Hospital, Hilversum, [19]Dept. of Gastroenterology and Hepatology, Ziekenhuis Gelderse Vallei, Ede, [20]Dept. of Gastroenterology and Hepatology, Spaarne Gasthuis, Haarlem, [21]Dept. of Gastroenterology and Hepatology, Maasstad Hospital, Rotterdam, [22]Dept. of Gastroenterology and Hepatology, Viecuri Medical Center, Venlo, [23]Dept. of Gastroenterology and Hepatology, Rivas Zorggroep, Gorinchem, [24]Dept. of Gastroenterology and Hepatology, Franciscus Gasthuis & Vlietland, Rotterdam, [25]Dept. of Gastroenterology and Hepatology, St. Jansdal Hospital, Harderwijk, [26]Dept. of Gastroenterology and Hepatology, Medisch Spectrum Twente, Enschede, [27]Dept. of Gastroenterology and Hepatology, Netherlands Cancer Institute (NKI), Amsterdam, [28]Dept. of Gastroenterology and Hepatology, Laurentius Hospital, Roermond, [29]Dept. of Gastroenterology and Hepatology, Gelre Hospitals, Apeldoorn, [30]Dept. of Gastroenterology and Hepatology, Ziekenhuisgroep Twente Almelo, [31]Dept. of Gastroenterology and Hepatology, Deventer Hospital, Deventer, [32]Dept. of Gastroenterology and Hepatology, Elkerliek Hospital, Helmond, [33]Dept. of Gastroenterology and Hepatology, Hospital Clinic, Barcelona, Spanje[34]Dept. of Gastroenterology and Hepatology, Westmead Hospital, Westmead, Australië[35] Dept. of Gastroenterology and Hepatology, University Medical Center Utrecht, Utrecht, The Netherlands.

14.01 Endobiliary radiofrequency ablation for malignant biliary obstruction due to perihilar cholangiocarcinoma (RACCOON-p): a prospective pilot study (p. 82)

J.A. Fritzsche[1], M.C.B. Wielenga[1], O.M. Van Delden[2], J.I. Erdmann[3], H.J. Klümpen[4], R.L.J. van Wanrooij[5], P. Fockens[1], C.I.J. Ponsioen[1], R.P. Voermans[1], [1]Dept. of Gastroenterology and Hepatology, Amsterdam UMC, location University of Amsterdam, Amsterdam, [2]Dept. of Radiology, Amsterdam UMC, location University of Amsterdam, Amsterdam, [3]Dept. of Surgery, Amsterdam UMC, [4]Dept. of Medical Oncology, Amsterdam UMC, location University of Amsterdam, Amsterdam, [5]Dept. of Gastroenterology and Hepatology, Amsterdam UMC, The Netherlands.

14.09 Endoscopic Ultrasound with Tissue Acquisition of Lymph Nodes in Patients with Resectable Intrahepatic Cholangiocarcinoma (p. 83)

D.M. de Jong[1], S. van de Vondervoort[1], R.S. Dwarkasing[2], M.G.J. Thomeer[2], M. Doukas[3], R.P. Voermans[1], R. Verdonk[4], W.G. Polak[5], J. de Jonge[5], M.J. Bruno[1], L.M.J. van Driel[1], [1]Dept. of Gastroenterology and Hepatology, Erasmus MC Cancer Institute University Medical Center, Rotterdam, [2]Dept. of Radiology and Nuclear Medicine, Erasmus MC Cancer Institute University Medical Center, Rotterdam, [3]Dept. of Pathology, Erasmus MC Cancer Institute University Medical Center, Rotterdam, [4]Dept. of Gastroenterology and Hepatology, St. Antonius Hospital, Nieuwegein, Nederland [5]Dept. of Surgery, Erasmus MC Cancer Institute University Medical Center, Rotterdam, The Netherlands

14.17 Video-based computer aided detection system improves Barrett's neoplasia detection of general endoscopists in a multi-step benchmarking study (p. 84)

M.R. Jong[1], K.N. Fockens[1], J.B. Jukema[1], T.G.W. Boers[2], K.C. Kusters[2], J.A. van der Putten[2], F. van der Sommen[2], P.H.N. de With[2], A.J. de Groof[1], J.J. Bergman[1], [1]Dept. of Gastroenterology and Hepatology, Amsterdam UMC, Amsterdam, [2]Dept. of Electrical Engineering, TU Eindhoven, Eindhoven, The Netherlands.

14.25 The effect of image quality on the performance of computer-aided diagnosis systems for the optical diagnosis of colorectal polyps (p. 85)

Q.E.W. van der Zander[1], T. Scheeve[2], A. Thijssen[1], N. Dehghani[2], R.M. Schreuder[3], P.H.N. de With[2], F. van der Sommen[2], A.A.M. Masclee[1], E.J. Schoon[3], [1]Dept. of Gastroenterology and Hepatology, Maastricht University Medical Center+, Maastricht, [2]Video Coding and Architectures group, Eindhoven University of Technology, Eindhoven, [3]Dept. of Gastroenterology and Hepatology, Catharina Hospital Eindhoven, The Netherlands.

14.33 Post-procedural recovery and functional outcomes of endoscopic intermuscular dissection (EID) for suspected deep submucosal invasive rectal cancers (p. 86)

S.C. Albers[1], L. van der Schee[2], M.C. Richir[3], R. Hompes[4], E. Dekker[1], J.B. Tuynman[4], P. Didden[2], M.M. Lacle[5], A. Farina Sarasqueta[6], L.M.G. Moons[2], B.A.J. Bastiaansen[1], [1]Dept. of Gastroenterology and Hepatology, Amsterdam UMC, Amsterdam, [2]Dept. of Gastroenterology and Hepatology, UMC Utrecht, Utrecht, [3]Dept. of Surgery, UMC Utrecht, [4]Dept. of Surgery, Amsterdam UMC, Amsterdam, [5]Dept. of Pathology, UMC Utrecht, [6]Dept. of Pathology, Amsterdam UMC, The Netherlands.

14.45 Einde van deze sessie

Voor het symposium Bariatric Endoscopy kunt u zich begeven naar het Auditorium.

Abstractsessie NVGIC II — Parkzaal

Voorzitters: *J. Apers en C.C.M. Marres*

Voordrachten in het Nederlands, 6 minuten presentatie en 2 minuten discussie.

13.45 Long-term outcomes after appendectomy as experimental treatment for patients with therapy refractory ulcerative colitis (p. 87)

E. Visser[1], M.A. Reijntjes[1], L. Heuthorst[2], M.E. Stellingwerf[1], G.R.A.M. D'Haens[1], W.A. Bemelman[3], C.J. Buskens[3], [1]Dept. of Surgery, Amsterdam UMC, locatie AMC, Amsterdam, [2]Dept. of Surgery, Amsterdam UMC. locatie AMC, Amsterdam, [3]Dept. of Surgery, Amsterdam UMC, location AMC, Amsterdam, The Netherlands.*
* Presenter

13.53 Response to appendectomy in refractory Ulcerative Colitis appears based on two distinct inflammatory phenotypes (p. 88)

M.A.J. Becker[1], L. Heuthorst[2], M. van Roest[3], J.D.W. van der Bilt[4], C.J. Buskens[2], M.E. Wildenberg[1], [1]Dept. of Gastroenterology and Hepatology, Tytgat Institute, Amsterdam, [2]Dept. of Surgery, Amsterdam UMC, Amsterdam, [3]Dept. of Gastroenterology and Hepatology, Tytgat Institute, Amsterdam, [4]Dept. of Surgery, Flevoziekenhuis, Almere, The Netherlands.

14.01 A mixed-methods study to define Textbook Outcome for the treatment of patients with uncomplicated symptomatic gallstone disease with hospital variation analyses in Dutch trial data (p. 89)

D.J. Comes[1], F.M. Thunnissen[2], P.R. de Reuver[2], C.S.S. Latenstein[3], M.W.J. Stommel[1], C.J.H.M. van Laarhoven[1], J.P.H. Drenth[4], M.A. Lantinga[5], F. Atsma[6], [1]Dept. of Surgery, Radboud university medical centre, Nijmegen, [2]Dept. of Surgery, Radboud university medical centre, Nijmegen, [3]Dept. of Surgery, Amsterdam UMC, Amsterdam, [4]Dept. of Gastroenterology and Hepatology, Radboud university medical centre, Nijmegen, [5]Dept. of Gastroenterology and Hepatology, Amsterdam UMC, Amsterdam, [6]Dept. of Health Evidence, Radboud university medical centre, Nijmegen, The Netherlands.

14.09 The role of malignant features in the assessment of lateral lymph nodes in advanced rectal cancer on MRI (p. 90)

E.G.M. van Geffen[1], T.C. Sluckin[1], S.J.A. Hazen[1], K. Horsthuis[2], R.G.H. Beets-Tan[3], C.A.M. Marijnen[4], P.J. Tanis[1], M. Kusters[5], [1]Dept. of Gastrointestinal Surgery, Amsterdam UMC, Amsterdam, [2]Dept. of Radiology, Amsterdam UMC, Amsterdam, [3]Dept. of Radiology, AvL, Amsterdam, [4]Dept. of Radiotherapy, AvL, Amsterdam, [5]Dept. of Surgery, Amsterdam UMC, Amsterdam, The Netherlands.

14.17 Fate of the temporary defunctioning ostomy in patients with therapy refractory Crohn's perianal fistulas (p. 91)

A.J.M. Pronk[1], M.A.J. Becker[2], R. Hompes[1], W.A. Bemelman[1], C.J. Buskens[1], [1]Dept. of Surgery, Amsterdam UMC, Amsterdam, [2]Tytgat Institute for Liver and Intestinal Research, Amsterdam UMC, Amsterdam, The Netherlands.

14.25 Differences in patient- and tumour characteristics, treatment and survival between patients with screen-detected and clinically detected synchronous colorectal peritoneal metastases (p. 92)

L.J.K. Galanos[1], A. Rijken[1], M.A.G. Elferink[2], D. Boerma[3], A. Brandt-Kerkhof[4], P.R. de Reuver[5], J.B. Tuynman[6], N.F.M. Kok[7], P.H.J. Hemmer[8], W.M.U. van Grevenstein[9], C. Huysentruyt[10], F.N. van Erning[2], I.H.J.T. de Hingh[1], [1]Dept. of Surgery, Catharina Ziekenhuis Eindhoven, [2]Dept. of Research & Development, Netherlands Comprehensive Cancer Organisation, Eindhoven, [3]Dept. of Surgery, St. Antonius Hospital, Utrecht, [4]Dept. of Surgery, Erasmus University Hospital, Rotterdam, [5]Dept. of Surgery, Radboud University Hospital, Nijmegen, [6]Dept. of Surgery, Amsterdam University Hospital, Amsterdam, [7]Dept. of Surgery, Antoni van Leeuwenhoek Hospital, Amsterdam, [8]Dept. of Surgery, Groningen Univ. Hospital, Groningen, [9]Dept. of Surgery, Utrecht University Hospital, Utrecht, [10]Dept. of Pathology, Catharina Ziekenhuis Eindhoven, Eindhoven, The Netherlands.

14.33 Feasibility, safety, and survival outcomes of first-line palliative systemic therapy alternated with oxaliplatin-based pressurized intraperitoneal aerosol chemotherapy (PIPAC) in patients with isolated unresectable colorectal peritoneal metastases in a multicentre, single-arm, phase II trial (p. 93)

V.C.J. van de Vlasakker[1], P. Rauwerdink[2], D. Boerma[2], I.H.J.T. de Hingh[1], K.P. Rovers[1], E.C.E. Wassenaar[2], M.J. Deenen[3], J. Nederend[4], C.J.R. Huysentruyt[5], R.J.A. Fijneman[6], E.J.R.J. Hoeven[7], G.M. Raicu[8], A. Constantinides[9], O. Kranenburg[9], M. Los[10], G.-J.M. Creemers[11], J.W.A. Burger[1], M.J. Wiezer[2], S.W. Nienhuijs[1], R.J. Lurvink[1], [1]Dept. of Surgery, Catharina Ziekenhuis Eindhoven, Eindhoven, [2]Dept. of Surgery, St. Antonius Hospital, Nieuwegein, [3]Dept. of Clinical Pharmacy, Catharina Ziekenhuis Eindhoven, [4]Dept. of Radiology, Catharina Ziekenhuis Eindhoven, Eindhoven, [5]Dept. of Pathology, Catharina Ziekenhuis Eindhoven, [6]Dept. of Pathology, Antoni van Leeuwenhoek - Nederlands Kanker instituut, Amsterdam, [7]Dept. of Radiology, St. Antonius Hospital, Nieuwegein, [8]Dept. of Pathology, St. Antonius Hospital, Nieuwegein, [9]Dept. of Surgery, Universitair medisch centrum Utrecht, Utrecht, [10]Dept. of Medical Oncology, St. Antonius Hospital, Nieuwegein, [11]Dept. of Medical Oncology, Catharina Ziekenhuis Eindhoven, Eindhoven, The Netherlands.

14.41 Einde abstractsessie NVGIC II

Voor het NVGIC symposium 'De chirurg, de MDL arts en de levertransplantatie patiënt' kunt u zich begeven naar de Brabantzaal (aanvang 14.45)

Symposium Commissie Voeding NVMDL — Baroniezaal

Voorzitters: *J.W. Kruimel en J.F. Monkelbaan*

Organisatie van Multidisciplinaire Voedingszorg in Nederland

16.15 Concept organisatie Voedingszorg NL
Dr. J.W. Kruimel, MDL-arts, Maastricht Universitair Medisch Centrum+

16.25 Gepaste voeding en de MDL-arts
Dr. A.A. van Bodegraven, MDL-arts, Zuyderland, Heerlen, Sittard-Geleen

16.40 Rol academische MDL bij Voedingszorg
Dr. G.J. Wanten, MDL-arts, Radboudumc, Nijmegen

16.50 Rol klinische diëtiste/netwerken
Dr. M.J.E. Campmans, klinisch epidemioloog & onderzoeksdiëtiste, UMC Groningen

17.05 Ontwikkeling voedingsteams in ziekenhuizen
Dr. I.A.M. Gisbertz, MDL-arts, Ziekenhuis Bernhoven, Uden

17.15 What about the gastroenterologist- nutritionist?
J.F. Monkelbaan, MDL-arts, UMC Utrecht

17.25 Discussie

17.30 Einde van dit programma.
Voor de sessie Best abstracts NVGE 2023 begeeft u zich naar de Brabantzaal.

Meet the Expert sessie — Zaal 80

Thema: **Dysplasie bij IBD**

13.45 *Deze sessie - waarvoor tevoren moet worden ingeschreven - wordt verzorgd door:*
Prof. dr. B. Oldenburg, MDL-arts, UMC Utrecht
Prof. dr. L.P.S. Stassen, chirurg, MUMC+

14.45 Einde van deze sessie

*** De tweede sessie vangt aan om 16.15 uur, eveneens in Zaal 80.**

15.45 Koffie-/theepauze in de expositiehal

Symposium Alcoholpreventie — Baroniezaal

Voorzitter: *H. van Soest*

Thema: **Alcoholpreventie**

14.45 Alcoholpreventie bespreekbaar maken
Dr. R.B. Takkenberg, MDL-arts en hepatoloog in Amsterdam UMC

15.00 Netwerkzorg op een MDL-afdeling rondom vroegsignalering alcoholproblematiek: uitleg over een succesverhaal
J. Bisschop, projectleider Alcoholproblematiek in het JBZ

15.20 De inzet van een aandachtsfunctionaris op de SEH van de Verslavingszorg: hoe ziet dat eruit?
T. Bart, senior preventiedeskundige bij Jellinek en projectleider van het project bij het OLVG

15.40 Vragen / discussie

15.45 Koffie-/theepauze in de expositiehal

Postersessie 1 **Expositiehal**

13.00 Impact of endoscopic ultrasound in unresectable perihilar cholangiocarcinoma patients in liver transplantation work-up (p. 94)

D.M. de Jong[1], C..M.. den Hoed[1], F.E.J. Willemssen[2], M.G.J. Thomeer[2], M.J. Bruno[1], B. Groot Koerkamp[3], J. de Jonge[3], I.P.J. Alwayn[4], J.E. van Hooft[5], F.J.H. Hoogwater[6], F. van der Heide[7], A. Inderson[5], F.G.I. van Vilsteren[7], L.M.J. van Driel[1], [1]Dept. of Gastroenterology and Hepatology, Erasmus MC Cancer Institute University Medical Center, Rotterdam, [2]Dept. of Radiology and Nuclear Medicine, Erasmus MC Cancer Institute University Medical Center, Rotterdam, [3]Dept. of Surgery, Erasmus MC Cancer Institute University Medical Center, Rotterdam, [4]Dept. of Surgery, Leiden University Medical Center, Leiden, [5]Dept. of Gastroenterology and Hepatology, Leiden University Medical Center, Leiden [6]Dept. of Surgery, University Medical Center Groningen, Groningen, [7]Dept. of Gastroenterology and Hepatology, University Medical Center Groningen, Groningen, The Netherlands.

13.05 Understanding fluorescence time curves during ileal pouch-anal anastomosis with or without vascular ligation (p. 95)

J.J. Joosten, R. Hompes, Dept. of Surgery, Amsterdam UMC, Amsterdam, The Netherlands.

13.10 The added value of blood glucose monitoring in high-risk individuals undergoing pancreatic cancer surveillance (p. 96)

A.M. Bogdanski[1], D.C.F. Klatte[1], A.M. Onnekink[1], B. Boekestijn[2], M.N.J.M. Wasser[2], S. Feshtali[2], B.A. Bonsing[3], J.S.D. Mieog[3], J.E. Van Hooft[1], M.E. Van Leerdam[1], [1]Dept. of Gastroentrology and Hepatology, Leids Universitair Medisch Centrum (LUMC), Leiden, [2]Dept. of Radiology, Leids Universitair Medisch Centrum (LUMC), Leiden, [3]Dept. of Surgery, Leids Universitair Medisch Centrum (LUMC), Leiden, The Netherlands.

13.15 Clinical Relevance of Next Generation Sequencing in Patients ≤60 years with Pancreatic Ductal Adenocarcinoma (p. 97)

G.J. Strijk[1], C.H.J. van Eijck[1], J.W. Wilmink[2], D. Dollée[3], A.S. Stubbs[3], J.C. van Dongen[1], W. de Koning[3], A. Farina Sarasqueta[4], M.P.J.K. Lolkema[5], M.Y.V. Homs[5], W.N.M. Dinjens[6], A. Wagener[7], L.A.A. Brosens[8], F.H. Groenendijk[3], J. De Vos-Geelen[9], B. Groot Koerkamp[1], M. Doukas[3], [1]Dept. of Surgery, EMC, Rotterdam, [2]Dept. of Medical Oncology, Amsterdam UMC, Amsterdam, [3]Dept. of Pathology, EMC, Rotterdam, [4]Dept. of Pathology, Amsterdam UMC, [5]Dept. of Medical Oncology, EMC, Rotterdam, [6]Dept. of Molecular Cell Biology & Immunology, EMC, Rotterdam, [7]Dept. of Clinical Genetics, EMC, Rotterdam, [8]Dept. of Pathology, Utrecht UMC, [9]Dept. of Medical Oncology, Maastricht UMC+, The Netherlands.

Postersessie 2 **Expositiehal**

13.20 Multisegmented esophageal fully covered self-expandable metal stent for palliation of malignant dysphagia: a prospective multicenter cohort study (p. 98)
L.M. Koggel[1], A.N. Reijm[2], M.A. Lantinga[3], E. Rodrigues-Pinto[4], M.C.W. Spaander[2], P.D. Siersema[1], [1]Dept. of Gastroenterology and Hepatology, Radboudumc, Nijmegen, [2]Dept. of Gastroenterology and Hepatology, Erasmus Medical Center, Rotterdam, [3]Dept. of Gastroenterology and Hepatology, University Medical Center Amsterdam, The Netherlands. [4]Dept. of Gastroenterology and Hepatology, São João Universitary Hospital Center, Porto, Portugal.

13.25 First Real World Evidence In The Netherlands Evaluating The Efficacy And Efficiency Of A New Sedative Remimazolam Compared With Midazolam In Patients Undergoing Colonoscopy Or Gastroscopy (p. 99)
J.T. Krijnen, P. Stokkers, J.M. Jansen, Dept. of Gastroenterology and Interventional Endoscopy, OLVG, Amsterdam, The Netherlands.

13.30 Factors associated with estimated cardiorespiratory fitness in patients with inflammatory bowel disease: an exploratory analysis of real-world data (p. 100)
K. Demers[1,2,3], A. Rezazadeh Ardabili[2,3], B.C. Bongers[3,4], M.J.L. Romberg-Camps[5], A.A. van Bodegraven[5], D.M.A.E. Jonkers[3], M.J. Pierik[2,3], L.P.S. Stassen[1,3], [1]Dept. of Surgery, Maastricht University Medical Center+, Maastricht, [2]Division of Gastroenterology and Hepatology, Department of Internal Medicine, Maastricht University Medical Center+, Maastricht, [3]School for Nutrition and Translational Research in Metabolism (NUTRIM), Faculty of Health, Medicine and Life Sciences, Maastricht University, [4]Dept. of Epidemiology, Care and Public Health Research Institute (CAPHRI), Faculty of Health, Medicine and Life Sciences, Maastricht University, [5]Dept. of Gastroenterology- Geriatrics- Internal and Intensive Care Medicine Co-MIK, Zuyderland Medical Centre, Heerlen-Sittard-Geleen, The Netherlands.

13.35 Evaluation of a 4 food elimination diet therapy to identify the trigger of eosinophilic esophagitis (p. 101)
M.M. van der Velden[1], I. Suurs[2], R.J.F. Laheij[1], [1]Dept. of Gastroenterology and Hepatology, Elisabeth-Tweesteden Hospital, Tilburg, [2]Dept. of Dietetics, Elisabeth-Tweesteden Hospital, Tilburg, The Netherlands.

Postersessie 3 **Expositiehal**

15.50 Correction of ion transport abnormalities in idiopathic pancreatitis patients by CFTR modulators (p. 102)
D. Angyal[1], K. Kleinfelder[2], T.A. Groeneweg[1], G. De Marchi[3], N. De Pretis[3], L. Bernardoni[3], F. Ciciriello[4], F. Alghisi[4], V. Lucidi[4], P. Melotti[5], A. Angioni[6], M.C. Bijvelds[1], C. Sorio[2], H. de Jonge[1], L. Frulloni[3], [1]Dept. of Gastroenterology and Hepatology, Erasmus MC, Rotterdam, [2]Dept. of Pathology, University of Verona, Verona, Italië, [3]Dept. of Gastroenterology, Borgo Roma Hospital, Verona, Italië, [4]Bambino Gesù Children's Hospital, Rome, Italië, [5]Azienda Ospedaliera Universitaria Integrata Verona, Italy, [6]Dept. of Clinical Genetics, Bambino Gesù Children's Hospital, Rome, Italy

15.55 Stromal cell subsets show model-dependent changes in experimental colitis and affect epithelial tissue repair and immune cell activation (p. 103)
Z. Zhou, L.G. Plug, E.S.M. De Jonge-Muller, L. Brands, S.G.T. Janson, L.M. Van de Beek, N. Van Montfoort, A.E. Van der Meulen-de Jong, L.J.A.C. Hawinkels, M.C. Barnhoorn, Dept. of Gastroenterology and Hepatology, Leiden University Medical Center, Leiden, The Netherlands.

16.00 Potential new plasma biomarkers for the early detection of anastomotic leakage after colorectal resection for cancer: an explorative study (p. 104)
C.P.M. van Helsdingen[1], A.C.L. Wildeboer[2], W.J. de Jonge[3], A.Y.F. Li Yim[3], J.H.M.B. Stoot[4], J.L.M. Konsten[5], N.D. Bouvy[2], J.P.M. Derikx[1], [1]Dept. of Pediatric Surgery, Emma kinderziekenhuis, Amsterdam UMC locatie AMC, Amsterdam, [2]Dept. of Surgery, MUMC+, Maastricht, [3]Tytgat Institute for Liver and Intestinal Research, Amsterdam UMC locatie AMC, Amsterdam, [4]Dept. of Surgery, Zuyderland Medisch Centrum, Heerlen en Sittard-Geleen, [5]Dept. of Surgery, VieCuri, Venlo, The Netherlands.

16.05 Exploring the modulatory effect of lipid-rich nutrition on lipopolysaccharide-induced acute lung injury in rats and the role of the vagus nerve (p. 105)
M.F.J. Seesing[1], H.J.B. Janssen[2], T.C.M. Geraedts[2], T.J. Weijs[1], L.F.C. Fransen[2], I. van Ark[3], T. Leusink-Muis[3], G. Folkerts[3], J. Garssen[3], J.P. Ruurda[1], G.A.P. Nieuwenhuijzen[2], R. van Hillegersberg[1], M.D.P. Luyer[2], [1]Dept. of Surgery, University Medical Center Utrecht, Utrecht, [2]Dept. of Surgery, Catharina Hospital, Eindhoven, [3]Faculty of Science, Utrecht University, Utrecht, The Netherlands.

16.10 CD44v6, EpCam, cMet, Rock2, and DUOX2 as targeted biomarkers for the identification of lymph node micrometastasis in colon carcinoma (p. 106)
A.J. Sterkenburg[1], A.M. van der Waaij[1], L. Visser[2], D.J. Sikkenk[3], A. Karrenbeld[2], R.S.N. Fehrmann[4], E.C.J. Consten[3], W.B. Nagengast[1], [1]Dept. of Gastroenterology and Hepatology, University Medical Center Groningen, Groningen, [2]Dept. of Pathology, University Medical Center Groningen, Groningen, [3]Dept. of Surgery, Meander Medical Center, Amersfoort, [4]Dept. of Medical Oncology, University Medical Center Groningen, Groningen, The Netherlands.

NVMDL	**Ledenvergadering**	**Zaal 80-81**

08.00 Algemene ledenvergadering NVMDL met ontbijtbuffet

09.30 Einde vergadering

Symposium Sectie Gastrointestinale Endoscopie en V&VN MDL	**Brabantzaal**

Voorzitters: A. Inderson, P.J. van der Schaar en C. Verstraete

Duurzaam en ergonomisch inzetbaar op de endoscopiekamer

11.15 Introductie door de voorzitters

11.20 De impact van endoscopische activiteiten op muskuloskeletale klachten bij endoscopisten: een overview
Dr. R.A. Veenendaal, MDL-arts

11.45 De Nederlandse data:
Uitkomsten enquête onder scopisten en endoscopie verpleegkundigen
W. Kok, verpleegkundig endoscopist NWZ, Alkmaar
A. Inderson, MDL-arts, LUMC

12.00 Ergonomie op de endoscopiekamer: tips and tricks
C. van Baal, MSc, manueel therapeut - Manueel-Fysiocare, Arbofysiocare, Nieuwegein

12.30 Discussie

12.35 Einde programma

Symposium	**Sectie Inflammatoire Darmziekten**	**Auditorium**

Voorzitters: *A.G.L. Bodelier en F.D.M. van Schaik*

Ziektemonitoring bij IBD – volop in beweging

09.30 Endoscopie bij IBD - wordt standaardisatie de norm?
Dr. M. Löwenberg, MDL-arts, Amsterdam UMC

09.55 MRI en echo bij IBD – een verschuivende rol in de monitoring van de IBD patiënt?
Dr. F.A.E. de Voogd, aios MDL, Amsterdam UMC
K. Horsthuis. abdominal radiologist, Amsterdam UMC

10.20 Capillaire bloedafname: de ontbrekende schakel in de thuismonitoring van de IBD patiënt
W. Tiel Groenestege, klinisch chemicus, UMC Utrecht

10.45 Koffie-/theepauze in de expositiehal

Abstractsessie Sectie Inflammatoire Darmziekten — Auditorium

Voorzitters: *M. Duijvestein en S.J.H. van Erp*

Voordrachten in het Nederlands, 6 minuten presentatie en 2 minuten discussie.

12.15 Highly stable epigenome-wide peripheral blood DNA methylation signatures accurately predict endoscopic response to adalimumab, vedolizumab and ustekinumab in Crohn's disease patients: The EPIC-CD study (p. 114)

V.W. Joustra[1], A.Y.F. Li Yim[2], I.L. Hageman[2], E. Levin[3], A. Noble[4], T. Chapman[4], C. McGregor[4], A. Adams[4], J. Satsangi[4], W. de Jonge[2], P. Henneman[5], G.R.A.M. D'Haens[6], [1]Dept. of Gastroenterology and Hepatology, Amsterdam UMC [2]Tytgat Institute for Liver and Intestinal Research, Amsterdam UMC [3]Horaizon BV, Delft, [4]Dept. of Gastroenterology and Hepatology, Oxford University Hospitals NHS Foundation Trust- John Radcliffe Hospital, Oxford, UK, [5]Dept. of Genetics, Amsterdam UMC [6]Dept. of Gastroenterology and Hepatology, Amsterdam UMC The Netherlands.

12.23 A higher red blood cell methotrexate polyglutamate 3 concentration is associated with methotrexate drug-survival in patients with Crohn's disease: first results of a prospective cohort (p. 115)

M.M. van de Meeberg[1], H.H. Fidder[2], J. Sundaresan[3], E.A. Struys[3], B. Oldenburg[2], W.G.N. Mares[4], N. Mahmmod[5], D.P. van Asseldonk[6], M.W.M.D. Lutgens[7], J.P. Kuyvenhoven[8], S.T. Rietdijk[9], L.H.C. Nissen[10], P. Koehestanie[11], R. de Jonge[3], M. Bulatovic Calasan[12], G. Bouma[1], [1]Dept. of Gastroenterology and Hepatology, Amsterdam UMC, Amsterdam, [2]Dept. of Gastroenterology and Hepatology, UMC Utrecht, [3]Dept. of Clinical Laboratory, Amsterdam UMC, Amsterdam, [4]Dept. of Gastroenterology and Hepatology, Gelderse Vallei Hospital, Ede, [5]Dept. of Gastroenterology and Hepatology, Sint Antonius Hospital, Nieuwegein, [6]Dept. of Gastroenterology and Hepatology, Noordwest Hospital, Alkmaar, [7]Dept. of Gastroenterology and Hepatology, Elizabeth Tweesteden Hospital, Tilburg, [8]Dept. of Gastroenterology and Hepatology, Spaarne Gasthuis, Hoofddorp, [9]Dept. of Gastroenterology and Hepatology, OLVG, Amsterdam, [10]Dept. of Gastroenterology and Hepatology, Jeroen Bosch Hospital, 's Hertogenbosch, [11]Dept. of Gastroenterology and Hepatology, Bravis Hospital, Roosendaal, [12]Dept. of Internal Medicine, UMC Utrecht, Utrecht, The Netherlands.

12.31 Switching out of class or to another anti-TNF agent is the most effective strategy for clinical efficacy and treatment persistence in IBD patients with immunogenicity against anti-TNF (p. 116)

S.I. Anjie[1], J. Hanzel[2], K.B. Gecse[1], G.R. D'Haens[1], J.F. Brandse[3], [1]Dept. of Gastroenterology and Hepatology, Amsterdam UMC, Amsterdam, [2]Dept. of Gastroenterology and Hepatology, University Medical Center Ljubljana, Slovenia [3]Dept. of Gastroenterology and Hepatology, Rijnstate, Arnhem, The Netherlands.

12.39 Clinical validation of a capillary blood self-sampling technique for monitoring of infliximab and vedolizumab concentrations in patients with inflammatory bowel disease (p. 117)

A.T. Otten[1], H.H. van der Meulen[1], M. Steenhuis[2], F.C. Loeff[2], D.J. Touw[3], J.G.W. Kosterink[3], H.G.W. Frijlink[4], T. Rispens[5], G. Dijkstra[1], M.C. Visschedijk[1], A.R. Bourgonje[1], [1]Dept. of Gastroenterology and Hepatology, University Medical Center Groningen, Groningen, [2]Sanquin Diagnostic Services, Amsterdam, [3]Dept. of Clinical Pharmacy, University Medical Center Groningen, Groningen, [4]University of Groningen, Groningen, [5]Dept. of Immunopathology, Sanquin Research, Amsterdam, The Netherlands.

12.47 Patient Preferences in Treatment Options of Ulcerative Colitis: a Discrete Choice Experiment (p. 118)

T.S. Straatmijer[1], E. van den Akker - van Marle[2], D. van der Horst[3], M.P.M. Scherpenzeel[3], M. Duijvestein[4], A.E. van der Meulen[5], [1]Dept. of Gastroenterology and Hepatology, Initative on Crohn and Colitis, Amsterdam, [2]Dept. of Medical decision making, LUMC, Leiden, [3]Dept. of Gastroenterology and Hepatology, Crohn & Colitis NL, Woerden, [4]Dept. of Gastroenterology and Hepatology, Radboudumc, Nijmegen, [5]Dept. of Gastroenterology and Hepatology, LUMC, Leiden, The Netherlands.

12.55 Early Induction Infliximab Trough Levels in Paediatric IBD Patients predict Sustained Remission (p. 119)

N. Bevers[1], A. Aliu[2], D. Wong[3], L. Derijks[4], B. Winkens[5], A. Vreugdenhil[6], M. Pierik[7], P. van Rheenen[8], [1]Dept. of Pediatrics, Zuyderland MC, Sittard, [2]Dept. of Gastroenterology, Maastricht University, Maastricht, [3]Pharmacology and Toxicology, Zuyderland MC, Sittard, [4]Dept. of Clinical Pharmacy, Maxima MC, Veldhoven, [5]Dept. of Mathematics and Statistics, Maastricht University, Maastricht, [6]Dept. of Pediatric Gastroenterology Hepatology and Nutrition, Maastricht University Medical Center, Maastricht, [7]Dept. of Gastroenterology and Hepatology, Maastricht University Medical Center, Maastricht, [8]Dept. of Gastroenterology and Hepatology, University Medical Centre Groningen, Groningen, The Netherlands.

13.03 The efficacy of an over the counter multivitamin and mineral supplement to prevent opportunistic infections in patients with inflammatory bowel disease in remission (p. 120)

R.L.H. Laheij, Y.M.W. van Knippenberg, A.L.J. Heil, B.J.W. Mannaerts, K.F. Bruin, M.W.M.D. Lutgens, M. Sikkema, U. de Wit, R.J.F. Laheij, Dept. of Gastroenterology and Hepatology, Elizabeth Twee-steden Ziekenhuis, Tilburg, The Netherlands.

13.15 Lunch in de expositiehal en gemodereerde postersessies

Symposium	**Sectie Kinder MDL**	**Auditorium**

Voorzitters: *Dr. R. Scheenstra en Dr. W. de Vries*

Jong gekregen, oud gehouden

14.00 Coeliakie
Dr. C.R. Meijer, kinderarts-MDL, LUMC, Leiden
Dr. P.J. Wahab, MDL-arts, Rijnstate, Arnhem

14.30 ARM: van 0 tot 00 in 30 minuten
Dr. H. van der Steeg, kinderchirurg, Radboudumc Nijmegen
Dr. F. Ferenschild, colorectaal chirurg / kinderchirurg, Radboudumc Nijmegen

15.00 Levertransplantatie
Prof. dr. H.J. Verkade, kinderarts-MDL, UMCG, Groningen
Dr. R. Maan, MDL-arts, Erasmus MC Rotterdam

15.30 Einde programma en congres.

Symposium PhD netwerk — Baroniezaal

Voorzitter: *A.M. Onnekink*

08.30 **Promoten van je onderzoek: "Social medi-JA of Social medi-Nee?"**
Interactief programma

Dr. M.J. Coenraad, MDL-arts, LUMC
A.A. Rezazadeh Ardabili, aios MDL, Zuyderland MC
H. van den Berk, directeur Marketing & Communicatie, Catharina Ziekenhuis, Eindhoven

09.30 Einde programma onderdeel

Jubileumsymposium 45 jaar Nederlandse Vereniging voor Hepatologie — Baroniezaal

Voorzitters: *J.I. Erdmann en E.M.M. Kuiper*

09.30 Introductie 45 jaar NVH
Dr. M.J. Coenraad, voorzitter NVH

09.45 Terugblik op 45 jaar hepatologie in Nederland
Prof. M. Slooff, emeritus hoogleraar Hepatobiliary surgery and liver transplantation, UMCG
Prof. dr. H.J. Metselaar, emeritus hoogleraar Leverfalen en Levertransplantatie, Erasmus MC

10.45 Koffie-/theepauze in de expositiehal

Jubileumsymposium NVH - vervolg — Baroniezaal

Voorzitters: *J.I. Erdmann en E.M.M. Kuiper*

11.15 Drug Induced Liver Injury
Dr. M.M.J. Guichelaar, MDL-arts, Medisch Spectrum Twente, Enschede

11.35 De somatische effecten van (overmatig) alcoholgebruik
Dr. H. van Soest, MDL-arts, Haaglanden Medisch Centrum, Den Haag

11.55 Werkgroep AIH: de laatste resultaten
Dr. Y.S de Boer, MDL-arts, Amsterdam UMC

12.15 Einde programmaonderdeel

Pitches NVH Young Hepatologists Awards 2021/2022 — Baroniezaal

Voorzitters: *A. Boonstra en M.J. Coenraad*

Sessie met drie klinische en drie basale pitches met de beste publicaties van eigen bodem 2021-2022 t.b.v. de Young Hepatologist Awards. Stemmen verloopt via de DDD congresapp.

Pitches basaal

12.15 Volumetric Bioprinting of Organoids and Optically Tuned Hydrogels to Build Liver-Like Metabolic Biofactories
P. Nuñez Bernal, PhD candidate, UMC Utrecht
M.C. Bouwmeester, PhD student, Universiteit Utrecht

12.19 Human branching cholangiocyte organoids recapitulate functional bile duct formation
Dr. F.J.M. Roos, clinical research fellow, Addenbrooke's hospital, Cambridge

12.23 Loss of hepatic SMLR1 causes hepatosteatosis and protects against atherosclerosis due to decreased hepatic VLDL secretion
Ir. W. van Zwol, PhD student, UMC Groningen

Pitches klinisch

12.27 Blue-collar work is a risk factor for developing IgG4-related disease of the biliary tract and pancreas
Dr. L.M. Hubers, maag-darm-leverarts i.o, Amsterdam UMC

12.31 Fatty liver disease is not associated with increased mortality in the elderly – Time for a paradigm shift?
L.A. van Kleef, promovendus, Erasmus MC, Rotterdam

12.35 Gut microbiome dysbiosis is associated with increased mortality after solid organ transplantation
J.C. Swarte, PhD candidate, UMC Groningen

12.39 **Stemmen en prijsuitreiking Young Hepatologist Award basaal en klinisch**

12.45 Ledenvergadering Nederlandse Vereniging voor Hepatologie

13.15 Lunch in de expositiehal en gemodereerde postersessies

Best of DDD – wrap up — Baroniezaal

Voorzitters: *A.E. van der Meulen en P.P.J. van der Veek*

14.00 Tijdens deze sessie zal door de volgende sprekers een wrap up gegeven worden van de sessies in de afgelopen twee dagen:

Best of Experimental Gastroenterology
Dr. E.A.M. Festen, MDL-arts

Best of Gastrointestinal Surgery
Dr. W.M.U. van Grevenstein, chirurg

Best of Gastrointestinal Endoscopy
Prof. dr. E.J. Schoon, MDL-arts, Catharina Ziekenhuis, Eindhoven

NVGE symposium: Techniek en innovatie in de endoscopie — Baroniezaal

Voorzitters: *L.M.G. Moons en P.D. Siersema*

15.00 Third space endoscopy – Crossing borders
Dr. A.D. Koch, MDL-arts, Erasmus MC, Rotterdam

15.20 AI in gastrointestinal endoscopy – Intelligent endoscopy
Prof. dr. E.J. Schoon, MDL-arts, Catharina Ziekenhuis, Eindhoven

15.40 Single use endoscopes – Future proof?
Dr. P.J.F. de Jonge, MDL-arts, Erasmus MC, Rotterdam

16.00 Endoscopic bariatric treatment – Tackling obesity
Dr. M.J.M. Groenen, MDL-arts, Rijnstate Ziekenhuis, Arnhem

16.20 Samenvatting

16.30 Einde van dit programma.

Abstractsessie Sectie Experimentele Gastroenterologie — Parkzaal

Voorzitters: *L.J.A.C. Hawinkels en K. Lenaerts*

Voordrachten in het Engels, 8 minuten presentatie en 2 minuten discussie.

09.30 Fibroblast-specific endoglin expression alters colonic immune infiltrate in premalignant colorectal lesions (p. 121)
S. Abudukelimu, M.J.A. Schoonderwoerd, M. Paauwe, E.S.M. de Jonge-Muller, S.G.T. Janson, N. van Montfoort, L.J.A.C. Hawinkels, Dept. of Gastroenterology and Hepatology, Leiden University Medical Center, Leiden, The Netherlands.

09.40 Abdominal pain severity for IBD in remission correlates with genetic clustering and enzymatic activity of feces-derived Candida albicans strains (p. 122)
I.A.M. van Thiel[1], T. Maasland[2], E.A. van Wassenaer[3], D.R. Hoekman[4], C.E.G.M. Spooren[5], T.B.M. Hakvoort[1], I. Admiraal[1], B. Theelen[6], E. Levin[2], M.A. Benninga[4], D.M.A.E. Jonkers[5], G.R.A.M. D'Haens[3], S. Rosendahl[7], T. Boekhout[6], F. Hagen[6], W.J. de Jonge[1], R.M. van den Wijngaard[1], [1]Tytgat Institute for Liver and Intestinal Research, Amsterdam UMC, loc. AMC, Amsterdam, [2]HorAIzon Technologies BV, Delfgauw, [3]Dept. of Gastroenterology and Hepatology, Amsterdam UMC, loc. AMC, Amsterdam, [4]Dept. of Pediatric Gastroenterology Hepatology and Nutrition, Amsterdam UMC, loc. AMC, Amsterdam, [5]Dept. of Internal Medicine, Maastricht UMC+, Maastricht, [6]CBS Fungal Collection, Westerdijk Fungal Biodiversity Institute, Utrecht, [7]Dept. of Biology, University of Copenhagen, Copenhagen, Denmark.

09.50 Identification of hepatocyte-restricted antigens, epitopes, and T cell receptors to treat recurrent hepatocellular carcinoma after liver transplantation (p. 123)
Y.S. Rakké[1], D. Kortleve[2], A. Oostvogels[2], R. Luijten[3], M.T.A. de Beijer[3], S.J. de Man[3], M. Doukas[4], J.N.M. IJzermans[1], S.I. Buschow[3], R. Debets[2], D. Sprengers[3], [1]Dept. of Surgery, Erasmus MC Transplant Institute, University Medical Centre Rotterdam, Rotterdam, [2]Dept. of Medical Oncology, Erasmus MC Cancer Institute, University Medical Centre Rotterdam, [3]Dept. of Gastroenterology and Hepatology, Erasmus MC Cancer Institute, University Medical Centre Rotterdam, Rotterdam, [4]Dept. of Pathology, Erasmus MC, University Medical Centre Rotterdam, Rotterdam, The Netherlands.

10.00 Single cell analysis of Crohn's disease fistula; comparison of different locations (p. 124)
M.A.J. Becker[1], P.J. Koelink[1], W.A. Bemelman[2], C.J. Buskens[2], M.E. Wildenberg[1], [1]Dept. of Gastroenterology and Hepatology, Tytgat Institute, Amsterdam, [2]Dept. of Surgery, Amsterdam UMC, Amsterdam, The Netherlands.

10.10 Atypical anti-neutrophil cytoplasmatic antibodies recognize non-lytic neutrophil extracellular traps (ANNE): A Novel pathophysiological mechanism in ulcerative colitis (p. 125)
E.A. Mendieta Escalante[1], D. Parada-Venegas[1], A.R. Bourgonje[1], C. Roozendaal[2], M.A. Hermoso[1], K.N. Faber[1], G. Dijkstra[1], [1]Dept. of Gastroenterology and Hepatology, UMCG, Groningen, [2]Dept. of Immunology, UMCG, Groningen, The Netherlands.

10.20 Battle
10.40 **Battle winner and closure**

10.45 Koffie-/theepauze in de expositiehal

Abstractsessie Sectie Experimentele Gastroenterologie — Parkzaal

Voorzitters: *E.A.M. Festen en M. Wildenberg*

Voordrachten in het Engels, 8 minuten presentatie en 2 minuten discussie.

11.15 TGFβ signaling in colorectal cancer-associated fibroblasts (CAFs) initiates a GP130-dependent IL-6 family signaling cascade in hepatocytes, neutrophil accumulation and pre-metastatic niche formation (p. 126)
I. Stouten[1], T.J. Harryvan[2], E.J. van der Wel[2], S.G.T. Janson[2], N. van Montfoort[2], E. Verdegaal[3], L.J.A.C. Hawinkels[2], [1]Dept. of Gastroenterology and Hepatology, LUMC, Leiden, [2]Dept. of Gastroenterology and Hepatology, Leiden University Medical Centre, Leiden, [3]Dept. of Medical Oncology, Leiden University Medical Centre, Leiden, The Netherlands.

11.25 TGF-β blockade during viro-immunotherapy provides differential outcomes in tumor models which are associated with oncolytic reovirus-induced imprint on TGF-β signalling (p. 127)
P.C. Groeneveldt[1], J.Q. van Ginkel[1], P. Kinderman[2], M. Sluijter[1], L. Griffioen[1], C. Labrie[1], D.J.M. van den Wollenberg[3], R.C. Hoeben[3], S.H. van der Burg[1], P. ten Dijke[3], L.J.A.C. Hawinkels[2], T. van Hall[1], N. van Montfoort[2], [1]Dept. of Medical Oncology, Leiden University Medical Center, Leiden, [2]Dept. of Gastroenterology and Hepatology, Leiden University Medical Center, Leiden, [3]Dept. of Cell and Chemical Biology, Leiden University Medical Center, Leiden, The Netherlands.

11.35 TGFβ dependent epithelial to mesenchymal transition with maintenance of self-renewal capacity depends on Smad4 gene dosage (p. 128)
R.J. de Boer, W.L. Smit, V. Muncan, Heijmans, Tytgat Institute for Liver and Intestinal Research, Amsterdam UMC, Amsterdam, The Netherlands.

11.45 **Keynote lecture**
Challenges and opportunities for therapeutic targeting of TGF-beta in cancer
Prof. dr. P. ten Dijke, Hoogleraar Cel en Chemische biologie, LUMC

12.15 Einde programma

Meet the Expert — Parkzaal

Thema: **Translational GI research in 2022: New tools and developments**

12.15 *Deze sessie - waarvoor tevoren moet worden ingeschreven - wordt verzorgd door: Dr. L.J.A.C. Hawinkels, assistant professor, LUMC*

13.15 Einde van deze sessie

13.15 Lunch in de expositiehal en gemodereerde postersessies

Abstractsessie Sectie Inflammatoire Darmziekten — Parkzaal

Voorzitters: *S. Jeuring en R.L West*

Voordrachten in het Nederlands, 6 minuten presentatie en 3 minuten discussie.

15.00 Mucosal host-microbe interactions associate with clinical phenotypes in inflammatory bowel disease (p. 129)
A.R. Bourgonje[1], S. Hu[1], L.M. Spekhorst[1], R. Gacesa[1], B.H. Jansen[1], J.R. Björk[1], A. Bangma[1], I.J. Hidding[1], H.M. van Dullemen[1], M.C. Visschedijk[1], K.N. Faber[1], G. Dijkstra[1], H.J.M. Harmsen[2], E.A.M. Festen[1], A. Vich Vila[1], R.K. Weersma[1], [1]Dept. of Gastroenterology and Hepatology, University Medical Center Groningen, Groningen, [2]Dept. of Medical Microbiology, University Medical Center Groningen, Groningen, The Netherlands.

15.09 The risk of mild, moderate and severe infections in IBD patients: results from a prospective, multicentre, observational cohort study – PRIQ (p. 130)
A. Rezazadeh Ardabili[1], D. van Esser[1], D. Wintjens[1], M. Cilissen[1], D. Deben[2], Z. Mujagic[1], F. Russ[3], L. Stassen[4], A. Van Bodegraven[3], D. Wong[2], B. Winkens[5], D. Jonkers[6], M. Romberg-Camps[3], M. Pierik[7], [1]Dept. of Gastroenterology and Hepatology, Maastricht University Medical Center+, Maastricht, [2]Dept. of Clinical Pharmacy and Toxicology, Zuyderland Medical Centre, Sittard-Geleen, [3]Dept. of Gastroenterology, Geriatrics, Internal and Intensive Care Medicine, Zuyderland Medical Centre, Sittard-Geleen, [4]Dept. of Surgery, Maastricht University Medical Center+, Maastricht, [5]Dept. of Epidemiology, Maastricht University, Maastricht, [6]Dept. of Gastroenterology and Interventional Endoscopy, Maastricht University Medical Center+, Maastricht, [7]Dept. of Gastroenterology and Metabolism, Maastricht University Medical Center+, Maastricht, The Netherlands.

15.18 Small bowel permeability improvement is associated with microbial changes seen in mild to moderate active paediatric Crohn's disease patients on nutritional therapy (p. 131)
C.M. Verburgt[1], K.A. Dunn[2], R. Sigall Boneh[3], E. Wine[4], M.A. Benninga[5], W.J. De Jonge[6], J.E. Van Limbergen[5], [1]Dept. of Pediatric Gastroenterology Hepatology and Nutrition, Emma Children's Hospital, Amsterdam University Medical Centers, Amsterdam, [2]Dept. of Biology, Dalhousie University, Dalhousie, Canada[3]Dept. of Pediatric Gastroenterology Hepatology and

Nutrition, The E. Wolfson Medical Center, Holon, Israel; The Sackler Faculty of Medicine, Holon, Israël [4]Dept. of Pediatric Gastroenterology Hepatology and Nutrition, Stollery Children's Hospital, University of Alberta, Edmonton, Canada[5]Dept. of Pediatric Gastroenterology Hepatology and Nutrition, Emma Children's hospital, Amsterdam University Medical Centers, Amsterdam, [6]Tytgat Institute for Liver and Intestinal Research, Amsterdam University Medical Centers, Amsterdam, The Netherlands.

15.27 MAGNIFI-CD index is appropriate for treatment monitoring in perianal Crohn's Disease (p. 132)

K.J. Beek[1], L.G.M. Mulders[2], K.L. van Rijn[1], K. Horsthuis[1], J.A.W. Tielbeek[1], C.J. Buskens[3], G.R. D'Haens[2], K.B. Gecse[2], J. Stoker[1], [1]Dept. of Radiology and Nuclear Medicine, Amsterdam UMC, [2]Dept. of Gastroenterology and Hepatology, Amsterdam UMC, Amsterdam, [3]Dept. of Surgery, Amsterdam UMC, The Netherlands.

15.36 Sexual functioning in patients with perianal fistulizing Crohn's disease (p. 133)

M.T.J. Bak[1], A.C. de Vries[1], L.P.S. Stassen[2], A.E. van der Meulen-de Jong[3], O. van Ruler[4], Dept. of Gastroenterology and Hepatology, Erasmus MC, Rotterdam, [2]Dept. of Surgery, UMC+Maastricht, [3]Dept. of Gastroenterology and Hepatology, Leiden Universitair Medisch Centrum, [4]Dept. of Surgery, IJsselland Ziekenhuis, Capelle a/d IJssel, The Netherlands.

15.45 Prevalence of IBD in the Netherlands: development and validation of machine learning models for administrative data (p. 134)

R.C.A. van Linschoten[1], N. van Leeuwen[2], J.A. Hazelzet[2], C.J. van der Woude[3], D. van Noord[1], R.L. West[1], [1]Dept. of Gastroenterology and Hepatology, Franciscus Gasthuis & Vlietland, Rotterdam, [2]Dept. of Public Health, Erasmus MC, Rotterdam, [3]Dept. of Gastroenterology and Hepatology, Erasmus MC, Rotterdam, The Netherlands.

15.54 Intestinal ultrasound is accurate for detecting intra-abdominal complications in Crohn's disease: a meta-analysis (p. 135)

M.J. Pruijt[1], F.A.E.de Voogd[1], N.S.M. Montazeri[1], F.S. Jamaludin[2], G.R.A.M. D'Haens[1], K.B. Gecse[1], [1]Dept. of Gastroenterology and Hepatology, Amsterdam UMC, Amsterdam, [2]Medical Library, Amsterdam UMC, Amsterdam, The Netherlands.

16.03 PREFAB-study: PRediction tool for Early identification of patients at risk of Crohn's disease in perianal Fistulas and ABscesses: interim analysis of a prospective pilot study at a non-academic, IBD-expert centre in the Netherlands (p. 136)

L.J. Munster[1], E.J. de Groof[2], S. van Dieren[3], M.W. Mundt[4], G.R.A.M. D'Haens[5], W.A. Bemelman[2], C.J. Buskens[2], J.D.W. van der Bilt[1], [1]Dept. of Surgery, Flevoziekenhuis, Almere, [2]Dept. of Surgery, Amsterdam UMC, loc AMC, Amsterdam, [3]Dept. of Clinical Epidemiology, Amsterdam UMC, loc. AMC, [4]Dept. of Gastroenterology, Flevoziekenhuis, Almere, [5]Dept. of Gastroenterology, Amsterdam UMC, loc AMC, The Netherlands.

16.12 Global perception of normal life by healthcare professionals and IBD patients: mind the gap (p. 137)

J. van Oostrom[1], S. Anjie[1], M. Braad[1], J. Horrigan[2], N. Karimi[3], B. Adi[4], G. Ganesh[4], Y. Suk-Kyun[5], J. Lasa[6], C. Broër[7], J. De Kruif[8], P. Olivera[9], Y. Byong Duk[5], R. Banerjee[4], S. Connor[10], C. Siegel[2], L. Peyrin-Biroult[11], K. Gecse[1], G. D'Haens[1], [1]Dept. of Gastroenterology and Hepatology, Amsterdam UMC, Amsterdam, [2]Dept. of Gastroenterology and Hepatology, Dartmouth Hitchcock Medical Center, Lebanon, New Hampshire, USA [3]Dept. of Gastroenterology and Hepatology, Outh West Sydney Clinical Campuses, UNSW Medicine and Health, UNSW Sydney, Australië, [4]Dept. of Gastroenterology and Hepatology, Asian institute of Gastroenterology, Hyderabad, India, Hyderabad, India, [5]Dept. of Gastroenterology and Hepatology, Asan

Medical Center, University of Ulsan College of Medicine, Seoul, South Korea, Seoul, Zuid-Korea, [6]Dept. of Gastroenterology and Hepatology, IBD Unit, Gastroenterology Section, Department of Internal Medicine, Centro de E, Buenos Aires, Argentinië, [7]Faculty of Sociology, University of Amsterdam, the Netherlands, Amsterdam, [8]Faculty of Science, Methodology and Applied Biostatistics, Free University, Amst, Amsterdam, [9]Dept. of Gastroenterology and Hepatology, Zane Cohen Centre for Digestive Diseases, Lunenfeld-Tanenbaum Research Institute, Toronto, Canada, [10]Dept. of Gastroenterology and Hepatology, Liverpool Hospital, Sydney, Australia, [11]Dept. of Gastroenterology and Hepatology, University of Lorraine, CHRU-Nancy, 54000, Nancy, France.

16.21 Change in Dietary Inflammatory Index Score in patients with Crohn's disease and healthy household members following the Groningen Anti Inflammatory Diet (GrAID) (p. 138)

I. Barth[1], C.L. Stevens[2], G. Dijkstra[1], M.J.E. Campmans-Kuijpers[1], [1]Dept. of Gastroenterology and Hepatology, University Medical Center Groningen, [2]Dept. of Gastroenterology and Hepatology, Universitair Medisch Centrum Groningen, The Netherlands.

16.30 Einde abstractsessie

Abstractsessie Sectie Oncologie en Neurogastroenterologie en Motiliteit — Zaal 81

Voorzitters: *C.M.C. le Clercq en V.M.C.W. Spaander*

Voordrachten in het Nederlands, 6 minuten presentatie en 3 minuten discussie.

12.15 Increased risk of esophageal squamous cell carcinoma in patients with squamous dysplasia: a nationwide cohort study in the Netherlands (p. 107)
L. van Tilburg[1], M.C.W. Spaander[1], M.J. Bruno[1], L. Heij[2], L. Oudijk[2], M. Doukas[2], A.D. Koch[1], [1]Dept. of Gastroenterology and Hepatology, Erasmus MC Cancer Institute, Rotterdam, [2]Dept. of Pathology, Erasmus MC Cancer Institute, Rotterdam, The Netherlands.

12.23 Diagnostic yield of gastric biopsies of the incisura angularis in patients with gastric intestinal metaplasia in a low incidence gastric cancer region (p. 108)
F.E. Marijnissen[1], J.K.F. Pluimers[1], L.G. Capelle[2], I.L. Holster[3], P.J.F. de Jonge[1], E.J. Kuipers[1], M. Doukas[4], M.C.W. Spaander[1], [1]Dept. of Gastroenterology and Hepatology, Erasmus University Medical Center, Rotterdam, [2]Dept. of Gastroenterology and Hepatology, Meander Medical Center, Amersfoort, [3]Dept. of Gastroenterology and Hepatology, Maasstad Hospital, Rotterdam, [4]Dept. of Pathology, Erasmus University Medical Center, Rotterdam, The Netherlands.

12.31 The yield of next generation sequencing for atypical cells in diagnostic work up of suspicious biliary strictures (p. 109)
D.M. de Jong[1], T.L..N. Meijering[1], S. Draijer[2], M..J. Bruno[1], J. de Jonge[3], M..F. van Velthuysen[2], L..M.J. van Driel[1], [1]Dept. of Gastroenterology and Hepatology, Erasmus MC Cancer Institute University Medical Center, Rotterdam, [2]Dept. of Pathology, Erasmus MC Cancer Institute University Medical Center, Rotterdam, [3]Dept. of Surgery, Erasmus MC Cancer Institute University Medical Center, Rotterdam, The Netherlands.

12.39 Colonoscopic-assisted laparoscopic wedge resection for the treatment of suspected T1 colon cancer (p. 110)
J. Hanevelt[1], L.M.G. Moons[2], E.K.R. Hentzen[3], T.M. Wemeijer[3], J.F. Huisman[1], W.H. de Vos tot Nederveen Cappel[1], H.L. van Westreenen[3], [1]Dept. of Gastroenterology and Hepatology, Isala, Zwolle, Zwolle, [2]Dept. of Gastroenterology and Hepatology, University Medical Center Utrecht (UMC Utrecht), Utrecht, [3]Dept. of Surgery, Isala, Zwolle, Zwolle, The Netherlands.

12.47 13C-butyrate and 13C-glucose breath testing to detect mesenteric ischemia, a proof of principal study in healthy volunteers (p. 111)
D. Harmankaya[1], L.G. Terlouw[2], D. van Noord[3], A. Moelker[4], M.J. Bruno[2], M.P. Peppelenbosch[2], [1]Dept. of Gastroenterology and Hepatology, Erasmus MC, Rotterdam, [2]Dept. of Gastroenterology and Hepatology, Erasmus MC, Rotterdam, [3]Dept. of Gastroenterology and Hepatology, Franciscus Gasthuis & Vlietland, Rotterdam, [4]Dept. of Radiology, Erasmus MC, Rotterdam, The Netherlands.

12.55 The clinical effect of benescoTM on reflux symptoms: a double-blind randomized placebo-controlled trial (p. 112)
T. Kuipers[1], R.A.B. Oude Nijhuis[2], J.M. Schuitenmaker[3], A.J. Bredenoord[3], [1]Dept. of Gastroenterology and Hepatology, Amsterdam UMC location AMC, Amsterdam, [2]Dept. of Gastroenterology and Hepatology, Amsterdam UMC, location AMC, Amsterdam, [3]Dept. of Gastroenterology, Amsterdam UMC, location AMC, Amsterdam, The Netherlands.

13.03 The Effect of Consumer Expectancy versus Actual Gluten Intake on Gastrointestinal Symptoms in Non-Coeliac Gluten Sensitivity (p. 113)
M.C.G. de Graaf[1], F. Croden[2], C.L. Lawton[2], B. Winkens[3], M.A.M. Hesselink[1], G. van Rooy[4], P.L. Weegels[5], B.J.M. Witteman[6], D. Keszthelyi[1], F.J.P.H. Brouns[3], L. Dye[2], D.M.A.E. Jonkers[1], [1]Dept. of Gastroenterology and Hepatology, Maastricht University Medical Center+/ Maastricht University, Maastricht, [2]University of Leeds, Leeds, UK[3], Maastricht University [4]Maastricht University Medical Center+/Maastricht University, Maastricht, Wageningen University, Wageningen, [6]Dept. of Gastroenterology and Hepatology, Wageningen University / Hospital Gelderse Vallei, Wageningen / Ede, The Netherlands.

13.15 Lunch in de expositiehal en gemodereerde postersessies

Symposium Dutch Benign Liver Tumor Group — Zaal 81

Voorzitters: Dr. D. Sprengers en M.M.E. Coolsen

15.00 Behandeling van levercysten, de nieuwe EASL-richtlijn
Prof. dr. J.P.H. Drenth, maag-darm-leverarts, Radboudumc, Nijmegen

15.25 Moleculaire diagnostiek in de subtypering van leveradenomen
A. Furumaya, MD/PhD-kandidaat, Amsterdam UMC

15.42 Subtypering van leveradenomen op basis van imaging
Dr. R.J. de Haas, radioloog, UMC Groningen

16.00 Einde programma

Verpleegkundig Specialisten Netwerk — Parkzaal

Maag Darm Lever

Voorzitter: *T. Korpershoek*

08.30	Casuïstiek bespreking/intercollegiale toetsing
09.30	Einde van dit programma onderdeel

V&VN MDL Plenair programma — Brabantzaal

Maag Darm Lever

Voorzitter: *M. van der Ende-van Loon.*

09.30	Algemene ledenvergadering
10.00	**KEYNOTE SPEAKER** Verpleegkundig leiderschap *H. Sonnenschein*
10.45	Koffie-/theepauze in de expositiehal

Symposium V&VN MDL en Sectie Gastrointestinale Endoscopie — Brabantzaal

Beroepsvereniging van zorgprofessionals
Maag Darm Lever

Voorzitters: *A. Inderson, P.J. van der Schaar en C. Verstraete*

Duurzaam en ergonomisch inzetbaar op de endoscopiekamer

11.15 Introductie door de voorzitters

11.20 De impact van endoscopische activiteiten op muskuloskeletale klachten bij endoscopisten: een overview
Dr. R.A. Veenendaal, MDL-arts

11.45 De Nederlandse data:
Uitkomsten enquête onder scopisten en endoscopie verpleegkundigen
W. Kok, verpleegkundig endoscopist NWZ, Alkmaar
A. Inderson, MDL-arts, LUMC

12.00 Ergonomie op de endoscopiekamer: tips and tricks
C. van Baal, MSc, manueel therapeut - Manueel-Fysiocare, Arbofysiocare, Nieuwegein

12.30 Discussie

12.35 Einde programma

V&VN MDL - IBD — Zaal 80

Beroepsvereniging van zorgprofessionals
Maag Darm Lever

Voorzitters: *L. Duijsens*

11.15 Nieuwe medicatie bij IBD
Dr. M. Löwenberg, maag-darm-leverarts, Amsterdam UMC

11.45 Diarree bij infecties: hoe ontstaat dat?
V. Rijnierse, arts-onderzoeker UMC Utrecht

12.45 Einde van deze sessie.

13.15 Lunch in de expositiehal en gemodereerde postersessies

V&VN MDL Endoscopie — Brabantzaal

Beroepsvereniging van zorgprofessionals
Maag Darm Lever

Voorzitters: *P. Terpstra*

14.00	EMR-ESD-FTRD *Dr. R.M. Schreuder, MDL-arts, Catharina Ziekenhuis, Eindhoven*
14.25	VR bril op de endoscopie *H.L. Dekker, physician assistant, Catharina Ziekenhuis, Eindhoven*
14.50	Portale hypertensie *Dr. R. Maan, MDL-arts, Erasmus MC Rotterdam*
15.15	BVO de laatste ontwikkelingen *A.N. Reijm, verpleegkundig specialist, Erasmus MC Rotterdam*
16.00	Einde programma

V&VN MDL Verpleegkundige Endoscopisten — Zaal 80

Beroepsvereniging van zorgprofessionals
Maag Darm Lever

Voorzitters: *W. Kok*

14.00	Uitkomst Clipper studie *G. Kemper, arts-onderzoeker MDL, Radboudumc Nijmegen*
14.25	'Raad je plaatje' *Dr. L. Alvarez Herrero, MDL-arts St. Antoniusziekenhuis Nieuwegein*
14.50	OSAS op de endoscopie *M.F. Teunissen-Goumans, physician assistant longziekte, Catharina Ziekenhuis, Eindhoven*
15.15	Nieuwe richtlijn poliepectomie *Drs. A.W.H. de Klaver, ANIOS, Noordwest Ziekenhuisgroep, Alkmaar*
15.40	Einde programma

V&VN MDL IBD — Parkzaal

Beroepsvereniging van zorgprofessionals
Maag Darm Lever

Voorzitter: *R. Theeuwen*

14.00 PSC bij IBD
Dr. A.R. Bourgonje, arts-onderzoeker, UMCG, Groningen

14.30 Seksualiteit in IBD
S. van der Zwet, verpleegkundig specialist IBD, MC Leeuwarden

15.00 Abstractsessie van de Sectie Inflammatoire Darmziekten van de NVGE
Zie programma op pagina 33

Postersessie 4 **Expositiehal**

10.55 Computer-aided diagnosis (CADx) improves characterization of barrett's neoplasia by endoscopists (p. 139)

J.B. Jukema[1], J.J. Bergman[1], K. Kusters[2], M.R. Jong[1], K.N. Fockens[1], T. Boers[2], J.A. Putten[2], R.E. Pouw[1], F. van der Sommen[2], P.H. de With[2], A.J. de Groof[1], [1]Dept. of Gastroenterology and Hepatology, Amsterdam UMC, Amsterdam, [2]Dept. of Electrical Engineering, Eindhoven University of Technology, Eindhoven, The Netherlands.

11.00 Video-based computer aided detection system detects Barrett's neoplasia with high accuracy during live endoscopic procedures: a multi-center pilot and feasibility study (p. 140)

K.N. Fockens[1], J.B. Jukema[1], M.R. Jong[1], T.G.W. Boers[2], K.C. Kusters[2], J.A. van der Putten[2], F. van der Sommen[2], P.H.N. de With[2], A.J. de Groof[1], J.J. Bergman[1], [1]Dept. of Gastroenterology and Hepatology, Amsterdam UMC, Amsterdam, [2]Dept. of Electrical Engineering, TU Eindhoven, Eindhoven, The Netherlands.

11.05 Significant impact on health care utilization upon implementation of an electronic IBD care management program (p. 141)

L.J.M. Koppelman[1], S.E.L.M. Roozemond[1], D.W. Hommes[2], P.W. Voorneveld[1], P.W.J. Maljaars[1], *F.J.G.M. Kubben[3], K.E. Verweij[3], A.E. van der Meulen-de Jong[1], [1]Dept. of Gastroenterology, Leiden University Medical Centre, Leiden, [2]DEARHealth B.V., Amsterdam, [3]Dept. of Gastroenterology, Maasstad Ziekenhuis, Rotterdam, The Netherlands.*

11.10 A tissue systems pathology test has significant clinical utility to standardize management leading to improved health outcomes for Barrett's esophagus patients with low-grade dysplasia (p. 142)

A.M. Khoshiwal[1], L.C. Duits[1], R.E. Pouw[1], C. Smolko[2], M. Arora[2], J.J. Siegel[2], R.J. Critchley-Thorne[2], J.J.G.H.M. Bergman[1], [1]Dept. of Gastroenterology and Hepatology, Amsterdam University Medical Centers, Amsterdam, [2]Castle Biosciences, Inc., Department of Research and Development, Pittsburgh, Verenigde Staten

13.20 Network meta-analysis to evaluate the comparative efficacy of intravenous and subcutaneous infliximab and vedolizumab in the maintenance treatment of adult patients with Crohn's disease and ulcerative colitis (p. 143)

L. Peyrin-Biroulet[1], P. Bossuyt[2], D. Bettenworth[3], E. Loftus[4], S.I. Anjie[5], G. D'Haens[5], M. Saruta[6], P. Arkkila[7], D. Kim[8], D. Choi[8], W. Reinisch[9], [1]Dept. of Gastroenterology, Centre Hospitalier Regional Universitaire Nancy, Nancy, Frankrijk, [2]Dept. of Gastroenterology, Imelda General Hospital, Bonheiden, België, [3]Dept. of Gastroenterology, University of Münster, Germany, [4]Dept. of Gastroenterology, Mayo clinic, Rochester, USA, [5]Dept. of Gastroenterology and Hepatology, Amsterdam UMC, Amsterdam, The Netherlands, [6]Dept. of Gastroenterology and Hepatology, The Jikei University School of Medicine, Tokyo, Japan, [7]Dept. of Gastroenterology, University of Helsinki, Finland, [8]Celltrion Healthcare, Incheon, South-Korea, [9]Dept. of Gastroenterology, Medical University of Vienna, Vienna, Austria.

13.25 Colonoscopy surveillance in Lynch syndrome is burdensome and frequently delayed (p. 144)

E.. van Liere[1], I.L. Jacobs[2], E. Dekker[2], M.A.J.M. Jacobs[2], N.K.H. de Boer[2], D. Ramsoekh[2], [1]Dept. of Gastroenterology, Amsterdam UMC, Amsterdam, [2]Dept. of Gastroenterology, Amsterdam University Medical Centers, Amsterdam, The Netherlands.

13.30 Long-term impact of the COVID-19 pandemic on inflammatory bowel disease healthcare utilization: A two-year nationwide update (p. 145)

M.E.W. Derks[1], L.M.A. van Lierop[1], M. te Groen[1], C.H.J. Kuijpers[2], I.D. Nagtegaal[3], F. Hoentjen[4], [1]Dept. of Gastroenterology and Hepatology, Radboud University Medical Centre, Nijmegen, [2]Dept. of Pathology, Stichting PALGA, Houten, [3]Dept. of Pathology, Radboud University Medical Centre, Nijmegen, The Netherlands, [4]Dept. of Gastroenterology, University of Alberta, Edmonton, Canada.

13.35 Patients with Immune Mediated Inflammatory Diseases are insufficiently protected against vaccine-preventable influenza and pneumococcal infections due to low vaccination rates (p. 146)

N. van de Pol[1], C.J. van der Woude[1], M. Vis[2], M.B.A. van Doorn[3], L.A.A.P. Derikx[1], I. Molendijk[1], A.C. de Vries[1], [1]Dept. of Gastroenterology and Hepatology, Erasmus MC, Rotterdam, [2]Dept. of Rheumatology, Erasmus MC, Rotterdam, [3]Dept. of Dermatology, Erasmus MC, Rotterdam, The Netherlands.

13.40 A prediction model for successful increase of adalimumab dose intervals: analysis of the pragmatic open-label randomised controlled non-inferiority LADI trial (p. 147)

R.C.A. van Linschoten[1], F.M. Jansen[2], R.W.M. Pauwels[3], L.J.T. Smits[2], F. Atsma[4], W. Kievit[5], D.J. de Jong[2], A.C. de Vries[3], P.J. Boekema[6], R.L. West[1], A.G.L. Bodelier[7], I.A.M. Gisbertz[8], F.H.J. Wolfhagen[9], T.E.H. Romkens[10], M.W.M.D. Lutgens[11], A.A. van Bodegraven[12], B. Oldenburg[13], M. Pierik[14], M.G.V.M. Russel[15], N.K. de Boer[16], R.C. Mallant-Hent[17], P.C.J. ter Borg[18], A.E. van der Meulen-de Jong[19], J.M. Jansen[20], S.V. Jansen[21], A.C.I.T.L. Tan[22], C.J. van der Woude[3], F. Hoentjen[23], [1]Dept. of Gastroenterology and Hepatology, Franciscus Gasthuis & Vlietland, Rotterdam, [2]Dept. of Gastroenterology and Hepatology, Radboud University Medical Center, Rotterdam, [3]Dept. of Gastroenterology and Hepatology, Erasmus MC, Rotterdam, [4]IQ Healthcare, Radboud University Medical Center, Rotterdam, [5]Dept. of Health Evidence, Radboud University Medical Center, Rotterdam, [6]Dept. of Gastroenterology and Hepatology, Maxima Medical Center, Eindhoven, [7]Dept. of Gastroenterology and Hepatology, Amphia Hospital, Breda, [8]Dept. of Gastroenterology and Hepatology, Bernhoven Hospital, Uden, [9]Dept. of Gastroenterology and Hepatology, Albert Schweitzer Hospital, Dordrecht, [10]Dept. of Gastroenterology and Hepatology, Jeroen Bosch Hospital, 's-Hertogenbosch, [11]Dept. of Gastroenterology and Hepatology, Elisabeth Tweesteden Hospital, Tilburg, [12]Dept. of Gastroenterology, Geriatrics, Internal and Intensive Care Medicine, Zuyderland Medical Center, Sittard-Geleen/Heerlen, [13]Dept. of Gastroenterology and Hepatology, University Medical Center Utrecht, Utrecht, [14]Dept. of Gastroenterology and Hepatology, Maastricht University Medical Center+, Maastricht, [15]Dept. of Gastroenterology and Hepatology, Medisch Spectrum Twente, Enschede, [16]Dept. of Gastroenterology and Hepatology, Amsterdam University Medical Center, Vrije Universiteit Amsterdam, Amsterdam, [17]Dept. of Gastroenterology and Hepatology, Flevoziekenhuis, Almere, [18]Dept. of Gastroenterology and Hepatology, Ikazia Hospital, Rotterdam, [19]Dept. of Gastroenterology and Hepatology, Leiden University Medical Center, Leiden, [20]Dept. of Gastroenterology and Hepatology, OLVG, Amsterdam, [21]Dept. of Gastroenterology and Hepatology, Reinier de Graaf Gasthuis, Delft, [22]Dept. of Gastroenterology and Hepatology, Canisius Wilhelmina Hospital, Nijmegen, The Netherlands, [23]Dept. of Gastroenterology, University of Alberta, Edmonton, Canada

13.45 Ultrasound-guided needle biopsy fluorescence spectroscopy with quantitative fluorescence endoscopy for response monitoring in patients with esophageal cancer after neoadjuvant chemoradiotherapy using bevacizumab-800CW (p. 148)

I. Schmidt[1], A.M. Van der Waaij[1], G. Kats-Ugurlu[2], F.A. Dijkstra[3], J.W. Haveman[3], B. Van Etten[3], D.J. Robinson[4], W.B. Nagengast[1], [1]Dept. of Gastroenterology and Hepatology, Universitair Medisch Centrum Groningen, Groningen, [2]Dept. of Pathology, Universitair Medisch Centrum Groningen, Groningen, [3]Dept. of Surgery, Universitair Medisch Centrum Groningen, Groningen, [4]Dept. of Otorhinolaryngology and Head and Neck Surgery, Erasmus Medical Center, Rotterdam, The Netherlands.

13.50 Reporting Dutch National Outcomes after Gastrectomy According to the Gastrectomy Complications Concensus Group (GCCG) (p. 149)

M.R. Visser[1], D.M. Voeten[2], J.P. Ruurda[1], S.S. Gisbertz[2], M.I. Van Berge Henegouwen[2], R. Van Hillegersberg[1], [1]Dept. of Surgery, UMC Utrecht, Utrecht, [2]Dept. of Surgery, Amsterdam UMC, Amsterdam, The Netherlands.

13.55 Factors associated with retreatment outcome in treated achalasia patients with recurrent symptoms (p. 150)

M.L. van Klink, J.M. Schuitenmaker, G.M.C. Masclee, A.J. Bredenoord, Dept. of Gastroenterology and Hepatology, Amsterdam UMC, Amsterdam, The Netherlands.

Zeb1 downregulation sensitizes pancreatic cancer-associated fibroblasts to killing by oncolytic reovirus through upregulation of the reovirus receptor Junction Adhesion Molecule A

N. Dam[1,2,3], T.J. Harryvan[2*], B. Schmierer[4], E.A. Farshadi[5], L.J.A.C. Hawinkels[2#], V. Kemp[1#], [1]Dept. of Cell & Chemical Biology, Leiden University Medical Center, [2]Dept. of Gastroenterology & Hepatology, Leiden University Medical Center, [3]Dept. of Surgery, Erasmus Medical Center, Rotterdam, [4]Dept. of Medical Biochemistry and Biophysics, Division of Chemical Biology, Karolinska Institutet, Stockholm, Sweden, [5]Dept. of Pulmonary Medicine, Erasmus University Medical Center, Rotterdam, the Netherlands. [*/#] These authors contributed equally*

Background: Pancreatic tumors display an abundance of cancer-associated fibroblasts (CAFs), which negatively affect prognosis and therapy response. Oncolytic virotherapy exploits viruses that preferentially lyse epithelial cancer cells as opposed to normal cells. However, targeting CAFs using oncolytic viruses, in addition to cancer cells, could be advantageous to increase therapy effectiveness. It could serve as a conduit for viral spread and simultaneously disrupt the desmoplastic barrier around tumors, thereby also accelerating the influx of other therapeutics and immune cells. We previously found that targeting of CAFs by oncolytic reovirus correlates with the cell surface expression levels of the reovirus entry receptor junction adhesion molecule A (JAM-A). However, most pancreatic CAFs do not express JAM-A. Therefore, we aimed to identify and subsequently modify regulators of JAM-A expression, to sensitize CAFs to reovirus.
Methods: A genome-wide CRISPR/Cas9 screen was employed to identify the genes regulating JAM-A expression on fibroblasts. Pancreatic stellate cells with a moderate JAM-A expression level were transduced with a gRNA library making a knockout of one gene per cell. The highest and lowest JAM-A expressing cells were sorted and sequenced to identify the gRNAs that regulate JAM-A expression. Clonal CRISPR/Cas9-generated knockouts of a top negative regulator were infected with reovirus, followed by cell viability assays to quantify their susceptibilities to reovirus-induced cell death.
Results: F11R, the gene encoding JAM-A, was identified as the top positive regulator of JAM-A expression in the CRISPR/Cas9 screen, verifying the validity of the screen. The top negative regulators identified were Fibroblast Growth Factor Receptor 1 (FGFR1) and Zinc finger E-box Binding homeobox 1 (Zeb1), thereby serving as potential therapeutic targets to combine with reovirus treatment. Using clonal Zeb1 knock-outs, Zeb1 was confirmed as a strong regulator of JAM-A expression. Zeb1 knockout in JAM-A negative pancreatic fibroblasts caused a robust upregulation of JAM-A and sensitized these inherently resistant fibroblasts to reovirus-directed cytolysis. Additionally, the clinically approved drug Mocetinostat, previously described to inhibit Zeb1, also upregulated JAM-A expression on CAFs and increased cell lysis by reovirus.
Conclusion: Altogether, our data show that Zeb1 is a strong negative regulator of JAM-A expression on fibroblasts and that Zeb1 inhibition can sensitize CAFs to reovirus-induced cell death. This research provides a rationale for combining Zeb1 inhibitory drugs with oncolytic reovirus treatment to improve killing of CAFs, which in turn could boost overall tumor eradication.

Clip placement does not prevent delayed bleeding after endoscopic mucosal resection (Clipper) for large polyps in the proximal colon: a multicentre, randomized controlled trial

G. Kemper[1], A.S. Turan[1], R.M. Schreuder[2], R.W.M. Schrauwen[3], M. Hadithi[4], P. Didden[5], B.A.J. Bastiaansen[6], B. Van der Spek[7], J.S. Terhaar sive Droste[8], M.P. Schwartz[9], W.L. Hazen[10], J.W. Straathof[11], J.J. Boonstra[12], A. Alkhalaf[13], F.J. Voogd[14], D. Allajar[15], W. De Graaf[16], P. Koehestanie[17], R. Roomer[18], R.J.J. De Ridder[19], E.J.M. van Geenen[1], P.D. Siersema[1], [1]Dept. of Gastroenterology and Hepatology, Radboudumc, Nijmegen, [2]Dept. of Gastroenterology and Hepatology, Catharina Ziekenhuis, Eindhoven, [3]Dept. of Gastroenterology and Hepatology, Bernhoven, Uden, [4]Dept. of Gastroenterology and Hepatology, Maasstad Ziekenhuis, Rotterdam, [5]Dept. of Gastroenterology and Hepatology, UMC Utrecht, [6]Dept. of Gatroenterology and Hepatology, Amsterdam UMC, [7]Dept. of Gastroenterology and Hepatology, Noordwest Ziekenhuisgroep, Alkmaar, [8]Dept. of Gastroenterology and Hepatology, Jeroen Bosch Ziekenhuis, 's-Hertogenbosch, [9]Dept. of Gastroenterology and Hepatology, Meander Medisch Centrum, Amersfoort, [10]Dept. of Gastroenterology and Hepatology, Elisabeth-Tweesteden Ziekenhuis, Tilburg, [11]Dept. of Gastroenterology and Hepatology, Máxima Medisch Centrum, Veldhoven, [12]Dept. of Gastroenterology and Hepatology, Leids Universitair Medisch Centrum, Leiden, [13]Dept. of Gastroenterology and Hepatology, Isala, Zwolle, [14]Dept. of Gastroenterology and Hepatology, Medisch Centrum Leeuwarden, [15]Dept. of Gastroenterology and Hepatology, St Jansdal Ziekenhuis, Hardewijk, [16]Dept. of Gastroenterology and Hepatology, Erasmus MC Rotterdam, [17]Dept. of Gastroenterology and Hepatology, Bravis Ziekenhuis, Roosendaal, [18]Dept. of Gastroenterology and Hepatology, Franciscus Gasthuis & Vlietland, Rotterdam, [19]Dept. of Gastroenterology and Hepatology, Maastricht UMC+, The Netherlands.

Background: The most common complication after endoscopic mucosal resection (EMR) is delayed bleeding (DB), especially in the proximal colon. Randomized controlled trials in high volume centers suggest that prophylactic clipping (PC) of the resection defect reduces DB in patients with a high DB risk. Guidelines already recommend PC for proximal polyps, despite being technical difficult and expensive. We aimed to evaluate the value of PC in patients receiving EMR for proximal flat polyps in reducing DB in daily clinical practice.

Methods: We performed a randomized controlled trial in 19 Dutch hospitals with patients referred for EMR of lateral spreading and sessile polyps ≥ 20mm in the proximal colon. Patients were randomly assigned (1:1) to groups treated with PC (intervention group) or no PC (control group). PC was standardized in tutorial meetings focusing on approximating the resection margins with aligning clips 5-10mm apart. The primary endpoint was clinically significant DB defined as hematochezia necessitating emergency department presentation, hospitalization, or re-intervention within 30 days post-EMR, which was analyzed according to the intention-to-treat principle. The trial is registered at ClinicalTrials.gov, NCT03309683.

Results: Between May 15, 2018 and December 14, 2021, 356 patients with a median polyp size of 30mm (IQR 25,40) were included of whom 179 were randomly assigned to the control group and 177 to the intervention group. DB occurred in 11 (6.1%) patients of the control group and in 16 (9.0%) patients of the intervention group (p=0.30). Endoscopists reported complete defect closure in 70.6% of cases. There were no differences between the control and intervention group in serious adverse events including perforation (two versus one, p=0.57), post polypectomy syndrome (zero versus three, p=0.08) and intensive care unit admission (one versus one). No deaths were reported.

Conclusion: PC did not reduce DB in patients undergoing EMR for large lateral spreading and sessile polyps in the proximal colon. Therefore, this study demonstrates that the burden of laborious and expensive PC is not justified in daily clinical practice.

Long-term outcome of immediate versus postponed intervention in patients with infected necrotising pancreatitis

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Background: Patients with infected necrotising pancreatitis did not benefit from immediate (<24h) catheter drainage in a recent randomised trial. Moreover, patients treated with a postponed-drainage approach using antibiotic treatment required fewer invasive interventions, and over a third of patients were treated without any intervention. However, it is unclear whether these relative benefits hold over time as conservatively treated patients may require interventions later.
Methods: Between Aug 2015 and Oct 2019, 104 patients with infected necrotising pancreatitis were randomly assigned to either immediate catheter drainage or postponed catheter drainage in the multicentre randomised POINTER trial. Here, we re-evaluated all clinical data of patients who were still alive after the initial 6-month follow-up. The primary endpoint was a composite of death and major complications.
Results: In total, 88 out of 104 patients were re-evaluated with a median follow-up of 51 months. After the initial 6-month follow-up, the primary endpoint occurred in 7 of 47 patients (15%) in the immediate-drainage group and 7 of 41 patients (17%) in the postponed-drainage group (relative risk [RR] 0.87, 95% confidence interval [CI] 0.33 to 2.28; p=0.78). Additional drainage procedures were performed in 7 patients (15%) in the immediate-drainage group versus 3 patients (7%) in the postponed-drainage group (RR 2.03; 95% CI 0.56-7.37; p=0.34). New pancreatitis-related death occurred in 2 versus 0 patients. In the total follow-up, the median number of interventions was 4 in the immediate-drainage group versus 1 in the postponed-drainage group (p=0.001). Eventually, 14 of 15 patients (93%) in the postponed group who were successfully treated in the initial 6-month follow-up with antibiotics only without any intervention, remained without intervention at the end of the current follow-up. At the end of follow-up, pancreatic function and quality of life were similar.
Conclusion: Also during long-term follow-up, a postponed drainage approach to patients with infected necrotising pancreatitis results in fewer interventions as compared to immediate drainage, and should therefore be the preferred approach.

Development of pancreatic diseases during long-term follow-up of patients with acute pancreatitis in a prospective nationwide multicenter cohort

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Background: A subset of patients with acute pancreatitis (AP) will develop recurrent acut pancreatitis (RAP), chronic pancreatitis (CP), or pancreatic cancer. Identification of those at high-risk for progression would offer opportunities for improvements in disease management and patient counselling. This study aims to gain insight into the natural course and factors associated with transition to other pancreatic diseases following a first episode of AP.
Methods: A long-term follow-up study of a nationwide prospective cohort of patients with AP, who were recruited in 17 Dutch hospitals between 2008 and 2015, was performed. Clinical data were retrieved from medical records and a standardized follow-up questionnaire was sent to all patients who were still alive. Primary endpoints were RAP, CP and pancreatic cancer. Cox-proportional hazards and logistic regression models were used for cumulative incidence calculations and risk analyses.
Results: Overall, 1,184 patients with a median follow-up of 9 years (IQR: 7–11) were included. RAP occurred in 301 patients (25%) and 72 patients (6%) developed CP. Pancreatic cancer was diagnosed in 14 patients (1%) after a median time of 24 months (IQR: 4–84) after onset of AP. The cumulative risk for RAP was the highest for patients with alcoholic pancreatitis (40%). Independent predictive factors for RAP were alcoholic and idiopathic pancreatitis (OR: 2.31, 95% CI: 1.33–4.04 and OR: 2.06, 95% CI: 1.40–3.03) and no pancreatic interventions (OR: 1.81, 95% CI: 1.10–3.01). In a subgroup of biliary pancreatitis patients, protective factors for RAP were endoscopic retrograde cholangiopancreatography (OR: 0.33, 95% CI: 0.20–0.55) and cholecystectomy ≤ 3 months after onset of AP (OR: 0.17, 95% CI: 0.11–0.25). Male sex (OR: 2.04, 95% CI: 1.04–4.02), alcoholic and idiopathic pancreatitis (OR: 5.17, 95% CI: 1.94–13.76 and OR: 4.46, 95% CI: 2.01–9.93), smoking (OR: 2.40, 95% CI: 1.18–4.87), pancreatic interventions (OR: 2.97, 95% CI: 1.15–7.69) and RAP (OR: 4.87, 95% CI: 2.80–8.46) were independently associated with transition to CP. For CP, cumulative risks were highest among patients with alcoholic pancreatitis (22%) and with a history of RAP (15%).
Conclusion: One in four patients with AP will develop RAP, CP, or pancreatic cancer after a first episode of AP. We identified several risk factors that may be helpful to devise personalized strategies with the intention to reduce the impact of disease progression after a first episode of AP.

Feasibility and safety of tailored lymphadenectomy using sentinel node navigated surgery with a hybrid tracer of technetium-99m and indocyanine green in high-risk T1 esophageal adenocarcinoma patients

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Background: Sentinel node navigated surgery (SNNS) might offer a less invasive alternative to esophagectomy to tailor the extent of lymphadenectomy in patients with high-risk T1 esophageal adenocarcinoma (EAC). This is the first study to investigate the feasibility and safety of a new treatment strategy, consisting of radical endoscopic resection of the tumor followed by SNNS.
Methods: In this prospective, multicenter pilot study, 10 patients with a radically resected high-risk T1cN0M0 EAC (i.e. deep submucosal invasion ≥500µm, poor differentiation, and/or lymphovascular invasion) underwent SNNS in two tertiary hospitals. A hybrid tracer of technetium-99m nanocolloid and indocyanine green was injected endoscopically around the resection scar the day before surgery, followed by preoperative imaging. During thoracoscopy and laparoscopy, sentinel nodes (SNs) were identified using a thoracolaparoscopic gammaprobe and fluorescence-based detection and subsequently resected. Endpoints were surgical morbidity, incidence of gastroesophageal functional disorders, rate of detectable SNs, and number of resected (tumor-positive) SNs per patient.
Results: Localization and dissection of SNs was feasible in all patients (10 male, median age 69), with a median of 3 SNs (range 1-7) on preoperative imaging and a median of 3 SNs (range 1-6) during surgery. The concordance between preoperative imaging and intraoperative detection was high. In one patient (10%), dissection was considered incomplete after two SNs could not be identified due to a lack of ICG fluorescence. In four patients (40%), additional peritumoral SNs were resected after fluorescence-based detection. These SNs were not detected on preoperative imaging or intraoperatively as a result of the high background radioactivity of the injection site. Total procedure time was median 125 minutes (range 46-213), and patients were hospitalized for a median of 2 days (range 1-3). One patient (10%) experienced neuropathic thoracic pain related to surgery, while none of the patients developed functional disorders. In two patients (20%), a metastasis was found in one of the resected SNs. Both patients are undergoing strict endoscopic and radiologic follow-up, which was determined in a multidisciplinary meeting based on patient's older age (n=1) and patient's choice in combination with micrometastasis (n=1).
Conclusion: SNNS appears to be a feasible and safe instrument to tailor lymphadenectomy in patients with high-risk T1 EAC who underwent a prior radical endoscopic resection. The exact position of this new strategy in the treatment algorithm for high-risk T1 esophageal cancer needs to be studied in future research with long-term follow-up.

Perfusion assessment by fluorescence time curves in esophagectomy with gastric conduit reconstruction

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Background: Intraoperative perfusion assessment with indocyanine green fluorescence angiography (ICG-FA) may reduce postoperative anastomotic leakage rates after esophagectomy with gastric conduit reconstruction. This study evaluated quantitative parameters derived from fluorescence time curves to determine a threshold for adequate perfusion and predict postoperative anastomotic complications.

Methods: This prospective cohort study included consecutive patients who underwent FA-guided esophagectomy with gastric conduit reconstruction between August 2020 and February 2022. After intravenous bolus injection of 0.05 mg/kg ICG, fluorescence intensity was registered over time by PINPOINT camera(Stryker, USA). Fluorescent angiograms were quantitatively analyzed at a region of interest of 1 cm diameter at the anastomotic site on the conduit using tailor made software. Extracted fluorescence parameters were both inflow (T_0, T_{max}, F_{max}, slope, Time-to-peak) as outflow parameters($T_{90\%}$ and $T_{80\%}$). Anastomotic complications including anastomotic leakage (AL) and strictures were documented. Fluorescence parameters in patients with AL were compared to those without AL.

Results: Hundred and three patients (81 male, 65.7 $\pm$ 9.9 years) were included, the majority (88%) of whom underwent an Ivor Lewis procedure. AL occurred in 19% of patients (n=20/103). Both time-to-peak as T_{max} were significantly longer for the AL group in comparison to the non-AL group (39 sec vs. 26 sec, p=0.04 and 65 vs. 51 seconds, p=0.03 respectively. Slope was 1.0 (IQR 0.3-2.5) and 1.7 (IQR 1.0-3.0) and 1.0 (IQR 0.3-2.5) for the AL and non-AL group (p=0.11). Outflow was longer $T_{90\%}$ 30 versus 15 seconds respectively, p=0.2). Univariate analysis indicated that T_{max} was predictive for AL (p=0.10, area under the curve 0.71) and a cut-off value of 97 seconds was derived, with a specificity of 92%.

Conclusion: This study demonstrated quantitative parameters and identified a fluorescent threshold which can be used for intraoperative decision making and to identify high-risk patients for AL during esophagectomy with gastric conduit reconstruction.

The predictive value of mandard score and nodal status on recurrence patterns and survival of esophageal adenocarcinoma after neoadjuvant therapy and surgery

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Background: How response to neoadjuvant chemoradiotherapy influences recurrence patterns of esophageal cancer is not fully understood, although it may bear relevance for postoperative treatment protocols. This study evaluated the predictive value of pathological response to neoadjuvant treatment (Mandard score, tumor regression grade (TRG)) on recurrence patterns and survival. Secondly, the predictive value of a new score, combining TRG and nodal status (TRG-ypN score), on recurrence patterns and survival of esophageal cancer was evaluated.
Methods: This nationwide cohort study included patients treated with neoadjuvant chemoradiotherapy and esophagectomy for distal esophageal or gastroesophageal junction adenocarcinoma between 2007-2016. Primary endpoints were recurrence rate, location of recurrent disease and time to recurrence. Secondary endpoint was overall survival (OS). The predictability of Mandard score and the TRG-ypN score on patients' survival were compared.
Results: Among 2746 included patients, recurrence rates increased by increasing Mandard score (TRG1 31%, TRG2 45%, TRG3 53%, TRG4 61%, and TRG5 58%, p<0.001). Among patients with recurrence, TRG1 patients developed more brain recurrences (18%) as compared to TRG>1 patients (10%), p 0.001. For TRG1 patients, time to recurrence was 2 months longer and mean OS was 10 months longer than for TRG>1 patients. TRG1-ypN+ was associated with higher recurrence risk and worse prognosis compared to TRG>1-ypN0. TRG1-ypN+ patients less often developed recurrence at locoregional sites, and more often at distant sites compared to other patients. TRG-ypN score showed better fit in OS than Mandard score, indicated by a lower -2 log likelihood value (20679.472 vs. 20874.648).
Conclusion: After the trimodality therapy for esophageal adenocarcinoma, Mandard score can predict recurrence patterns. The newly introduced TRG-ypN score substantially enhances the accuracy of Mandard score in predicting survival, and residual nodal disease was found to influence prognosis more negatively compared to residual disease at the primary tumor site.

Incidence, risk factors, treatment and survival of synchronous or metachronous peritoneal metastases in patients with gastric cancer: a nationwide study

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Background: It is unclear if any differences exist between synchronous or metachronous peritoneal metastases (PM) from gastric cancer. Moreover, no nationwide data are available on metachronous PM from gastric cancer. Therefore, the aim of this study was to investigate incidence, risk factors, treatment and survival of synchronous or metachronous PM from gastric cancer and to describe possible differences between both groups.
Methods: All patients diagnosed with gastric cancer in the Netherlands in 2015-2016 were included. Patients were analyzed if synchronous PM were present or if metachronous PM were diagnosed after curative intent treatment for nonmetastatic gastric cancer. Data was extracted from the Netherlands Cancer Registry. Follow-up on disease progression was collected in the second half of 2019. Data on vital status was complete until 1 February 2022. Cumulative incidence (CI) of metachronous PM was calculated. Multivariable regression analyses were performed to identify baseline factors that were associated with the presence of synchronous or metachronous PM. Treatment was compared between synchronous or metachronous PM and overall survival (OS) was estimated with the Kaplan-Meier method.
Results: Of 2120 patients with gastric cancer, 641 (30%) were diagnosed with PM. Of these, 488 (n=488/2120, 23%) patients had synchronous PM. After surgery for primary nonmetastatic gastric cancer (n=667/2120), 153 (n=153/667, 23%) developed metachronous PM (3-year CI: 22.6%). Factors associated with synchronous PM were younger age, overlapping location of primary tumor, diffuse tumor histology and T4 stage, and with metachronous PM a proximal tumor location, diffuse tumor histology, T4 stage and N+ stage. Patients diagnosed with synchronous PM more often received tumor-directed treatment (i.e., surgery, systemic therapy or radiotherapy) than patients with metachronous PM (46% vs. 25% respectively, $p<0.001$). Median OS did not differ between synchronous and metachronous PM (3.1 vs. 2.2 months, respectively, $p=0.671$) and between synchronous and metachronous PM who received tumor-directed treatment (7.2 vs. 6.4 months, respectively, $p=0.177$).
Conclusion: Almost one quarter of patients with gastric cancer in a Western European country are diagnosed with PM at time of diagnosis. Another 23% of patients who received curative intent treatment, developed metachronous PM from gastric cancer during the first three years of follow-up. Moreover, patients with metachronous PM less often received tumor-directed treatment than synchronous PM but survival was comparable between both groups. Future clinical trials are warranted to examine new techniques regarding risk-reduction of developing metachronous PM.

Fluorescently labelled vedolizumab identified macroscopic and microscopic mucosal drug distribution and target cells in patients with inflammatory bowel disease

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Background: Biological treatment in inflammatory bowel disease (IBD) patients is currently hampered by high non-response rates. To enhance personalized medicine and predict response to biological therapeutics such as vedolizumab, the working mechanism should be elucidated. We aimed to visualize macroscopic and microscopic vedolizumab distribution and detect drug target cells during quantified fluorescence molecular endoscopy (QFME) to improve understanding of the mechanism of action.
Methods: Vedolizumab-800CW was developed and GMP produced. Forty-three QFME procedures were performed in thirty-seven IBD patients +/- three days after intravenous administration of vedolizumab-800CW. Each QFME procedure consisted out of endoscopic assessment of the inflammation status per colonic segment by high-definition white light endoscopy, followed by real-time in vivo assessment of the macro-distribution of fluorescent vedolizumab-800CW and quantification by spectroscopy of selected segments. Dose escalation was performed using 0.0 mg, 4.5 mg and 15 mg. Subsequently, two patient cohorts were added that received 75 mg or a therapeutic (300 mg) dose of unlabelled vedolizumab prior to vedolizumab-800CW to assess target saturation. Tissue biopsies were obtained for histopathological assessment, for further ex vivo analysis of the fluorescent signal and for visualization of the microscopic distribution and identification of vedolizumab-800CW target cells by fluorescence microscopy.
Results: Macroscopically and microscopically a significant difference between inflamed and non-inflamed tissue was visualized and quantified (0.0227 and 0.0470 $Q^*\mu fa,x$ [mm-1], $p<0.0001$) for the 15 mg cohort. In addition, ex vivo analysis showed a clear dose-dependent increase ($p<0.0001$) of the fluorescent drug signal, whereas a decrease could be established after adding an unlabelled dose ($p<0.0001$). Fluorescence microscopy revealed clear membrane binding of vedolizumab-800CW to inflammatory cells and migration into the inflamed mucosa. Additional analyses to identify specific target cells are ongoing and immune compositions of regions with high and low vedolizumab signal will be unravelled.
Conclusion: FME using vedolizumab-800CW elucidated novel detailed macroscopic and microscopic vedolizumab distribution in the inflamed target organ. In addition, its shows the potential of QFME to better understand local drug distribution, target cell identification and target engagement, which could improve understanding of targeted drugs over standard pharmacokinetic and pharmacodynamic analysis.

Dried chicory root – the intrinsic way to health The positive health effects of a high-fiber product on bowel function, fecal microbiota and short-chain fatty acid production in pre-diabetes

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Background: A sufficient fiber intake is increasingly recognized as a major factor in maintaining health and reducing the risk of diseases such as type 2 diabetes mellitus (T2DM). Fibers reach the colon where they are fermented by the gut bacteria, resulting in the production of short-chain fatty acids (SCFA) which have a large effect on health especially when produced in the distal colon. Engineering trophic chains that lead to distal SCFA production is therefore of importance. Dried chicory root is an intrinsic fiber since it maintains its original pectin and (hemi)cellulose plant cell-walls, resulting in a slow release of intracellular inulin. We hypothesized that minimally processed dried chicory root can promote trophic chains that generate SCFA and are beneficial for human health.
Methods: We investigated the effects of dried chicory roots (WholeFiber™) in two separate trials: i) assessing the effects on fecal microbiota, SCFA and as production compared to refined inulin over 48hr in an *in vitro* SHIME model using fecal material of a healthy donor; ii) *in vivo* in a three-week randomized trial with 55 subjects at risk for T2DM that consumed dried chicory roots (30 g/day) or iso-caloric maltodextrin. Effects on bowel function, fecal microbiota, SCFA, and glucose homeostasis were assessed.
Results: Gas production *in vitro* was lower after dried chicory root versus refined inulin at 6-24hr (60.6 kPa versus 83.3 kPa, $p<0.05$), but higher compared to a blank (24.2 kPa, $p<0.05$), indicating significant microbial activity. Furthermore, SCFA production and especially butyrate was significantly higher after dried chicory root compared to the blank (3.1 mM versus 1.6 mM, $p<0.05$). Dried chicory roots *in vivo* increased stool softness (+1.1±0.3 units; $p=0.034$) and frequency (+0.6±0.2 defecations/day; $p<0.001$), strongly modulated fecal microbiota composition (7% variation; $p=0.001$), and dramatically increased relative levels (3-4-fold) of *Anaerostipes* and *Bifidobacterium* spp., in a dose-dependent, reversible manner. Fecal acetate, propionate and butyrate increased by 25.8% (+13.0±6.3 mmol/kg; $p=0.023$). In the treatment group, the glycaemic coefficient of variation decreased from 21.3±0.94 to 18.3±0.84% ($p=0.004$), whereas fasting glucose and HOMA-ir decreased in subjects with low baseline *Blautia* levels (-0.3±0.1 mmol/L fasting glucose; $p=0.0187$; -0.14±0.1 HOMA-ir; $p=0.045$).
Conclusion: Dried chicory root (WholeFiber™) is a prebiotic that impacted fecal microbiota composition and SCFA production both *in vitro* and *in vivo*. Furthermore, it rapidly and reversibly improved bowel function and promotes glycaemic control, and thus is promising for health applications.

Routine sampling of lymph node station 16b1, 9, and 8a during pancreatoduodenectomy for pancreatic and periampullary carcinoma (PANODE): a prospective multicenter study

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Background: Prospective studies with routine sampling of lymph node (LN) stations 16b1, 9, and 8a in patients undergoing pancreatoduodenectomy are lacking. This hampers intraoperative decision making based on lymph node involvement. The aim of this study was to investigate the impact of involvement of LN16b1, LN9, and LN8a on overall survival (OS).
Methods: This prospective, multicenter, observational cohort study included patients undergoing pancreatoduodenectomy for PDAC, distal cholangiocarcinoma, ampullary carcinoma, or duodenal carcinoma (2015-2020). LN stations routinely harvested. The prognostic value of LN involvement was analyzed per station based on final pathology assessment using Kaplan-Meier and Cox-regression analysis.
Results: Overall, 1218 patients were included after pancreatoduodenectomy for PDAC (n=673), distal cholangiocarcinoma (n=228), ampullary carcinoma (n=212), or duodenal carcinoma (n=105). LN stations 8a (n=1067), 9 (n=376), and 16b1 (n=511) had metastasis rates of 12%, 10%, and 13%, respectively. Involvement of LN16b1 was independently associated with worse OS in PDAC (10 vs. 24 months, P<0.001); distal cholangiocarcinoma (7 vs. 28 months, P<0.001); ampullary carcinoma (9 vs. 62 months, P<0.001); and duodenal carcinoma (13 vs. not reached, P=0.007). Involvement of LN8a was associated with worse OS in PDAC (13 vs. 22 months, P<0.001), distal cholangiocarcinoma (16 vs. 26 months, P=0.002), and ampullary carcinoma (16 vs. 62 months, P<0.001). Involvement of LN9 was associated with worse OS only in ampullary carcinoma (4 vs. 35 months, P<0.001).
Conclusion: Involvement of especially LN16b1 in patients undergoing pancreatoduodenectomy for pancreatic and periampullary carcinomas is associated with very poor OS, questioning the role of upfront surgery in these patients.

Post-colonoscopy colorectal cancers in a FIT-based CRC screening program

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Background: In contrast to screen-detected colorectal cancers (CRC) post-colonoscopy CRCs (PCCRCs) are most often detected at an advanced stage, which may negatively impact the efficacy of screening. By characterizing PCCRCs as interval or non-interval and assessing the most probable etiology, insights can be provided which may contribute in PCCRC prevention.
Methods: PCCRCs diagnosed after screening colonoscopy, performed between 2014-2016 after positive fecal immunochemical test (FIT) for CRC screening, were included. Demographic, endoscopic, and pathologic data were retrieved. PCCRCs were categorized, according to the WEO consensus statement, in interval PCCRC (CRC detected before the recommended surveillance) or non-interval PCCRC defined as type-A (CRC detected at the recommended surveillance colonoscopy), type-B (CRC diagnosed after the recommended surveillance interval) or type-C (CRC diagnosed in patients without surveillance). A root-cause analysis was performed for each PCCRC to determine the most probable etiology. Tumor stage distributions were compared between the PCCRC categories.
Results: In total, 432 PCCRCs were diagnosed in 116,362 participants undergoing screening colonoscopy after positive FIT. The 3-year PCCRC rate was 2.8%. Age, sex, and hemoglobin level were similar between participants that developed a PCCRC and those that did not. PCCRCs were classified as interval (n=214, 49.5%), non-interval type-A (n=82, 19.0%), non-interval type-B (n=130, 30.1%) and non-interval type-C (n=6, 1.4%). Most PCCRCs had as most plausible etiology a missed lesion with an adequate prior examination (n=202, 47.4%) or an incomplete resection of a previously identified polyp (n=107, 25.1%). Interval and non-interval type-C PCCRCs were more often diagnosed at a late stage (stage III or IV) (n=116, 54.2% and n=6, 100%, respectively), compared to non-interval type-A and type-B (n=18, 22.0% and n=53, 40.8%, respectively). The majority of non-interval type-B PCCRCs (n=98, 81.7%) were diagnosed in patients with an incomplete index colonoscopy and a recommendation for follow-up within six months: namely procedures with referral for polyp resection (n=60, 46.2%), without cecal intubation (n=26, 20.0%), or with insufficient bowel preparation (n=12, 9.2%).
Conclusion: In a FIT-based CRC screening program 50% of the PCCRCs were classified as interval. These were more often diagnosed at an advanced stage compared to non-interval type-A and type-B. This emphasizes the importance of high-quality index colonoscopy. Besides that, timely follow-up after incomplete index colonoscopy and large polyp removal should be recommended to reduce (non-interval type-B) PCCRCs.

Adjuvant hyperthermic intraperitoneal chemotherapy in patients with locally advanced colon cancer (COLOPEC): 5-year results of a randomized multicenter trial

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Background: Whether adjuvant hyperthermic intraperitoneal chemotherapy (HIPEC) might prevent peritoneal metastases after curative surgery for high-risk colon cancer is an ongoing debate. This study aimed to determine 5-year oncological outcomes of the randomized multicenter COLOPEC trial.
Methods:This was a long-term analysis of patients with clinical or pathological T4N0-2M0 or perforated colon cancer included in the COLOPEC trial, and randomized (1:1) to either adjuvant systemic chemotherapy and HIPEC (n=100) or adjuvant systemic chemotherapy alone (n=102). HIPEC was performed using oxaliplatin (460mg/m^2, 30 minutes, 42°C, concurrent 5-FU/LV iv), either simultaneous (9%) or within 5-8 weeks (91%) after primary tumor resection. Patients were followed for at least 5-years. The 5-year overall and disease-free survival, and cumulative peritoneal metastases rates were determined by Kaplan-Meier statistics and compared according to the intention-to-treat principle.
Results: Long-term data was available of all 202 patients included in the COLOPEC trial, with a median follow-up of 59 months (IQR 54.5-64.5). No significant difference was found in 5-year overall survival rate between patients who received adjuvant HIPEC followed by systemic chemotherapy and patients only receiving adjuvant systemic chemotherapy (69.6% versus 70.9%, Log Rank, p=0.692). Five-year peritoneal metastases rates were 22.0% and 26.5% (p=0.502) and 5-year disease-free survival was 55.7% and 52.3% (Log Rank, p=0.875), respectively. No differences in quality of life outcomes were found.
Conclusion: Long-term results of the COLOPEC trial reveal that adjuvant HIPEC using the 30 minutes high dose oxaliplatin protocol in addition to systemic chemotherapy did not significantly improve any oncological outcome.

A novel computer-aided polyp detection system in daily clinical care: an international multicentre, randomized, tandem trial

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Background: Although colonoscopy is considered the gold standard for detection and removal of premalignant polyps, up to 26% of lesions are missed in tandem studies. Computer-aided polyp detection (CADe) has shown promise in increasing polyp detection rates. The aim of this study was to evaluate a novel CADe system, 'Magentiq Eye Automatic Polyp Detection System' (ME-APDS), in a non-iFOBT screening and surveillance colonoscopy population.
Methods: A multicenter, randomized, controlled (RCT) trial was conducted at 10 hospitals in Europe, US and Israel. Patients (18-90 years), referred for screening (non-iFOBT) or surveillance colonoscopy, were included. Patients were randomized (1:1) to undergo CADe-assisted colonoscopy or conventional colonoscopy (CC). In each arm, a subset of patients was further randomized to undergo tandem colonoscopy; CADe followed by CC or CC followed by CADe. Primary objective was adenoma per colonoscopy (APC). Secondary objectives were adenoma detection rate (ADR) and adenoma miss rate (AMR). Outcomes were also evaluated by colonoscopy indication (screening and surveillance), adenoma location, and adenoma size.
Results: In total, 950 patients were enrolled, of which 916 completed the assigned colonoscopy, 449 in the CADe-assisted group and 467 in the CC group. APC was higher in CADe-arm compared to CC (0.70 vs. 0.51, p=0.015; total adenomas, 314 vs. 238). Overall, ADR was higher in CADe compared to CC (37% vs. 30%, p=0.014). Apart from diminutive (0-5mm) adenomas, use of CADe also increased the detection of small (6-9mm) adenomas compared to CC (14.3% vs. 9.9%, p=0.036). Moreover, an increase in proximal adenoma detection was observed in CADe-assisted colonoscopy compared to CC (46.6% vs. 31.1%, p=0.006). A total of 127 (61 CADe first, 64 CC first) patients completed tandem colonoscopy. AMR was 19% in CADe first compared to 36% in CC first (p=0.024). Use of ME-CADe had no impact on withdrawal times (p=0.861).
Conclusion: ME-APDS increased adenoma detection (both APC and ADR) in non-iFOBT screening and surveillance colonoscopies, and reduced AMR by two-fold compared to CC. Apart from diminutive lesions, ME-APDS increased the detection of 6-9mm adenomas suggesting that this novel CADe system is also able to detect more clinically relevant lesions.

Adenoma recurrence after piecemeal endoscopic mucosal resection of 10-20mm non-pedunculated colorectal adenomas

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Background: Piecemeal endoscopic mucosal resection (pEMR) of large adenomas (>20mm) is associated with an increased recurrence rate compared with an en bloc resection. However, surveillance guidelines are equivocal on the necessity of early surveillance after pEMR of 10-20mm colorectal adenomas. The aim of our study was to assess the recurrence risk after pEMR of 10-20mm non-pedunculated colorectal adenomas and to determine possible predictors of recurrence.
Methods: A retrospective, multicenter study was conducted at four hospitals in the Netherlands. Patients that underwent pEMR of 10-20mm non-pedunculated colorectal adenomas between 2014 and 2021 with a subsequent 6-month (range: 4-9 months) surveillance colonoscopy (SC1) were included. Primary outcome was the incidence of recurrent lesions during SC1. Secondary outcomes included scar identification rate at SC1, interval time to SC1, and histologic findings. Possible predictors of recurrence were assessed using logistic regression analyses.
Results: In total, 228 patients with 238 colorectal 10-20mm adenomas underwent pEMR. Overall, in 15 (6.3%) adenomas high-grade dysplasia was found. Median adenoma size of the primary lesions was 15mm (IQR 12 – 20mm). Tattoos were placed at 45 (19%) primary resection sites. Mean duration to SC1 was 27 weeks (95% CI 26.6 – 28.3). Recurrence rate of all surveillance colonoscopies (including colonoscopies with no scar identified at SC1) was 9.2% (22 recurrences of 238 adenomas). The scar at SC1 was identified in 59% of cases (141 of 238 adenomas), with recurrent adenomatous tissue in 16%(22 of 141) of the identified scars. A scar was identified at 38 of 45 (84%) tattooed adenoma resection sites. No independent predictors for recurrence were identified.
Conclusion: Following piecemeal EMR of 10-20mm adenomas, early recurrence occurs in almost 10%. However, the scar was not found in approximately 40% of the first surveillance colonoscopies at 6 months. When the scar was identified, recurrent adenomatous tissue was detected in 16% of cases. This high recurrence rate underlines the necessity of early endoscopic surveillance after piecemeal resection of 10-20mm adenomas. Furthermore, tattooing of the primary resection site could improve scar identification rate.

Metachronous colorectal cancer risk in lynch syndrome: is extensive colectomy necessary for all carriers?

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Background: Extensive surgery (subtotal or total colectomy) is often performed in Lynch syndrome (LS) carriers with colorectal cancer (CRC). However, *MSH6* and *PMS2* LS carriers have a lower CRC risk (low risk) than *MLH1* and *MSH2* LS carriers (high risk). Consequently, *MSH6* and *PMS2* carriers might benefit from partial colectomy with an acceptable risk of developing metachronous CRC (mCRC).
Methods: LS carriers registered in the Dutch National Prospective LS database were identified and linked to the Dutch National Pathology registry to identify carriers with CRC. Time-to-event analyses were performed to assess mCRC risk in subgroups based on pathogenic variant and extent of surgery: high risk/extensive surgery, high risk/partial colectomy, low risk/extensive surgery and low risk/partial colectomy. Patients were censored at time of mCRC, death or assembly of database (February 28th 2022). mCRC was defined as second CRC at least six months after primary CRC.
Results: Of 1908 LS carriers, 527 (mean age 48.7, 52% male) underwent surgery for primary CRC. 121 LS carriers (23.0%) developed mCRCs (median duration 132 months after primary CRC). Ten-year mCRC incidence was 5.2% for the subgroup with high risk/extensive surgery, 15.7% for high risk/partial colectomy, 0% for low risk/extensive surgery and 8.6% for low risk/partial colectomy. Within the high risk group, partial colectomy resulted in a significantly higher mCRC risk compared to extensive colectomy (HR = 2.54; 95% CI 1.39 – 4.65; p = 0.003). The mCRC risk did not significantly differ between partial colectomy in the low risk group and extensive colectomy in the high risk group (HR = 1.38; 95% CI 0.69 – 2.76; p = 0.37).
Conclusion: Extensive surgery is associated with a significantly lower risk of mCRC than partial colectomy in high risk LS carriers. mCRC risk after partial colectomy in low risk LS carriers did not significantly differ from the risk after extensive colectomy in high risk LS carriers. This suggests that for *MSH6* and *PMS2* carriers, partial colectomy, followed by regular endoscopic surveillance, is an oncological safe treatment option for CRC.

Limited risk of residual cancer after endoscopic resection of early Barrett's neoplasia with confirmed vertical R1 margin: a nationwide cohort in the Netherlands

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Background: A tumor-positive vertical margin (R1v) is considered a risk factor for residual cancer after endoscopic resection (ER) of early neoplasia in Barrett's esophagus (BE). Additional surgery is advocated after an R1v resection, but often no residual tumor is detected in the surgical resection specimen. We aimed to assess the risk of local residual cancer in patients with a histologically confirmed R1v after ER.

Methods: We included patients treated with ER for BE neoplasia since 2008 in the Dutch Barrett Expert Centers, with documented R1v. Digital pathology slides of the resection specimens were re-assessed by 4 expert pathologists until consensus was reached regarding the vertical margin. Vertical R1 resections were defined as cancer cells touching the vertical margin. The primary outcome was the presence of residual cancer.

Results: 110 patients were included, which were treated with EMR (n=74) and ESD (n=36) for T1a (n=19) and T1b (n=91) cancer. The ER specimens of 108 (98%) patients were re-assessed, revealing confirmation of R1v in 78 (72%) patients and Rx/R0 in 30 patients (28%). Reasons for doubtful or not assessable (Rx) vertical margins included tangential cutting (20%), suboptimal embedding (12%), curled lateral margins (9%), and cauterization artefacts (8%). Seven patients with confirmed R1v had no follow-up. Among remaining confirmed R1v (n=71), residual cancer was present in 29 (41%) patients, either detected in the surgical specimen (n=10), during endoscopic scar assessment after ER (n=13), or both (n=8) (Figure 1). Endoscopic scar assessment detected all residual cancers in patients treated with additional surgery after ER (n=6). The risk of residual cancer was higher but not significantly increased with increasing tumor width in the vertical margin (OR 1.44, 95% CI 0.95-2.18 for every increase of 1000µm).

Conclusion: No residual cancer was present in 59% of the patients with a confirmed vertical R1 margin after endoscopic resection. The pathological assessment of vertical R1 margins appears challenging, as only 72% of documented vertical R1 cases were confirmed during re-assessment. The tumor width in the vertical margin might be useful to identify patients at highest risk of residual cancer after ER with R1v.

Surveillance for pancreatic cancer in high-risk individuals leads to improved outcomes: a propensity scorematched analysis

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Background: Recent pancreatic cancer surveillance programs of high-risk individuals have reported improved outcomes. This study assessed to what extent outcomes of pancreatic ductal adenocarcinoma (PDAC) in patients with a *CDKN2A/p16* pathogenic variant (PV) diagnosed during surveillance are better as compared to PDAC patients diagnosed outside surveillance.
Methods: In a propensity score matched cohort using data from the Netherlands Cancer Registry (NCR), we compared resectability, stage and survival between patients diagnosed in surveillance with non-surveillance PDAC patients. Survival analysis were repeated with correction for potential lead-time bias.
Results: Between January 2000 and December 2020, 43 762 patients with PDAC were identified from the NCR. Thirty-one patients with PDAC in surveillance were matched in a 1:5 ratio with 155 non-surveillance patients based on age at diagnosis, sex, year of diagnosis (5-year strata), and tumor location (head vs. body or tail). In total, 18.7% (29/155) of non-surveillance patients in surveillance, as compared to 70.0% (22/31) of surveillance patients underwent a surgical resection (OR 14.03; 95% CI, 5.92 – 35.85). Outside surveillance, 5.8% (9/155) of the cases were diagnosed with stage I cancer vs. 38.7% (12/31) of surveillance PDAC patients (OR 0.10; 95% CI, 0.04 – 0.21). Patients in surveillance had a better prognosis, reflected by a 5-year survival of 32.4% and a median overall survival (OS) of 26.8 months vs. 5.2% 5-year survival and 5.3 months median OS in non-surveillance patients (HR 0.22; 95% 0.14 – 0.36). Following lead-time adjustment in the surveillance group, considering mean sojourn times of 3, 6, and 12 months, estimated median survival times were 23.9 (95% CI, 17.6 – NA) months, 22.0 (95% CI, 15.2 – NA) months, and 15.2 (95% CI, 9.4 – NA) months, respectively. For all adjusted lead times, survival remained significantly longer in surveillance patients than in non-surveillance patients.
Conclusion: Surveillance for PDAC in carriers of a germline *CDKN2A/p16* PV results in earlier detection, increased resectability and improved survival as compared to non-surveillance PDAC patients.

Aberrant p53 expression is the strongest predictor for neoplastic progression in patients with Barrett's esophagus

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Background: A confirmed diagnosis of low-grade dysplasia (LGD) on two endoscopies is currently considered a predictor for neoplastic progression in patients with Barrett's esophagus (BE), and, therefore, ablation therapy is offered to these patients. However, recent studies show that aberrant expression of the p53 tumor suppressor protein might be a stronger risk factor for neoplastic progression than dysplasia status. The aim of this study was to evaluate the value of p53 expression compared to confirmed LGD in predicting neoplastic progression in BE patients.
Methods: Data was analyzed from a large prospective cohort study of 1031 BE patients (73% males, median age 61 years) with index diagnosis of non-dysplastic BE (NDBE), indefinite for dysplasia (IND), and LGD. Confirmed LGD was defined as a LGD diagnosis on 2 separate occasions, each LGD diagnosis was confirmed by two pathologists. P53 immunohistochemistry staining was performed on biopsies of 1545 endoscopies from 655 (64%) patients; both overexpression and loss of expression were considered aberrant. Neoplastic progression was defined as high-grade dysplasia (HGD) and/or esophageal adenocarcinoma (EAC). Cox regression analysis was used to determine neoplastic progression risk.
Results: During a median follow-up of 6.2 (IQR 3.2-11.4) years, 73/1031 (7%) patients developed HGD/EAC. Neoplastic progression was found in 23/756 (3%) NDBE patients, 27/176 (15%) patients with a single diagnosis of LGD, and 23/99 (23%) patients with confirmed LGD. P53 expression was aberrant in 28/411 (7%) NDBE patients, 50/149 (34%) single LGD patients, and 51/95 (54%) confirmed LGD patients. Aberrant p53 expression was strongly associated with an increased risk of neoplastic progression after adjusting for age, gender, segment length, oesophagitis, and grade of dysplasia (HR 13.5, 95% CI 7.1-25.8). In NDBE patients, the absolute neoplastic progression risk increased from 2% with normal p53 expression to 50% with aberrant p53 expression. In patients with a single diagnosis of LGD, the progression risk increased from 8% to 37% when p53 expression was aberrant. Similar risks where found in patients with confirmed LGD, with a neoplastic progression risk of 6% with normal p53 expression and 47% with aberrant p53 expression.
Conclusion: Aberrant p53 expression is a strong predictor for neoplastic progression in BE patients. The predictive value of aberrant p53 expression is independent of the grade of dysplasia. Aberrant P53 expression may be a better parameter than (confirmed) LGD to identify patients who need close surveillance or could benefit from ablation therapy.

Optimal timing of simethicone administration prior to upper endoscopy: a multicenter single-blinded randomized controlled trial

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Background: Simethicone has shown to be useful as premedication for upper endoscopy because of its antifoaming effects. Timing of administration possibly influences its effect on mucosal visibility.
Methods: In this multicenter, randomized, endoscopist-blinded study, patients who were scheduled for upper endoscopy were randomized to receive 40mg simethicone on the following time points prior to the procedure: 20-30 minutes (early group), 0-10 minutes (late group) or 20mg simethicone on both time points (split-dose group). Images were taken from nine predefined locations in the esophagus, stomach and duodenum before endoscopic flushing. Each image was scored on mucosal visibility by three independent endoscopists on a 4-point scale (lower scores indicating better visibility), with adequate mucosal visibility defined as a score ≤2. Primary outcome was the percentage of patients with adequate Total Mucosal Visibility (TMV), reached if all median subscores for each location were ≤2.
Results: A total of 386 patients were included (early group: 132; late group: 128; split-dose group: 126). Percentages of adequate TMV were 55%, 42% and 61% in the early, late and split-dose group, respectively ($p<0.01$). Adequate TMV was significantly higher in the split-dose group compared to the late group ($p<0.01$), but not compared to the early group ($p=0.29$). Differences between groups were largest in the stomach, where percentages of adequate mucosal visibility were higher in the early (68% vs 53%, $p=0.03$) and split-dose group (69% vs 53%, $p=0.02$) compared to the late group.
Conclusion: Mucosal visibility can be optimized by early simethicone administration, either as a single administration or in a split-dose regime.

Endoscopic ultrasonography-guided gastroenterostomy for the management of malignant gastric outlet obstruction: does etiology affect procedural and clinical outcomes?

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Background: Endoscopic ultrasonography-guided gastroenterostomy (EUS-GE) has shown promising results in treatment of malignant gastric outlet obstruction (GOO). It is currently unclear whether etiology of the obstruction affects the clinical and procedural outcomes. We therefore compared outcomes of EUS-GE for GOO originating from gastric cancer (g-GOO) as compared to other tumor etiologies (o-GOO).
Methods: This multicenter study retrospectively included patients who underwent EUS-GE as palliative treatment for malignant GOO between January 2018 and October 2022. Data were collected in four academic and teaching hospitals in the Netherlands. Primary outcomes were technical and clinical success, defined as the ability to safely place the LAMS and the ability to resume at least a soft solid diet. Secondary endpoints were time to oral intake, recurrent GOO, post-procedural length of hospital stay (LOHS), mortality within 30 days after the procedure and procedural adverse events (AEs).
Results: A total of 157 patients (median 70.0 years, 54.8% male) were included, of whom 25 patients (15.9%) had a gastric malignancy as cause of GOO, 52 patients (33.1%) had a diagnosis of pancreatic cancer, 45 patients (28.7%) were diagnosed with biliary/gallbladder, duodenal or ampullary cancer and 35 patients (22.3%) had GOO due to a compressing metastasis or other type of malignancy. Patients with g-GOO had more frequently metastases (92.0% vs. 58.8%; p=0.002) and peritoneal carcinomatosis (44.0% vs. 22.7%; p=0.026) compared to patients with o-GOO. Overall technical success was achieved in 143/157 patients (91.1%). Follow-up was available in 105 of 143 patients (median 66.5 days) who underwent a technically successful EUS-GE. Of these patients, 93 (95.9%) returned to at least a soft solid diet. There were no differences in technical (96.0% vs. 90.2%; p=0.700) and clinical success (100.0% vs. 94.9%; p=0.583) between patients with g-GOO and o-GOO. In a logistic regression model corrected for ascites and peritoneal carcinomatosis, gastric malignancies compared to other tumor etiologies were not associated with higher rate of technical failure (OR 0.39, CI: 0.05 – 3.19). Recurrent GOO occurred in only 5 patients (4.8%) and a total number of 17 patients (16.2%) presented with AEs. 8 of those (47.1%) were AGREE grade I and 1 was grade V (5.9%; fatal).
Conclusion: This large multicenter retrospective study shows that outcomes of EUS-GE were not associated with tumor etiology. Recurrent GOO after EUS-GE occurred in only a few cases and adverse events were mostly mild. These results suggest that EUS-GE is safe and effective, regardless of etiology of the obstruction.

ERCP discharge tool combined with rapid trypsinogen-2 test to predict same-day discharge – a prospective cohort study

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Background: Identifying patients at high-risk for ERCP-related adverse events, including pancreatitis, is essential for post-endoscopic discharge management. This study aims to assess two strategies, a urinary trypsinogen-2 (UT-2) dipstick combined with an ERCP discharge tool (based on patient- and procedure-related risk factors), for identifying patients with an increased risk of developing post-ERCP adverse events.
Methods: Between August 2018 and March 2021, 268 patients undergoing ERCP were enrolled in this multicenter prospective cohort study. All patients received NSAID prophylaxis unless contra-indicated; PD stent placement was at the endoscopist's discretion. The UT-2 dipstick was performed two hours after the start of the ERCP. Sensitivity, specificity, positive predictive value (PPV), and negative predictive value (NPV) of the UT-2 dipstick,the discharge tool and combined strategies for all ERCP-related adverse events were calculated. All adverse events were defined according to the Cotton criteria and included post-ERCP pancreatitis, cholangitis, perforation and hemorrhage.
Results: The 259 patients who met inclusion criteria comprised of 109 males (42%) with a median age of 68.7 (interquartile range [IQR] 54.6-76.9) and median BMI of 25.6 (IQR 23.1-29.4). Median ERCP duration was 24 minutes (IQR 14-38). In total, twenty-eight (11%) adverse events were observed, of which 16 (6%) were post-ERCP pancreatitis. The combination of discharge tool and UT-2 dipstick tested on 228 patients outperformed the individual strategies for all adverse events with a sensitivity of 54% (95% CI 33-75), specificity of 80% (74-86), PPV of 25% (17-34) and NPV of 94% (91-96). The observation group had a 25% (13/53) adverse event rate and the discharge group a 6% (11/175) adverse event rate. For post-ERCP pancreatitis alone, the performance of the combined strategies had a sensitivity of 64% (35-87), specificity of 79% (73-85), PPV of 17% (11-25) and NPV of 97% (94-99). This differentiated between a 17% (9/53) post-ERCP pancreatitis risk in the observation group and a 3% (5/175) risk in the discharge group.
Conclusion: The combination of UT-2 dipstick and discharge tool performs better than either of the two strategies alone in predicting post-ERCP adverse events, with a 25% post-ERCP adverse event risk in the theoretical observation group and 6% in the early discharge group, facilitating post-ERCP discharge management. Future research should focus on redefining risk factors for adverse events in the era of improved prophylaxis. In addition, larger validation studies assessing the UT-2 dipstick performance for post-ERCP pancreatitis are expected in the near future.

Validation of the Charlson comorbidity index for prediction of mortality caused by other causes than esophageal adenocarcinoma after successful endoscopic eradication therapy for Barrett's neoplasia

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Background: Endoscopic eradication therapy (EET) is well-established for treatment of Barrett's Esophagus (BE) related neoplasia. Current protocols for endoscopic follow-up (FU) after successful EET are based on expert opinion and do not take into account the risk for unrelated mortality, despite the fact that this risk is significantly higher than the risk of dying from esophageal cancer. An accurate prediction of the risk for unrelated mortality is key to patient-tailored and cost-effective care. Therefore, we evaluated the performance of the well-known Charlson Comorbidity Index (CCI) in a cohort of patients successfully treated with EET for BE neoplasia.
Methods: In the Netherlands, EET is centralized in 9 Barrett Expert Centers (BEC) with a joint registry, which is merged with National Statistics for accurate survival outcomes. This study included all patients with complete eradication of BE after EET (from 2008-2018) with at least one year FU. CCI was calculated at the end of EET based on medical records. The predictive value of the CCI on the primary outcome other-cause mortality was evaluated using C-statistics and calibration plots (predicted vs observed rates). We also evaluated association between CCI and unrelated mortality in our cohort using Cox proportional hazards model.
Results: A total of 1,154 patients were followed for a median of 59 months (IQR 37-91). Mean age was 64 years (±9). Most common comorbidities were: myocardial infarction (n=165, 14%), diabetes mellitus (n=158, 14%), and chronic obstructive pulmonary disease (n=155, 13%). Median CCI was 3 (IQR 2-4, range 0-10). During FU, 154 (13%) patients died due to unrelated causes. The baseline CCI score was significantly higher among the patients who died (4.0 ±1.7) as compared to patients alive (2.9 ±1.6, $p<0.05$). With increasing baseline CCI, mortality during FU increased significantly. For each quartile of CCI (i.e. CCI <2; 2-3; 3-4; and >4), mortality during FU was 7%, 11%, 21% and 27% respectively. In Cox modelling, a significant association was found between CCI and mortality (hazard ratio 1.5 (95% CI 1.37-1.60, $p<0.01$). The C-statistic of CCI for mortality was 0.78 (95% CI 0.72-0.84), with higher scores indicating better discrimination of the model, i.e. the ability of the model to predict the risk for mortality among individuals (range 0-1). The calibration plot indicated reasonable calibration, based on comparable predicted and observed risks.
Conclusion: CCI predicts unrelated mortality well in a population of BE patients after successful EET. This simple-to-calculate score could be used to guide decisions for patient-tailored management such as when to stop follow-up after successful EET.

Endoscopic follow-up of radically resected submucosal adenocarcinoma in barrett's esophagus: interim results of an ongoing prospective, international, multicenter cohort registry (PREFER Trial)

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Background: Current guidelines advise esophagectomy for submucosal esophageal adenocarcinoma (T1b EAC). However, data from retrospective studies suggest that endoscopic follow-up (FU) may be a valid alternative in patients without signs of lymph node metastases (LNM) at baseline. In this international multicenter, prospective cohort study (NCT03222635), we aim to evaluate the safety of a watchful waiting strategy with regular endoscopic FU in patients treated endoscopically for T1b EAC.
Methods: This ongoing prospective study, conducted in 19 hospitals in Europe and Australia, aims to include 141 patients with 5-year FU. After radical endoscopic resection of T1b EAC, patients are restaged with endoscopic ultrasound (EUS) and CT/PET. In the absence of LNM or distant metastases (N0M0), and upon consent for endoscopic FU, patients are included and undergo strict endoscopic FU with gastroscopy and EUS every 3 months during year 1 and 2, every 6 months during year 3 and 4, and at year 5. CT/PET is repeated after 1 year. We divided our cohort into two groups: 'high-risk' (submucosal invasion ≥500um, a/o poorly/undifferentiated tumor, a/o lymphovascular invasion) and 'low-risk' (no high risk features present). Outcome parameters include 5-year disease specific survival, overall survival, and rates of LNM and local recurrence.
Results: Since July 2017, 120 patients (median age 68 years) were included with a median FU of 22 (IQR 10-32) months: 80 high-risk and 40 low-risk patients. 6 patients (5% [95%CI 1.0-9.0]) were diagnosed with LNM (table 1). Of these 6 patients, 2/6 were referred for neoadjuvant chemo(radio)therapy with esophagectomy (ypT0N0M0, ypT0N1M0), 1/6 underwent esophagectomy only (pT0N2M0), 3/6 underwent a selective surgical LN resection.
7 patients (6% [95%CI 2.0-10.0] were diagnosed with an intra-luminal tumor recurrence not eligible for endoscopic re-treatment. 5 had initial ESD and 2 cap-based EMR. Of these 7 patients, 2/7 underwent esophagectomy (pT1bN0M0, pTisN0M0), 1/7 had neoadjuvant chemoradiotherapy and esophagectomy (ypT1aN0M0), 2/7 underwent chemoradiotherapy only, 1/7 had palliative radiotherapy, 1/7 refused additional treatment. No distant metastases were diagnosed during FU in both cohorts. 6 patients died (non EAC-related deaths). 3 patients discontinued FU (old age). 2 patients were lost to FU.
Conclusion: The interim analysis from our ongoing prospective study suggest that in patients with radically removed high- or low-risk T1b EAC, without LNM at baseline, a strict endoscopic FU protocol is feasible and curative therapy remains possible in those patients who develop LNM (5%) or a local intra-luminal recurrence (6%) during FU. Most patients demonstrate uneventful FU.

Endoscopic mucosal resection site inspection for predicting recurrence, an international survey

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Background: Colorectal endoscopic mucosal resection (EMR) is a safe and minimally invasive procedure for the treatment of non-pedunculated polyps. Recurrence rates (RRs) are relatively high and can differ greatly amongst endoscopists. We aimed to evaluate whether endoscopists are able to predict recurrence based on thorough inspection of images of mucosal defect after an assumed complete EMR.
Methods: We conducted an online survey consisting of 30 post-EMR images and asked endoscopists from all over the world to indicate whether they expected recurrence to develop for each resection site image. These images were retrospectively collected in three Dutch non-academic and one academic medical center. All EMRs were considered to be complete resections by the performing endoscopist. For each participant, a performance score was calculated based on the number of correct answers in relation to recurrence found at the first surveillance colonoscopy (SC1).
Results: A total of 140 endoscopists responded to the survey (response rate 25%). The survey was completed by 124 respondents with a mean age of 46.5 years. Most participants were male (65%) and worked in the Netherlands (76%). Overall, 21/30 resection site images were assessed correctly, resulting in an average performance score of 70%. When comparing scores of experienced with less experienced endoscopists, based on their yearly number of endoscopic submucosal dissections (ESDs) and EMRs, we found no difference (71% versus 69%, p=0.23).
Conclusion: This study suggests that resection site images of assumed complete EMRs harbor features that can be detected macroscopically in order to predict recurrence. These features can be targeted with additional resection or ablative techniques in clinical practice. Thorough inspection of post-EMR defects can potentially result in decreasing recurrence rates irrespective of the endoscopist's experience.

Initial experiences with a vacuum-stent as novel treatment option for transmural defects in the upper gastrointestinal tract: a single-center case series

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Background: Transmural defects in the upper gastro-intestinal (GI) tract, e.g. anastomotic leak, Boerhaave syndrome or iatrogenic defects, are associated with severe morbidity. Endoscopic vacuum therapy (EVT) has gained a greater role in endoscopic treatment of these defects and is most often applied using vacuum-sponges. Recently, a vacuum-stent was introduced as a new device to apply EVT, combining the benefits of negative pressure wound therapy and an intraluminal stent, while allowing for oral intake of a soft diet.
Methods: The aim of this prospective case series was to describe the first experiences with the vacuum-stent for transmural defects in the upper GI tract, between March 2022 and October 2022, in an academic hospital that had experience with EVT using vacuum-sponges since 2018. All patients treated with a vacuum-stent were included. Patients who were already treated with vacuum-sponge and received a vacuum-stent when it became available were also included. All patients signed informed consent for prospective registration of relevant data on treatment and outcomes in a specifically designed database. Outcome measures included successful closure of the defect, adverse events, number of EVT-related endoscopies and treatment duration.
Results: Sixteen patients were included. Nine patients had anastomotic leakage after esophagectomy, of whom seven were treated with vacuum-sponge and vacuum-stent, and two with vacuum-stent alone. Two patients had a perforation after endoscopic pneumodilation for achalasia, both treated with vacuum-stent alone. One patient had an iatrogenic defect caused during a Nissen fundoplication, persisting after 4 surgical attempts to close the defect, after which a vacuum-stent was placed. Four patients had Boerhaave syndrome, of whom one was treated with vacuum-sponge and vacuum-stent, and three with vacuum-stent alone. Three Boerhaave patients also underwent surgery for nettoyage of a large mediastinal cavity with decortication and placement of an intracavitary muscle flap. Successful defect closure was obtained in all patients (100%), requiring a median of 4 (IQR 3-10) EVT-related endoscopies during a treatment course of median 16 (IQR 11-47) days. During median 81 (IQR 15-221) days follow-up, one patient developed an anastomotic stricture, for which endoscopic dilation was performed. No other adverse events were observed.
Conclusion: The vacuum-stent combines the benefits of endoscopic vacuum therapy and an intraluminal stent and shows great feasibility and efficacy in treatment of transmural defects in the upper GI tract. More research is necessary, as this device could possibly prevent major (re-)surgery in these patients.

Adherence to upper gastrointestinal endoscopy quality indicators: a multicenter prospective cohort study

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Background: As around 10% of upper gastrointestinal (UGI) cancers are missed in endoscopies, quality standards for UGI endoscopy have been formulated by the European Society of Gastrointestinal Endoscopy (ESGE). So far, compliance to these standards in clinical practice is largely unknown. We aimed to assess the adherence to and the impact of implementation of the ESGE quality standards for UGI endoscopy in a multicenter prospective cohort study.
Methods: Endoscopists of three centers underwent a 1-hour training on procedural quality standards, including inspection time (≥7 minutes), photodocumentation (≥ 10 anatomical landmarks + abnormalities), use of standardized terminology (e.g. Los Angeles classification) and compliance to biopsy protocols (e.g. Seattle protocol). Quality score of diagnostic UGI endoscopies performed in adult patients before (control group) and after (intervention group) the training were compared. Primary endpoint was the overall quality score, defined as percentage of the maximum score.
Results: Of 1,733 consecutive UGI endoscopies, 570 were eligible for inclusion: 285 in the control group and 285 in the intervention group. Median patient age was 63 y/o (IQR 51-71) with 47% males. The overall quality score increased from 58% to 65% after the training intervention ($p<0.001$).
Conclusion: Adherence to the ESGE quality standards for UGI endoscopy increased after a 1-hour training. This suggests that a simple training intervention improves quality of UGI endoscopy and potentially could prevent missing lesions.

Exploring the incidence of juvenile Barrett's esophagus and progression to dysplasia and adenocarcinoma

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Background: Dutch Barrett's esophagus incidence in adults is estimated between 3-5%, and is usually diagnosed above 50 years. We defined Juvenile Barrett's esophagus as Barrett's esophagus diagnosed before 30 years. No data on the risk of progression to and life-time risk of cancer are available for juvenile Barrett's. We studied the histology confirmed incidence of juvenile Barrett's in the Netherlands and hypothesized that the progression to and life-time risk of adenocarcinoma is higher than in Barrett's esophagus with adult onset, due to the longer existence of intestinal metaplasia.
Methods: Data was obtained from the Dutch National Pathology Registry (PALGA). The search contained intestinal metaplasia in the esophagus or Barrett's esophagus in patients younger than 30 years between 01/01/1991and 12/31/2015. If there was a histological proven metaplastic columnar epithelium in the esophagus, gastroscopy reports were requested. Patients were included if there was intestinal metaplasia visualized in the esophagus during endoscopic examination.
Results: In total, 231 patients with juvenile Barrett´s were identified. The median age was 26 years (0–29), and the majority was male (84%). The median surveillance time was 7 years (0–29), in which 172 (74.5%) patients received at least one surveillance endoscopy with biopsy and a median number of 3 surveillance gastroscopies (1–22). At baseline, almost all patients (97.4%) had intestinal metaplasia without dysplasia. LGD was detected in 4 (1.7%), HGD in 1 (0.4%) and adenocarcinoma in 1 (0.4%) patients. During surveillance, 14 patients (6.2%) developed dysplasia or adenocarcinoma. The median age of diagnosis of dysplasia or adenocarcinoma was 26.5 years (13–29). Of the 14 patients who developed dysplasia or adenocarcinoma, 12 were diagnosed with LGD. Eventually, 1 patient developed HGD, the diagnosis remained LGD in 3 patients, and 8 patients were down staged to intestinal metaplasia. Next to the 12 patients who were diagnosed with LGD, 2were diagnosed with adenocarcinoma at age of 25 and 26 years.
Conclusion: Between 1991 and 2015, 231 patients were diagnosed with juvenile Barrett esophagus in the Netherlands. Overall, 20 of the 231 (8.6%) patients were diagnosed with dysplasia or adenocarcinoma with a median follow up time of 7 years. It is likely that both the incidence and progression in juvenile Barrett's esophagus is underestimated. For future studies, it is important to prospectively gather additional information, such as the length of the Barrett's esophagus, that could provide more information about the life-time risk of development of dysplasia and carcinoma in those young adults.

EUS-guided choledochoduodenostomy using single step lumen-apposing metal stents for primary drainage of malignant distal biliary obstruction (SCORPION-p): a prospective pilot study

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Background: Endoscopic ultrasound-guided choledochoduodenostomy (EUS-CDS) potentially results in higher technical success without the risk of pancreatitis in patients with distal malignant biliary obstruction (MBO) compared with endoscopic retrograde cholangiopancreatography (ERCP). However, currently available prospective studies regarding EUS-CDS instead of ERCP used self-expandable metal stents (SEMS), while single step lumen-apposing metal stents (LAMS) may simplify the procedure and improve outcome. Therefore, aim is to evaluate the effectiveness and safety of EUS-CDS using LAMS as primary drainage strategy in MBO.
Methods: Prospective single center pilot study in patients with a proven MBO and bile duct diameter of at least 12mm, requiring biliary drainage, excluding patients with gastric outlet obstruction. Patients underwent EUS-CDS using a 6x8mm LAMS. Primary outcome was technical success confirmed by a cholangiogram. Secondary outcomes were clinical success, defined as 50% decrease of bilirubin or relieve of symptoms after technical success, procedure time, adverse events (AEs) and re-interventions within 6 months.
Results: Overall, 22 patients were enrolled (median age 69.5 years [IQR 64-75.25], 7 male [32%]). The majority was diagnosed with pancreatic ductal adenocarcinoma (n=20, 91%). All tumor stages were included (10 resectable, 6 locally advanced, 6 metastatic). Patients had a median bile duct diameter of 16 mm (IQR 13-20) and median bilirubin level of 225 µmol/L (IQR 130.75-335.25) prior to the intervention. Technical success was achieved in 20/22 patients (91%). Median procedure time was 12.5 minutes (IQR 7-16). Minor periprocedural AEs occurred in 3 patients (14%); limited bile leakage (n=2) and a self-limiting bleeding that led to blood cloths obstructing the stent for which double pigtail stent placement (DPS) was performed (n=1). Clinical success was achieved in 18/20 patients (90%). In the 2 remaining patients adequate biliary drainage was later achieved after additional DPS. Ten patients (50%) experienced cholangitis after a median of 9 days (IQR 4.5-89.75). In 2 patients antibiotics sufficed, 8 patients underwent re-intervention(s). Other AEs were; duodenal perforation during re-intervention successfully treated with an over the scope clip (n=1) and mild intermittent abdominal pain which resolved after DPS (n=1). One patient deceased within 30 days due to fulminant disease progression.
Conclusion: This study found a 91% technical success of EUS-CDS using LAMS as the primary drainage strategy in MBO and a low rate of procedure-related AEs. However, the substantial rate of stent dysfunction currently precludes EUS-CDS using LAMS solely as a valid alternative for ERCP.

Standardizing training for endoscopic mucosal resection of large non-pedunculated colorectal polyps to reduce recurrence (*STAR-LNPCP study): a multicenter, cluster randomized trial

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Background: Endoscopic mucosal resection (EMR) is the preferred treatment for non-invasive large (≥20mm) non-pedunculated colorectal polyps (LNPCPs) but is associated with a high recurrence rate of up to 30%. We evaluated whether standardized EMR training could reduce the post-EMR recurrence rate in Dutch community hospitals. Methods: In this multicenter, cluster randomized trial, 63 endoscopists of 30 hospitals were randomly assigned to the intervention (e-learning and 2-day training including hands-on session) or control group. From April 2019 until August 2021, all consecutive LNPCPs treated by EMR were included. Primary endpoint was the recurrence rate after 6 months.

Results: A total of 1412 LNPCPs were included, 699 in the intervention group and 713 in the control group (median size 30mm vs 30mm, 45% vs 52% SMSA IV, 64% vs 64% proximal location). Recurrence rate was lower in the intervention group compared to controls (13% vs. 25%, OR 0.43; p=0.006), with a similar complication rate (8% vs 8%). As for subgroup analysis, the intervention effect was present in 20-40mm LNPCPs (7% vs. 20%; p<0.001) but not for ≥40mm LNPCPs (24% vs. 31%; p=0.109). The intervention group more often used a colloid (87% vs 63%) and adrenaline (73% vs 41%) in the submucosal injection fluid, identified and adjunctively removed residual neoplastic tissue (24% vs 18%), and applied adjuvant treatment (92% vs 75%).

Conclusion: Standardized EMR training for LNPCPs significantly reduced post-EMR recurrence in community hospitals. However, LNPCPs ≥40mm remained associated with high recurrence rates. For these lesions, centralization of treatment in referral centers should be considered.

Endobiliary radiofrequency ablation for malignant biliary obstruction due to perihilar cholangiocarcinoma (RACCOON-p): a prospective pilot study

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Background: Endobiliary radiofrequency ablation (eRFA) is expected to prolong stent patency in malignant biliary obstruction. However, data on eRFA combined with uncovered self-expanding metal stents (uSEMS) in perihilar cholangiocarcinoma (pCCA) are sparse. Aim is to evaluate whether eRFA prior to uSEMS placement is feasible in patients with inoperable pCCA.
Methods: Prospective pilot study including 10 patients with inoperable pCCA undergoing eRFA prior to endoscopic placement of uSEMS. Endobiliary RFA was performed using a temperature controlled RFA electrode (ELRA™) at 7 watt, 90 sec, 75°C. Patients were followed until death. Primary endpoints were technical success, clinical success and adverse events (AEs). Secondary endpoints were time to stent obstruction, stent patency at 6 months, and overall survival.
Results: Included patients had a median age of 68.5 (range 47-87), the majority was female (n=6) and received concomitant systemic therapy (n=8). All Bismuth types were included (1 Type I, 2 Type II, 2 Type IIIa, 2 Type IIIb and 3 Type IV).
All patients underwent previous successful drainage with plastic stents and/or percutaneous in-/external drainage catheters. In 7 patients the procedure was scheduled electively, where in 3 patients there was an increase in cholestasis and/or fever in the days before the intervention. Six patients had two stents placed, the other four patients underwent unilateral drainage with one stent.
The procedure was technically and clinically successful in all patients. One patient was admitted due to self-limiting bleeding after the intervention preceded by sphincterotomy. No other procedure related serious AEs occurred <30 days. Seven patients experienced some transient abdominal discomfort after the procedure (numeric rating scale [NRS) range 1-6), adequately treated with oral analgesics.
During follow-up 7 patients experienced recurrent biliary obstruction caused by tumor ingrowth (n=6) or sludge (n=1) after a median of 6 months (range 1-8). Of the 3 patients with a patent stent at last follow-up, two patients deceased after 2 and 6 months follow-up, the other patient currently has 14 months follow-up. Stent patency rate at 6 months follow-up was 67% (6/9). Overall survival since diagnosis was 16 months (range 4-24).
Conclusion: This pilot study confirms the safety and feasibility of eRFA in patients with pCCA. Risk of adverse events seems low and abdominal pain after the procedure mild. Randomized controlled trials are warranted to assess the efficacy of eRFA for pCCA.

Endoscopic ultrasound with tissue acquisition of lymph nodes in patients with resectable intrahepatic cholangiocarcinoma

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Background: Intrahepatic cholangiocarcinoma (iCCA) is a rare malignancy originating proximal to the second-degree bile ducts. The only chance for cure is radical surgical resection, with a median survival after resection of 60 months. However, when regional lymph node (LN) metastases are found, survival drops to only 20 months underlying the importance of preoperative assessment of nodal status. Survival for patients with extraregional LN is even lower. Our aim was therefore to evaluate the yield of EUS with tissue acquisition (TA) of LN in presumed resectable iCCA patients and determine the impact on clinical decision making.
Methods: In this retrospective, multicentre cohort study, all patients with potentially resectable iCCA who underwent preoperative EUS for various indications from 2010-2020 were included. The impact of EUS-TA was defined as the percentage of patients who did not undergo surgical exploration due to positive LN found with EUS-TA. Extraregional LN (e.g., aortocaval and celiac trunc) were distinguished from regional LN. EUS was not performed in a standardized manner and TA was performed at the discretion of the endosonographist.
Results: A total of 56 patients were included (median age of 64 years, 57% female, primary sclerosing cholangitis diagnosis in 13%). Almost all patients (91%) had LN described at cross-sectional imaging. At EUS a total of 71 LN (29 regional; 42 extraregional) across 46 patients (82%) were described. In 55 LN EUS-TA was indicated and successful, with malignancy confirmed in 21 LN across 19 patients (35%). Fifteen (27%) out of those 19 patients had positive extraregional LN and 4 (9%) had positive regional LN. Surgical exploration was precluded due to positive LN in 17 patients (30%). In the 24 patients (43%) that finally underwent surgical exploration, positive LN that were missed by EUS, were identified in five patients (21%), of which 2 had extraregional LN.
Conclusion: Preoperative EUS in the setting of resectable iCCA potentially has clinical implications precluding surgical exploration in case of positive LN and giving patients a more tailored treatment earlier on in the disease course. A systematic approach by EUS including nodal mapping of all relevant stations with TA could potentially increase this yield.

Video-based computer aided detection system improves Barrett's neoplasia detection of general endoscopists in a multi-step benchmarking study

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Background: Timely detection of neoplasia in patients with Barrett's esophagus (BE) has significant influence on patient outcome. However, endoscopic detection may be challenging due to its often subtle appearance. Computer Aided Detection (CADe) systems may assist in neoplasia detection.
Methods: First, the system underwent pretraining with ImageNet followed by domain-specific pretraining with GastroNet. GastroNet comprises >5 million endoscopic images from the gastrointestinal tract. The system was then trained on a large and heterogeneous BE dataset originating from 15 international endoscopy centers, comprising 6.237 neoplastic (1.304 patients) and 7.595 non-dysplastic images (1.103 patients). Neoplasia on images was delineated by 14 expert endoscopists. The system was internally validated on a new dataset of 58 neoplastic patients (100 images and 68 videos) and 36 non-dysplastic patients (100 images and 58 videos).
For external validation, the system was tested on two prospective video test sets. Test set 1 represented daily clinical practice. It included all cases, acquired by all participating centers, from January 2022 to March 2022 (71 neoplastic videos from 45 patients and 180 non-dysplastic videos from 66 patients). Test set 2 comprised 47 neoplastic (47 patients) and 141 non-dysplastic (82 patients) videos and was enriched with subtle cases of neoplasia. Test set 2 was evaluated by 63 general endoscopists without and with CADe assistance. Finally, 14 international, independent BE experts evaluated this test set. We aimed to prove superiority of CADe and general endoscopists with CADe over general endoscopists and non-inferiority of CADe to experts for neoplasia detection.
Results: Sensitivity and specificity of the CADe system were 97% and 85% for test set 1 and 91% and 82% for test set 2. Sensitivity of general endoscopists increased from 67% to 79% with CADe assistance, whilst specificity decreased from 96% to 94%. General endoscopists without CADe assistance were outperformed by CADe (OR 11.68, 95% CI 3.85-47.53, $p<0.001$) and general endoscopists with CADe (OR 2.35, 95% CI 1.90-2.94, $p<0.001$). The sensitivity and specificity of experts were 86% and 90%, respectively. Non-inferiority of CADe to experts for neoplasia detection could be concluded (OR 2.94, 95% CI 0.99-11.40).
Conclusion: CADe significantly outperformed general endoscopist in detecting subtle early BE neoplasia. Providing CADe assistance to general endoscopists significantly improves their detection of neoplasia. CADe detects virtually all BE neoplasia in a test set representing daily practice. CADe has a detection performance which is non-inferior to international experts.

The effect of image quality on the performance of computer-aided diagnosis systems for the optical diagnosis of colorectal polyps

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Background: Computer-aided diagnosis systems (CADx) based on artificial intelligence show promising results for the optical diagnosis of colorectal polyps. Image quality may be a limiting factor for image-based CADx systems. We investigated the influence of image quality on the performance of a CADx for the optical diagnosis of colorectal polyps.
Methods: A CADx based on deep neural networks was trained using a prospective endoscopic dataset (training n=1624 images and validation n=405 images) collected in three Dutch hospitals. High-definition white light (HDWL), blue light imaging (BLI), linked color imaging (LCI), and i-scan 1, 2, and 3 images were used for training and validation. HDWL was used for testing. The CADx characterized colorectal polyps into benign (hyperplastic polyps) and premalignant (tubular adenomas) with histopathology as gold standard. Quality distortion was applied on the test set (n=86 images in HDWL) by generating blur, representing out-of-focus images, using a Gaussian kernel with standard deviation $\sigma \in \{1,3,..,31\}$ and filter window size of 3σ. Higher σ-values indicate more blur. Contrast, representing poor illuminated images, was generated by blending the colorectal polyp image with a gray image (blending factor $I \in \{1.0,0.9,..,0\}$). Lower I-values indicate less contrast.
Results: The performances of the CADx tested without quality distortions were a sensitivity of 90.9%, a specificity of 57.9%, a negative predictive value (NPV) of 64.7%, and a diagnostic accuracy of 83.5%. Generating minimal blur ($\sigma=3$) resulted in a vast decline in sensitivity (45.5%), NPV (29.4%), and accuracy (52.9%). For contrast, performances remained stable up to a substantial blending factor of $I=0.4$ (sensitivity 77.2%, NPV 51.6%, and accuracy 78.8%). Lowering contrast further to a blending factor of $I=0.2$, resulted in decreased performances (sensitivity 47.0%, NPV 34.0%, and accuracy 57.6%). Specificity increased when blur was added (78.9%, $\sigma=3$) and contrast was lowered (84.2%, $I=0.4$).
Conclusion: The CADx performance was susceptible to blur, but surprisingly resilient to contrast. Optimal endoscopic imaging with focused images is mandatory for optimal functioning of the CADx. Future studies should consider other possible quality distortions like noise (produced by low quality camera sensors) and file compression (reducing memory requirements) and the effect of quality distortion on image enhancement techniques.

Post-procedural recovery and functional outcomes of endoscopic intermuscular dissection (EID) for suspected deep submucosal invasive rectal cancers

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Background: Endoscopic intermuscular dissection (EID) was recently introduced as a novel resection technique for rectal deep submucosal invasive cancer (D-SMIC). EID has shown to provide high radical resection rates for D-SMIC (93%). However, little is known about post-procedural recovery and long-term functional outcomes.
Methods: A prospective registry of consecutive patients treated with EID between 2018-2022 for suspected rectal D-SMIC in two referral centers was used for retrospective analysis. Patient-reported details on post-procedural recovery, pain and functional outcomes, using the validated low anterior resection syndrome (LARS) questionnaire, were collected by telephone surveys.
Results: 140 patients underwent EID (median age 65.6 years, 70% male, mean lesion size 29mm, median follow-up 20 months) of whom 96 (68.6%) had rectal preservation, including 12 (8.6%) who received adjuvant chemoradiotherapy (CRT). Intentional or accidental transmural defects >1 cm occurred in 19 (13.6%) patients, for which closure in 15/19. After EID, 135 (96.5%) patients were discharged within 24 hours and 4 (2.9%) patients were readmitted due to pain[1], fever[1] or delayed bleeding[2], without need for transfusion or intervention. Two (1.4%) patients underwent dilatation for stenosis. Our survey response rate was 83.6%. Of the responders, the majority (70.9%) resumed daily routine within 3 days, while 4 (2.9%) patients required ≥7 days. Regarding post-procedural pain, 95 (74.8%) patients did not use analgesics, whereas significant pain (analgesics ≥7 days or use of opioids) occurred in 15 (11.8%). Significant post-procedural pain was related to lesions ≤4 cm from the dentate line and specimen size >4 cm, but not to occurrence of transmural defects >1 cm. After a median of 20 months, major and minor LARS in the EID-only group was 5.9% and 7.4%, in the adjuvant CRT group 0% and 27.3%, and after completion TME 25% and 20%, respectively.
Conclusion: EID is a safe procedure with a rapid recovery and a low risk of serious adverse events or long-term bowel dysfunction. Post-procedural pain should be anticipated, esspecially for larger lesions in the lower rectum.

Long-term outcomes after appendectomy as experimental treatment for patients with therapy refractory ulcerative colitis

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Background: A prospective cohort study of laparoscopic appendectomy for treatment of therapy refractory ulcerative colitis (UC) showed a clinical response in nearly half the patients with a substantial proportion of patients being in endoscopic remission. The current study aimed to explore disease course during long-term follow-up of this patient group.
Methods: In this monocenter cohort series, all patients with therapy refractory UC referred for (procto)colectomy between 2012-2015 were counselled to undergo laparoscopic appendectomy first. The primary endpoint was long-term endoscopic response (Endoscopic Mayo score ≤1) and clinical (≥3 points decrease in partial mayo score) displayed in individual time lines. Secondary endpoints included time to response, duration and loss of endoscopic and clinical response, de-escalation of medication, and failure (upscale of medical therapy or colectomy).
Results: A total of 25 patients (12 men; median age 41.0 years) underwent appendectomy. Median postoperative follow-up time was 7.5 [IQR 6.4-8.6] years. Endoscopic response was observed in 48% (12/25) after a median follow-up of 17.5 [IQR 3.3-38.8] months and was 24% (6/25) at the end of follow-up. Clinical response was observed in 60% (15/25) after a median follow-up of 4.0 [IQR 3.0-7.0] months, and was 32% (8/25) at the end of follow-up. The median duration of clinical and endoscopic response was 80.0 [20.0-93.0] and 45.5 [21.8-56.8] months, respectively. Five (20%) patients successfully de-escalated medication during follow-up. Seventeen (68%) patients failed after a median of 9.0 [3.5-31.0] months of FU, of which nine (36%) patients underwent colectomy. Ten patients failed due to primary non-response a median of 4.0 [1.8-8.3] months after appendectomy.
Conclusion: During the postoperative course following appendectomy for refractory UC, approximately half of patients demonstrated long-lasting endoscopic and clinical response.

Response to appendectomy in refractory Ulcerative Colitis appears based on two distinct inflammatory phenotypes

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Background: Appendectomy has been suggested to decrease the risk of disease flares in UC (Ulcerative Colitis), but we recently showed that even in therapy refractory patients, appendectomy may improve symptoms in a subset of patients. Despite several hypotheses, the effector mechanism of this phenomenon remains unclear. In this study we characterized gene expression profiles of appendices from therapy refractory UC patients either responding or non-responding to appendectomy, with the aim to identify pathways involved in response as well as guide selection of patients who are optimal candidates for appendectomy.
Methods: Appendix specimen from responders (N=10) and non-responders (N=10) to appendectomy for therapy refractory UC were included (COSTA-study NCT03912714 or off-label appendectomy). Endoscopic response was defined as steroid-free remission at 12 months without intensified medical treatment. The control group consisted of patients with acute appendicitis(N=2). Post-operative biopsies from the appendix and coecal base were snap frozen. RNA was isolated and expression profiling was performed using RNAseq.
Results: Unsupervised clustering indicated two clusters, one containing a more stromal phenotype expressing ADH1B, IGFBP5, and Desmin and the other expressing a more intestinal/B cell phenotype (OLMF4, PIGR, and IHGA2). Stainings for the presence of collagen (stromal) versus pancytokeratin (epithelial) confirmed this on protein level. Both clusters contained subclusters of responders and non-responders. In both the 'responder' subclusters, markers of immune activation were increased, but the type of response differed between 'stromal responders' and 'epithelial responders'. In stromal responders increased expression of acute phase genes was present (FABP4, SAA1 and CXCL8). In the epithelial responders' immune activity was characterized by increased mitochondrial activation/oxidative phosphorylation. In both subclusters, non-responders lacked these immune activation markers. We also evaluated the expression of the differentiating genes in biopsies of the coecal bottom. Indeed, the coecal samples also largerly clustered according to response based on the gene expression profile of the matching appendices.
Conclusion: Patients responding to appendectomy showed two distinct gene expression patterns, suggesting two separate mechanisms of action. Although in both cases it clearly identified the requirement of active immune responses for response, the identifying markers differed between the two groups. This finding has consequences for both further functional studies into the effector mechanism of appendectomy in UC, but also in future efforts to identify patients suitable for this surgery.

A mixed-methods study to define Textbook Outcome for the treatment of patients with uncomplicated symptomatic gallstone disease with hospital variation analyses in Dutch trial data

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Background: Textbook outcome (TO) is a multidimensional measure for quality assurance, reflecting the ideal outcome. This study aimed to define a TO for the treatment of patients with uncomplicated symptomatic gallstone disease. Next, hospital variation on TO in Dutch trial data was assessed.
Methods: A mixed method study was conducted to formulate a definition for TO in patients with uncomplicated gallstone disease. First, focus group sessions were organized with surgeons, gastroenterologists and patients to explore possible outcomes. To reach consensus, outcomes from focus groups were converted into two surveys (one for clinicians and one for patients with history of gallstone disease) and distributed internationally. During final focus groups, a definitive TO was formulated. Subsequently, TO-rate and hospital variation were analysed in Dutch trial data (24 hospitals).
Results: The first focus group sessions returned 32 outcomes. These outcomes were distributed in a survey among 830 clinicians from 81 countries and 645 Dutch patients. Response rates were 72.6% and 75.9%, respectively. Consensus-based TO was defined as: absence of biliary colic, absence or reduction of abdominal pain, absence of biliary- and surgical complications. In a post-hoc analysis of individual patient data, TO was achieved in 64.2% (1002/1561). Adjusted TO-rates varied significantly between hospitals, from 56.6% to 74.9%.
Conclusion: TO for treatment of patients with uncomplicated gallstone disease was defined as: absence of biliary colic, absence or reduction of abdominal pain, and absence of biliary- and surgical complications. Use of TO will optimize consistent outcome-reporting in care, clinical trials, and guidelines for patients with uncomplicated symptomatic gallstone disease.

The role of malignant features in the assessment of lateral lymph nodes in advanced rectal cancer on MRI

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Background: Rectal cancer patients with enlarged lateral lymph nodes (LLNs) have an increased (lateral) local recurrence ((L)LR) risk. However, little is known about the prognostic implications of other radiological malignant features (loss of fatty hilum, irregular margins, internal heterogeneity and round shape) nor about the presence of multiple enlarged nodes.
Methods: Of the 3057 rectal cancer patients included in thisnational, retrospective, cross-sectional cohort study, 284 patients who had received neoadjuvant treatment were selected based on a cT3-4 tumour located ≤8cm from the anorectal junction with visible LLNs on MRI re-review by trained radiologists. LLNs were subcategorized based on size (<5.0mm, 5.0-6.9mm, ≥7.0mm). The influence of malignant features and the number of enlarged LLNs on oncological outcomes ((L)LR and distant metastasis (DM)) were investigated.
Results: Out of 284 patients with at least one visible LLN, 43% had an enlarged node (≥7.0mm) and 55% had malignant feature(s). Presence of multiple malignant features (≥2) increased 4-year LR-rates to 23%, compared to 10% or 11% when none or just one malignant feature was present (p=.058) LLR-rates also increased to 16% vs 3% or 4% (p=.008) and DM-rates to 42% vs 26% or 27%(p=.039). LR and LLR-rates increased even further in sub analysis of enlarged nodes (29%, p=.020; 21%, p=.050, respectively). Presence of each malignant feature increased 4-year LR- and LLR-rates compared to absence of malignant features. Moreover, 22% of the patients with enlarged nodes had multiple enlarged LLNs and this was associated with 4-year LLR rates of 28% compared to 10% for patients with one enlarged LLN (p=.059).
Conclusion: The risk of LR, LLR and DM increased when multiple malignant features were present, and further increased in a sub analysis of enlarged nodes or when multiple enlarged nodes were present. These radiological features, could be incorporated into treatment planning for patients with visible LLNs.

Fate of the temporary defunctioning ostomy in patients with therapy refractory Crohn's perianal fistulas

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Background: The aim of this study is to analyse long-term outcomes in patients undergoing temporary faecal diversion by ileostomy or colostomy for therapy refractory Crohn's perianal fistulas to improve clinical decision making and optimize preoperative counselling.
Methods: In this retrospective study, all consecutive Crohn's patients that underwent defunctioning for perianal disease between January 2012 and May 2022 were included. The primary endpoints were successful stoma reversal and proctectomy/ proctocolectomy rates in ileostomy and colostomy groups.
Results: In total, 53 patients were included (35 colostomies and 18 ileostomies). Eleven patients (21%) underwent an attempt for stoma reversal after a median follow-up of 59.0 months (IQR 17.5-82.5) of which nine ostomies (colostomy 8/35, 23%; ileostomy 1/18, 6%; p=0.244) were reverted successfully. In 19/53 patients (35%) a proctectomy or proctocolectomy was required to control ongoing perianal sepsis. Factors associated with lower changes of ostomy reversal were an ileostomy, previous colonic activity, no anti-TNF treatment during ostomy reversal and the absence of radiological healing of the fistula.
Conclusion: Ostomy reversal rates are low, especially in patients with an ileostomy or previous colonic activity. In one third of the patients a proctectomy or proctectomy is required to treat ongoing perianal sepsis. So, defunctioning ostomies should be carefully considered and seen as a last resort because in the majority of patients the ostomy will be permanent.

Differences in patient- and tumour characteristics, treatment and survival between patients with screen-detected and clinically detected synchronous colorectal peritoneal metastases

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Background: Since the introduction of the colorectal cancer (CRC) screening programme in 2014 (individuals aged 55-75), comprising a fecal immunochemical test, a decrease in advanced stage CRC incidence was observed. No data is available on the differences between patients with screen-detected synchronous colorectal peritoneal metastases (CPM) and clinically detected synchronous CPM. The aim of this study is to compare the differences in patient- and tumor characteristics, treatment, and survival between patients with screen-detected synchronous CPM and clinically detected synchronous CPM in a Dutch population-based cohort.
Methods: Patient data from the Netherlands Cancer Registry (NCR) was used. Patients within screening age and diagnosed with synchronous CPM between January 2014 and December 2020 were included. Data from the NCR was linked to the Dutch nationwide registry of histopathology and cytopathology (PALGA) to identify mode of detection. Baseline characteristics were compared between screen-detected CPM patients and clinically detected CPM patients by using a Chi-square test. Overall survival (OS) was compared between these groups with the log-rank test and multivariable regression analysis was performed.
Results: This cohort included 2773 patients with synchronous CPM, of whom 197 (7%) primary tumors were detected by screening. The patient- and tumor characteristics at baseline were comparable between screen-detected CPM patients and clinically detected CPM patients. In the screen-detected group, 56 (28%) patients underwent cytoreductive surgery and hyperthermic intraperitoneal chemotherapy (CRS-HIPEC) compared to 363 (14%) in the clinically detected group (P<0.001). Palliative treatment was comparable in both groups, with 120 (61%) patients in the screen-detected group compared to 1650 (64%) in the clinically detected group (P=0.377). In the clinically detected group, 563 (22%) patients received best supportive care compared to 21 (11%) in the screen-detected group (P<0.001). Median OS was 20.0 months (IQR 9.7–51.7) in the screen-detected group versus 10.8 months (IQR 3.4–25.5) in the clinically detected group (P<0.001). In the multivariable analyses, detection through screening remained associated with improved OS compared to clinically detected CPM (HR 0.68, 95%CI [0.57-0.81]).
Conclusion: Although no differences were observed in patient- and tumor characteristics between screen-detected and clinically detected CPM patients, screen-detected CPM patients were more likely to receive curative treatment and had a better OS compared to the clinically detected CPM patients. Future studies are warranted to investigate the influence of screening on treatment and prognosis of CPM patients.

Feasibility, safety, and survival outcomes of first-line palliative systemic therapy alternated with oxaliplatin-based pressurized intraperitoneal aerosol chemotherapy (PIPAC) in patients with isolated unresectable colorectal peritoneal metastases in a multicentre, single-arm, phase II trial

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Background: The CRC-PIPAC-II trial aimed to assess the feasibility, safety, antitumor activity, survival outcomes and patient-reported outcomes of first-line bidirectional therapy (i.e. systemic therapy alternated with oxaliplatin-based pressurized intraperitoneal aerosol chemotherapy [PIPAC-OX]) in patients with isolated unresectable colorectal peritoneal metastases (CPM).
Methods: This two-centre, single-arm, phase II CRC-PIPAC-II trial enrolled patients with pathologically proven isolated unresectable peritoneal metastases of a colorectal or appendiceal adenocarcinoma, who did not receive systemic therapy ≤6 months prior to enrolment. Enrolled patients underwent three cycles of bidirectional therapy, each consisting of six weeks of systemic therapy followed by PIPAC-OX with intraoperative intravenous boluses of leucovorin and 5-fluorouracil. The primary outcome was the number of patients with grade ≥3 treatment-related adverse events (Common Terminology Criteria for Adverse Events v5.0). Secondary outcomes were grade ≤2 adverse events, number of completed cycles, tumor response, progression-free survival, and overall survival.
Results: Twenty patients were enrolled in this study, undergoing a total of 52 complete cycles of bidirectional therapy. After central histopathological revision, two of these twenty patients appeared to have pseudomyxoma peritonei (PMP). Fourteen grade ≥3 treatment-related adverse events occurred in 7 of 20 (35%). Seven events were related to PIPAC treatment and seven events were related to systemic therapy treatment. Treatment related mortality did not occur. The most frequently observed grade ≥3 was abdominal pain (21.4% of grade ≥3 events). Minor treatment-related adverse events occurred in all patients after 51 of 52 (98%) cycles, the most common being abdominal pain (100% of patients), peripheral neuropathy (79% of patients), and nausea (63% of patients). Eligibility for treatment with curative intent was achieved in 5 of 20 (25%) patients, including both PMP patients. Peritoneal regression grading scale (PRGS) analyses of biopsies 16 patients showed 12 complete responses (36%), 18 major responses (55%), 3 minor responses (9%), and zero (0%) no responses. Median progression-free and overall survival were 9.5 months and 16.0 months, respectively.
Conclusion: Bidirectional therapy consisting of first-line palliative systemic therapy alternated with PIPAC-OX appeared to be feasible and safe in patients with unresectable, isolated colorectal peritoneal metastases. Antitumor activity of bidirectional therapy is promising. However, randomized trials are needed to investigate the efficacy of PIPAC-OX treatment for unresectable, isolated colorectal peritoneal metastases.

Impact of endoscopic ultrasound in unresectable perihilar cholangiocarcinoma patients in liver transplantation work-up

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Background: For a highly selected group of patients with unresectable perihilar cholangiocarcinoma (pCCA) liver transplantation (LT) is a treatment option with curative intent. Introduced in 2010, the Dutch LT screening protocol for pCCA comprises lymph node (LN) assessment by endoscopic ultrasound (EUS) and whenever LN metastases are identified, further LT screening is precluded as survival is very limited. The aim of this study is to investigate the yield of EUS in patients with pCCA who are potentially eligible for LT.
Methods: In this retrospective, nationwide cohort study, all consecutive patients with suspected unresectable pCCA who underwent EUS in the screening protocol for LT were included from 2010-2021. Data on EUS- and surgical LN status were collected. During EUS, sampling of a 'suspicious' LN was performed based on the endosonographists discretion. The primary outcome was the added value of EUS, defined as number of patients who were precluded from further screening due to malignant LN. Secondary outcomes were the number of malignant LN found in patients undergoing surgery after EUS.
Results: A total of 75 patients were included (median age of 56 years, 63% male, underlying primary sclerosing cholangitis diagnosis in 52%). In these patients a total of 84 EUS procedures were performed. In 18 patients (24%), 31 suspicious non-regional LN were identified with tissue acquisition in 28 (90%). In two patients (3%) LN biopsy confirmed malignancy and further screening was precluded. Surgical LN staging conform the protocol was performed in 44 (59%) patients and positive LN were identified in 6 patients (14%). These procedures were performed after a median of 44 days after EUS. Finally, 28 patients (64%) underwent LT of whom 7 patients (25%) had ≥1 positive regional LN in the liver explant.
Conclusion: Our current EUS screening for the detection of malignant LN in patients with pCCA eligible for LT shows a limited but clinically important yield. EUS with systematic screening of all LN stations and sampling of 'suspicious' lymph nodes according to defined and set criteria (size, shape, homogeneity, etc) could potentially increase this yield.

Understanding fluorescence time curves during ileal pouch-anal anastomosis with or without vascular ligation

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Background: Intraoperative indocyanine green fluorescence angiography (ICG-FA) may be of added value during pouch surgery, in particular after vascular ligations as lengthening maneuver. The aim was to determine quantitative perfusion parameters within the efferent/afferent loop and explore the impact of vascular ligation. Perfusion parameters were also compared in patients with and without anastomotic leakage (AL).
Methods: All consenting patients that underwent FA-guided ileal pouch-anal anastomosis (IPAA) between July 2020 and December 2021 were included. After intravenous bolus injection of 0.1mg/kg ICG, the near-infrared camera (Stryker Aim 1688) registered the fluorescence intensity over time. Quantitative analysis of ICG-FA from standardized regions of interests on the pouch was performed using software. Fluorescence parameters were extracted for inflow (T_0, T_{max}, F_{max}, slope, Time-to-peak) and outflow ($T_{90\%}$ and $T_{80\%}$). Change of management related to FA findings and AL rates were recorded.
Results: 21 patients were included, three patients (14%) required vascular ligation to obtain length, concerning ligating terminal ileal branches twice the ileocolic artery (IA) once. In nine patients the IA was already ligated during subtotal colectomy. ICG-FA triggered a change of management in 19% of patients (n=4/21), all of them had impaired vascular supply (ligated ileocolic/ terminal ileal branches). Overall, patients with intact vascular supply had similar perfusion patterns for the afferent and efferent loop. IA ligated patients had longer T_{max} in both afferent as efferent loop than IA intact patients (afferent 51 and efferent 53 versus 41 and 43 seconds respectively). Slope of the efferent loop diminished in IA ligated patients 1.5(IQR 0.8-4.4) versus 2.2(1.3-3.6) in IA intact patients.
Conclusion: Quantitative analysis of ICG-FA perfusion during IPAA is feasible and may guide the surgeon in both demonstrating previous ligation and tailoring the intra- or postoperative course. These preliminary results have to be confirmed in future larger prospective trials.

The added value of blood glucose monitoring in high-risk individuals undergoing pancreatic cancer surveillance

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Background: New-onset diabetes (NOD) is associated with the development of pancreatic ductal adenocarcinoma (PDAC) and is suggested as potential biomarker to detect PDAC at an earlier stage. International guidelines recommend routine glucose measurements in pancreatic surveillance of high-risk individuals (HRIs), however, little is known about its added value in addition to imaging. Therefore, this study evaluates the added value of longitudinal glucose measurements as a diagnostic biomarker for PDAC in high-risk surveillance cohorts.
Methods: HRIs with a CDKN2A germline pathogenic variant participating in pancreatic cancer surveillance who had ≥ 1 fasting blood glucose (FBG) and/or HbA1c measurements were included in this study. Pancreatic surveillance consists of annual magnetic resonance imaging (MRI) and endoscopic ultrasound (EUS), and blood sampling including blood glucose measurements. Individuals with diabetes mellitus at baseline, less than 3 years of follow-up and all follow-up after pancreatectomy were excluded from the study. Data was collected on demographics, FBG- and HbA1c measurements, MRI- and EUS examinations, and pathology reports. NOD was defined as two consecutive FBG values of ≥ 7 mmol/L or one HbA1c value of ≥ 48 mmol/mol. Univariate multivariable logistic regression was performed to assess the relationship between NOD and PDAC, with adjustment for sex, age and smoking history. To quantify the diagnostic performance of NOD as a marker for PDAC, receiver operating characteristic (ROC) curve and area under the curve (AUC) were computed.
Results: In total, 220 HRIs were included in the analysis. Median age was 61 (IQR 53-71) years, 62.7% of participants were female, and the mean BMI was 26.2 (4.12 SD). More than half (54.1%) of the studied cohort had a positive smoking history and the median amount of glucose measurements per person was 7 (IQR 5-12). During the study period, 26 (11.8%) HRIs developed NOD, of whom 5 (19.2%) later developed PDAC. The other 23 (82.1%) PDAC cases remained NOD-free. Multivariable analysis showed no statistically significant relationship between NOD and PDAC (OR 1.21; 95% CI, 0.39-3.78). A statistically significant association was exclusively observed between age and development of PDAC (OR 1.05; 95% CI, 1.01-1.1). Furthermore, NOD did not differentiate between HRIs with- and without PDAC (AUC 0.54; 95% CI, 0.46-0.61).
Conclusion: This study demonstrated no added value for longitudinal glucose monitoring in HRI participating in an imaging-based pancreatic cancer surveillance program.

Clinical relevance of next generation sequencing in patients ≤60 years with pancreatic ductal adenocarcinoma

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Background: New therapies for pancreatic ductal adenocarcinoma (PDAC) are increasingly focused on actionable mutations, which are usually found in KRAS-wildtype (WT) patients. It is expected that different oncogenic driver mutations are more frequently underlying the tumor in young PDAC patients, which could potentially be treated with targeted therapy.
Aim: To determine the prevalence of druggable targets and the clinical relevance of next generation sequencing (NGS) in PDAC patients of ≤60 years.
Methods: In this prospective, multicenter cohort study NGS was performed on tissue obtained through resection or fine needle biopsy. Predictor's of druggable targets were assessed using the Fisher's exact test and Bonferroni conrrection. Criteria for feasibility were composed of an NGS success rate of 80% and if reports with results were available within 28 days after tissue acquisition.
Cohort: The cohort consists of hundred included patients with a median age of 55 years (IQR 49.5-57.5 years) at diagnosis, with 37.0% male patients (p =). Nineteen patients had resectable disease, twelve had locally advanced disease and 69 had metastsatic PDAC.
Results: Molecular diagnostics was performed on 93 of hundred patients. NGS reports were available within 20 days (IQR 17-27 days). RNA sequencing succeeded in 82 patients (82%) and in 49 patients (49%) both DNA and RNA sequencing was accomplished. The sequencing success percentage did meet the feasibility criterion for RNA sequencing, but not for DNA sequencing. This was not correlated to biopsy vs. resection specimen or pretreatment vs. treatment-naïve. Five druggable targets were found, which comprises 10.2% of the fully sequenced patients, in which high tumor mutational burden (TMB-H) and microsatellite instability (MSI) was found twice. Additionally, 9 patients (18.4%) were referred to the clinical geneticist based on potentially hereditary mutations.
Conclusion: Complete DNA and RNA sequencing succeeded in only 49% of the samples, because tumor surface or tumor cell percentage were too low. This is probably due to the high stroma component in PDAC tissue. To increase this success rate it would be beneficial to screen tissue for compliance with requirements for NGS, or to use a specific oncopanel for targeted sequencing so that less stringent tissue requirements are required. When full sequencing was completed the prevalence of druggable targets was 10.2%. NGS in patients ≤60 years appears to contribute to medical care in these young patients, more results on a larger, multicenter cohort are awaited.

Multisegmented esophageal fully covered self-expandable metal stent for palliation of malignant dysphagia: a prospective multicenter cohort study

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Background: A new multisegmented esophageal fully covered self-expandable metal stent (FCSEMS) was designed to reduce stent migration rates that are seen in up to 19% of patients. We aimed to evaluate safety and efficacy of the multisegmented FCSEMS.
Methods: This multicenter prospective study aimed to include 30 patients undergoing palliative stent placement. The segments of the stent are independently mobile to improve stent adaptation to the anatomy and peristalsis aiming to reduce stent migration. Primary outcomes were safety defined as (serious) adverse events ((S)AEs) and efficacy defined as technically successful stent placement and dysphagia scores. Secondary outcomes included performance status, symptoms and survival. Patients were prospectively evaluated after 2 weeks, 1 month, and monthly thereafter until 6 months, stent removal, second stent placement, or death.
Results: The study was prematurely terminated due to safety concerns after including 23 patients (mean age 72 yrs (±10.2); 78% male). Indications for stent placement were esophageal (n=16) or cardia cancer (n=4), extrinsic malignant compression (n=2), or anastomotic recurrence (n=1). Stent placement was technically successful in 19 patients (83%). At week two, dysphagia score had improved in all patients with successful stent placement. Median survival was 44 days (IQR 12-87). SAEs occurred in 16 (70%) patients. Recurrent dysphagia was seen in 11 (48%) patients (stent occlusion (n=4), stent migration (n=5), insufficient stent expansion (n=1), and tissue overgrowth (n=1)). Stent-related mortality occurred in three patients (13%) following esophageal hemorrhage (n=2) and perforation (n=1).
Conclusion: Significant SAEs resulted in early termination of the study. The current multisegmented FCSEMS design needs further improvement before it can be used for palliation of malignant dysphagia. (Clinical trial registration number: NCT04415463)

First real world evidence in The Netherlands evaluating the efficacy and efficiency of a new sedative remimazolam compared with midazolam in patients undergoing colonoscopy or gastroscopy

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Background: Remimazolam is an ultrashort-acting benzodiazepine, that like midazolam, is approved for procedural sedation. Remimazolam has the advantage of a faster onset, shorter duration, and faster recovery time than midazolam.
We compared the onset and offset times of action of remimazolam and midazolam as sedatives for gastro- and colonoscopy.
This is the first real world data collected on remimazolam use in the Netherlands.
Methods: In this observational open-label study, patients who were scheduled for gastro- or colonoscopy procedures were split into two groups. The first group was treated with midazolam and the second with remimazolam. The primary endpoint of this pilot-study was the moment in time when the patient reached full alertness following procedural sedation after entering the recovery room. For assessment of alertness, Aldrate scores were measured every minute from the moment the patient entered recovery until one hour had passed since the last dose of sedation. Full alertness was defined as an Aldrate score of 10. Secondary endpoints were defined as the time between first sedative application and the start of endoscopy and safety, which was measured by means of standard monitoring for endoscopic procedures: pulse, oxygenation and blood pressure.
Results: In total 184 adult patients were treated, of which 81 received remimazolam and 103 received midazolam. On average, remimazolam-sedated patients in recovery reached full alertness after 5.45 minutes (SD±10.11), while midazolam-sedated patients reached this after 11.30 minutes (SD±15.23) *(P=0.003)*. Patients who underwent gastroscopy reached full alertness after 6.05 minutes (SD±9.52) during recovery for remimazolam and 20.61 minutes (SD±17.76) for midazolam, respectively *(P<0.001)*. Patients who underwent colonoscopy were fully alert at the recovery after 3.76 minutes (SD±8.10) for remimazolam and 7.00 minutes (SD±12.03) for midazolam, respectively *(P=0.216)*. On average, remimazolam-sedated patients could start earlier with the procedure than midazolam-sedated patients: 1.78 minutes (SD±0.75) for the remimazolam-group and 2.16 minutes (SD±1.03) for the midazolam-group *(P=0.006)*. Safety was comparable among the two treatment groups.
Conclusion: These data show remimazolam-sedated patients reached full alertness significantly quicker than midazolam-sedated patients after arriving at the recovery. Also, in remimazolam-sedated patients the procedure could start earlier after the first dose as compared to midazolam-sedated patients. Safety was comparable. Therefore, the use of remimazolam could improve efficiency in the endoscopy and recovery room, mainly for patients that undergo gastroscopy with sedation.

Factors associated with estimated cardiorespiratory fitness in patients with inflammatory bowel disease: an exploratory analysis of real-world data

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Background: Cardiorespiratory fitness (CRF) as a potential predictor of disease outcome in Inflammatory Bowel Disease (IBD) is understudied, as are risk factors for impaired CRF. Lifestyle interventions focusing on improving CRF may aid in enhancing subjective health, decreasing disability, or even controlling inflammation. The aim of this exploratory study was to investigate risk factors for low estimated CRF (eCRF), as well as the association between eCRF and patient-reported outcomes of IBD in a real-world cohort.
Methods: A cross-sectional multicenter study was performed between 26 Oct 2021 and 19 Oct 2022, enrolling IBD patients using the remote monitor platform myIBDcoach. Patients reported on disease activity, lifestyle factors, and psychosocial functioning. The four-question Modified Duke Activity Status Index (M-DASI-4Q) was used to assess eCRF, which is a simple screening tool for detecting the risk of impaired CRF as objectively measured with physical exercise tests. The number of positive responses to the four questions determines the final score, ranging from 0 to 4. To date, no accepted cut-off for (e)CRF has been identified for patients with IBD. Therefore, an M-DASI-4Q score below the 25th percentile of the study population was exploratively used to define low eCRF. Multivariable logistic regression analysis was performed to identify factors associated with eCRF.
Results: In total, 410 patients were included, of which 91 (22.2%) had low eCRF. The median M-DASI-4Q score was 3 (IQR 2-4). Low eCRF was characterized by higher age, female sex, higher BMI, and more comorbidities compared to patients with adequate eCRF. Patients with low eCRF reported statistically significant higher levels of fatigue and stress, lower subjective disease control, and, remarkably, higher physical activity levels. Multivariable logistic regression showed that female sex (adjusted Odds Ratio [aOR] 3.09), higher BMI (aOR 1.06), more comorbidities (aOR 3.77, aOR 8.52), fatigue (aOR 2.26), lower subjective disease control (aOR 0.90), and higher physical activity levels (aOR 2.29) were associated with low eCRF.
Conclusion: In this exploratory study, we described an association between eCRF and patient- and clinical characteristics (sex, BMI, and comorbidities), as well as patient-reported outcomes of IBD (fatigue, and subjective disease control). Future research should investigate the validity of the M-DASI-4Q and determine thresholds for referral for further objective assessment for patients that might benefit from personalized interventions. Furthermore, future studies should further elucidate the interaction between physical activity and (e)CRF in patients with IBD to define recommendations.

Evaluation of a 4 food elimination diet therapy to identify the trigger of eosinophilic esophagitis

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Background: Eosinophilic esophagitis (EoE) is an allergic inflammatory response of the esophagus in response to topical contact with a trigger, often a dietary component. The most obvious therapy for this chronic disease is identifying the trigger causing the inflammatory response in the epithelium of the esophagus and thereafter avoiding this trigger. Currently, a 6 food elimination diet therapy (6FED) is most often used to discover the trigger. However, the 6FED is a prolonged and laborious process with multiple gastroscopies (OGDs). In order to minimize the burden of investigations for the patient, an elimination diet excluding less groups of food may have benefits.
The aim of this study is to evaluate a 4 food elimination diet therapy (4FED) to identify the trigger(s) resulting in EoE
Methods: All patients diagnosed with EoE in the Elisabeth-Tweesteden Hospital between 2016 and 2022 were analysed by their treatment process. First, all patients received a proton pomp inhibitor (PPI) for 6 weeks. Thereafter, esophageal biopsies were taken at two or three levels. An eosinophil count below 15 per high power field was considered as remission. Patients who did not achieve histopathological remission after treatment with PPI were referred to the dietician for the 4FED. The 4FED was implemented with help from a dietician and excluded milk, soy, wheat, and egg. When 4FED led to remission after the elimination phase, each food group was added singly for 6 weeks. For every evaluation and provocation with a group of food, patients underwent an OGD in order to take biopsies for determining the number of eosinophils in the epithelium of the esophagus.
Results: A total of 63 patients were diagnosed with EoE. Overall 47 of the patients did not achieve histological remission with PPI treatment and were eligible for the 4FED. Of all the patients who were eligible for the elimination diet therapy, 34% (16/47) did not complete or started the evaluation. The trigger for EoE was found in 88% (23/26) of all the patients who completed the 4FED. Surprisingly, in 46.43% (13/28) of the patients more than 1 trigger was responsible for EoE. In three cases we found no trigger with the 4FED and additional elimination of fish and nuts would have to be performed. However, these patients did not consent to do this due to asymptomatic EoE.
Conclusion: Even a 4FED is burdensome, considering approximately a third of the patients starting with the diet fail to complete the entire evaluation to find the trigger. However, if patients manage to complete the 4FED, it appears adequate in identifying the trigger(s) that cause EoE in most patients.

Correction of ion transport abnormalities in idiopathic pancreatitis patients by CFTR modulators

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Background: The causes of recurrent acute and chronic pancreatitis are often unclear. Many people affected by idiopathic pancreatitis (IP) harbor rare variants of the gene mutated in cystic fibrosis (CF), *CFTR*, which encodes an epithelial chloride/bicarbonate channel that is crucial for exocrine pancreatic ductal anion and fluid secretion. The functional consequences of these rare mutations in *CFTR* are generally unknown.
Methods: Here we performed *CFTR* sequencing to identify 32 IP subjects carrying such mutations, and assessed CFTR function by Gibson and Cooke sweat test (GCST) and intestinal current measurement (ICM) on rectal biopsies. Potential beneficial effects of a CFTR modulator drug combination consisting of elexacaftor (ELX), ivacaftor (IVA) and tezacaftor (TEZ) was assessed in intestinal epithelial monolayers cultured from these biopsies.
Results: Two subjects were compound heterozygous for CF-causing loss-of-function mutations in CFTR, and yielded CF-typical GCST (>60 mmol/L) and ICM data. GCST on 28 of the remaining 30 subjects identified 11 with a more modest elevation in sweat chloride levels, suggestive of reduced CFTR function. ICM indicated a moderately impaired CFTR chloride transport function, i.e. <95% confidence interval (CI) of a non-CF cohort, but >95% CI of a CF cohort, in 11 out of 20 subjects tested. Three of these, genotypes V1379I / 4095+63T>C, IVS8 TG11 T5/T7 / WT, and R74W / poly T7/T7, displayed severely impaired bicarbonate transport in ICM. ELX/IVA/TEZ improved CFTR-dependent bicarbonate transport in epithelial monolayers of 5 genotypes out of 11 tested.
Conclusion: These data indicate that CFTR function is impaired in a subset of IP patients. ICM on intestinal epithelial monolayers may be used to assess CFTR function and the response to modulator therapy.

Stromal cell subsets show model-dependent changes in experimental colitis and affect epithelial tissue repair and immune cell activation

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Background: Single-cell analysis of colon tissue of inflammatory bowel disease (IBD) patients revealed changes in the stromal subsets during inflammation and their importance in IBD pathogenesis. Until now, it is unknown whether these stromal cell subset changes are also reflected in different IBD mouse models and how commonly used IBD therapies affect stromal cell populations.
Methods: Stromal subset markers, including CD55, C-X-C motif chemokine 12 (CXCL12), podoplanin (PDPN), CD90, and CD73 were analyzed in the colon by flow cytometry in three colitis mouse models: interleukin (IL)-10 knockout (KO), dextran sulfate sodium (DSS)-induced and T cell transfer model for colitis. The effects of clinically used IBD therapies on the stroma subset composition were studied as well. To study the function of different stromal subsets during cellular interactions *in vitro*, short hairpin RNA was used to silence target gene expression of CD55, CD90, and CXCL12 in murine fibroblasts. Fibroblast-epithelial cell interactions were studied using the supernatant of these different fibroblast subsets in epithelial colony formation and wound healing. Fibroblasts-T cell interactions were analyzed by coculturing of murine T cells and fibroblasts.
Results: In all three models, the total amount of stromal cells was increased after induction of colitis. The percentage of $CXCL12^+$stromal cells was decreased, while $CD73^+$stromal cells were increased in IL-10 KO mice and the T cell transfer model. The abundance of $CD55^+$and $CD90^+$stromal cells was decreased in IL-10 KO mice but increased in the T cell transfer model. The percentage of $PDPN^+$stromal cells was increased in IL-10 KO mice and DSS-induced colitis. Interestingly, treatment with anti-p40 restored the stromal abundance of CD90 and CD55 in IL-10 KO mice. Treatment with anti-tumor necrosis factor (TNF) restored the stromal abundance of CD90 and CXCL12 in T cell transfer colitis. 6-Thioguanine (TG) treatment in DSS-induced colitis did not affect stromal subset composition. *In vitro* experiments showed that fibroblast conditioned medium obtained after CXCL12 knockdown (KD) decreased epithelial wound healing but increased epithelial cell proliferation. Interestingly, coculture of T-cells with CD55 of CXCL12 KD fibroblasts, in contrast to CD90 KD, showed a reduction in activated T cells.
Conclusion: The composition of stromal cell subsets differs between three established colitis mouse models, possibly reflecting different human IBD subtypes. Interestingly, treatment with IBD therapies could partially restore the stromal subset abundance. *In vitro*experiments indicated the importance of stromal cell subsets on epithelial wound healing, proliferation, and T cell activation.

Potential new plasma biomarkers for the early detection of anastomotic leakage after colorectal resection for cancer: an explorative study

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Background: Colorectal anastomotic leakage (CAL) is one of the most dreaded complications after colorectal surgery. The diverse clinical course, nonspecific radiological signs and lack of accurate biomarkers of CAL often cause a delay in diagnosis and treatment which will lead to postponed re-intervention and morbidity and mortality. The aim of this study was to identify possible new plasma biomarkers for the early diagnosis of CAL.
Methods: Patients who underwent elective colorectal resection with primary anastomosis for colorectal carcinoma between September 2015 and March 2021 were included at three hospitals (REVEAL study). Plasma samples were collected preoperatively at day of hospital admission (PRE), on postoperative day 1 (POD1) and postoperative day 3 (POD3). Patients who developed CAL were matched (1:1) to patients without CAL (non-CAL) based on sex, age, body mass index (BMI), tumor location and neoadjuvant chemo/radiotherapy. Proteomic analysis was performed on the plasma samples using Olink Proximity Extension Assay cardiovascular II panel. Differential expression analyses were performed using generalized linear regressions, where we conducted paired comparative analyses correcting for age, sex and BMI.
Results: In total, 526 patients were included of which 34 patients developed CAL. From these patients 34 PRE samples, 27 POD1 and 27 POD3 samples were available for analysis and matched to 34, 27 and 27 non-CAL controls respectively. After correcting for multiple testing no significant differences between CAL and non-CAL were seen on PRE and POD1, however on POD3 16 proteins were significantly differentially expressed. Looking at these specific 16 proteins, six were nominally significantly different on POD1 and one protein was nominally significantly different on PRE. These proteins are associated with angionenesis, cell matrix composition and inflammatory response.
Conclusion: Patients with CAL showed multiple significant differences on POD3 compared to non-CAL, several of which appeared to also be present at POD1 and PRE. These proteins might be of use as potential new biomarkers for the early detection of CAL, however our results will need to be validated in an additional cohort.

Exploring the modulatory effect of lipid-rich nutrition on lipopolysaccharide-induced acute lung injury in rats and the role of the vagus nerve

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Background: Pulmonary complications occur frequently following an esophagectomy. A vagotomy is performed as part of the esophagectomy, however, the vagus nerve plays an important role in modulating the inflammatory response via α7-nicotinic-acetylcholine (α7nACh)-receptors on inflammatory cells. In this experimental study in rats, the role of the α7nACh-receptors and the effect of lipid-rich nutrition on lipopolysaccharide-induced lung injury was investigated.
Methods: To investigate the role of α7nACh-receptors, a control group of rats was randomly assigned to four groups (n=12 each): sham surgery, bilateral selective (abdominal) vagotomy, cervical vagotomy, or cervical vagotomy with α7nACh-receptor agonist administration. Next, the role of lipid-enriched nutrition in activating the vagus nerve was assessed. For this, a group of rats were randomly placed in three groups (N= 8 each): fasting or lipid-rich enteral nutrition before sham surgery, or lipid-rich enteral nutrition before abdominal vagotomy. Lipopolysaccharide was administered intratracheally following surgery. After 270 minutes pulmonary function, systemic inflammation and lung inflammation, and histopathological lung injury were assessed.
Results: Histopathological lung injury was similar between sham and selective vagotomy (mean 0.159 (±0.110) vs. 0.268 (±0.179), p>0.999). Lung injury after cervical vagotomy was 0.397 (±0.092) (p=0.048) and 0.384 (±0.116) (p=0.090) after administration of an α7nAChR-agonist. This was also observed after the receptor antagonist (p=0.003). Furthermore, cervical vagotomy increased macrophage count in bronchoalveolar lavage fluid (BALF) and lung compliance compared to sham and selective vagotomy, but not in the α7nAChR-agonist group. Other inflammatory cells, TNF-α and IL-6 in BALF and serum were unaffected between groups. Lipid-rich nutrition reduced histopathological lung injury in sham (p=0.012) and selective vagotomy (p=0.002) compared to fasting.
Conclusion: Cervical vagotomy aggravates local inflammation and histopathological lung injury which seems to be dependent on α7nACh-receptors. Stimulation of the autonomic nervous system via lipid-enriched nutrition after a selective vagotomy attenuated histopathological lung injury compared to fasting.

CD44v6, EpCam, cMet, Rock2, and DUOX2 as targeted biomarkers for the identification of lymph node micrometastasis in colon carcinoma

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Background: Colon carcinoma (CC) has the second highest cancer-related morbidity in Europe and its prevalence is rapidly rising due to screening and an aging population. To treat the disease and prevent recurrence via micrometastases in lymph nodes, a hemicolectomy is performed but this increases the postoperative mortality and morbidity risk. The sentinel lymph node (SLN) procedure could avoid unnecessary surgery in patients with no lymph node metastases and could be enhanced by using a targeted near-infrared tracer. This study evaluated various biomarkers for use as a targeted tracer.
Methods: Previously, we identified CD44v6, Rock2, DUOX2, EpCam, and cMet as promising biomarkers for identification of primary tumor using functional genomic mRNA profiling. To select the most promising biomarker, tissue of fifty patients with CC (stage T1 up to T4) was selected. Tissue of the primary tumor and metastatic deposits of each patient (109 slices in total) was immunohistochemically stained with a CD44v6, Rock2, DUOX2, EpCam, and cMet antibody. The expression intensity in the different tissue types was scored by two independent researchers using the H-score (0-300).
Results: CD44v6 showed high H-scores in primary and metastatic cancerous tissue (mean=141, standard deviation (SD)=76) whereas the surrounding healthy tissue showed a low H-score (mean=32, SD=46). Tumor tissue and metastatic deposits both showed a high H-score (149 and 138). A high H-score was also found for DUOX2 in all cancerous tissue (mean=206, SD=70) with a lower H-score in healthy tissue (mean=136, SD=84). Tumor tissue and metastatic deposits both showed a high H-score (214 and 195). Rock2 showed similar results in all cancerous tissue (mean=213, SD=74) and a low H-score in the surrounding healthy tissue (mean=95, SD=76). Tumor tissue and metastatic deposits showed a similar high H-score (213 and 215). Furthermore, DUOX2 and Rock2 showed staining in the germinal centers which may badly influence the sensitivity. The results for EpCam and Cmet are still ongoing, as are the statistical results. Based on the results found so far, the next steps will be to enlarge the group of tissue from fifty to hundred. After this, a fluorescent tracer will be created and tested on ex vivo target tissue.
Conclusion: Based on these results, CD44v6 is a promising biomarker for the development of a fluorescent tracer that could enhance identification of metastatic deposits in CC. The results of DUOX2 and Rock2 also show promising results, however, staining of the germinal centers may be a shortcoming. The results pave the way for in vivo identification of metastatic deposits with a targeted fluorescent tracer preventing unnecessary burdens for the patient.

Increased risk of esophageal squamous cell carcinoma in patients with squamous dysplasia: a nationwide cohort study in the Netherlands

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Background: Squamous dysplasia is the histological precursor of esophageal squamous cell carcinoma (ESCC). The optimal management for distinct grades of squamous dysplasia remains unclear, because the corresponding risk of developing ESCC is unknown. We, therefore, aimed to assess the ESCC risk in patients with squamous dysplasia in a Western country.
Methods: This nationwide cohort study included all patients with esophageal squamous dysplasia, diagnosed between 1991 and 2020 in the Dutch nationwide histopathology registry (PALGA). Squamous dysplasia was divided in mild-to-moderate dysplasia (mild, low-grade, moderate dysplasia) and higher-grade dysplasia (high-grade, severe dysplasia, carcinoma in situ). The primary endpoint was the diagnosis of *prevalent* (within 6 months) and *incident* (>6 months after squamous dysplasia) ESCC with 95% confidence intervals (CI), registered in PALGA and the Netherlands Cancer Registry.
Results: 936 patients were diagnosed with esophageal squamous dysplasia, consisting of mild-to-moderate dysplasia (n=460) and higher-grade dysplasia (n=476). Among patients with mild-to-moderate dysplasia, 57% of the patients received endoscopic re-assessment with biopsies after median 11 weeks (IQR 5-29), revealing mild-to-moderate dysplasia (20%), higher-grade dysplasia (11%), and ESCC (10%). Among patients with higher-grade dysplasia, 75% of the patients received endoscopic re-assessment with biopsies or endoscopic treatment after median 5 weeks (IQR 2-9), revealing mild-to-moderate dysplasia (5%), higher-grade dysplasia (37%) and ESCC (40%). In total, ESCC was diagnosed in 80 (17.4%) patients with mild-to-moderate dysplasia (53 *prevalent* ESCC, 27 *incident* ESCC) and in 239 (50.0%) patients with higher-grade dysplasia (201 *prevalent* ESCC, 37 *incident* ESCC). After excluding prevalent ESCC, the progression incidence towards ESCC was 4.3 (95% CI 4.3-4.4) and 14.4 (95% CI 14.4-14.6) ESCC per 100 person-years in patients with mild-to-moderate and higher-grade dysplasia, respectively. ESCC were treated with endoscopic resection (15%), surgery (38%), and chemotherapy and/or radiotherapy (39%).
Conclusion: All patients with squamous dysplasia, including those with mild-to-moderate dysplasia, have a considerable risk of developing ESCC. Consequently, endoscopic surveillance of the esophageal mucosa is recommended for patients with mild-to-moderate dysplasia in Western countries.

Diagnostic yield of gastric biopsies of the incisura angularis in patients with gastric intestinal metaplasia in a low incidence gastric cancer region

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Background: Patients with gastric intestinal metaplasia (GIM) can be stratified into non-extended and extended GIM. In patients with extended GIM surveillance is recommended based on a higher risk of neoplastic progression. The updated Sydney protocol is the most widely accepted biopsy system to identify extended GIM, and includes, besides biopsies of the corpus and antrum also biopsies of the incisura angularis (IA). However, data on the added value of additional biopsies of the IA in patients with premalignant gastric lesions is scarce. Our aim is to evaluate the yield and added value of the updated Sydney protocol in a low incidence gastric cancer region.
Methods: This prospective cohort study included patients with GIM who underwent follow-up endoscopies. Biopsies were taken according to the updated Sydney protocol.
Results: In total 177 patients with GIM were included. Median age was 62 (IQR 20) and 55.9% was male. During follow-up seven (4.0%) patients developed gastric neoplasia after a median follow-up of 37 months (IQR 38). At baseline 50 patients were classified as extended (28.2%), of which only one patient showed neoplastic progression. The other six patients that showed progression were classified as non-extended. At baseline, angular GIM was found in 97 (54.8%) patients of which six showed neoplastic progression; three patients had GIM in antrum and IA (40.7%) and the other three had GIM in IA and corpus (27.1%).
Conclusion: In patients with gastric intestinal metaplasia angular GIM might be a better risk factor for neoplastic progression than the extension of GIM.

The yield of next generation sequencing for atypical cells in diagnostic work up of suspicious biliary strictures

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Background: It is often difficult to correctly diagnose a suspicious biliary stricture. Biliary brushes and biopsies gain low cellular specimens and when cyto-pathological assessment is indecisive, additional sensitive diagnostic tests are lacking. Next generation sequencing (NGS) is an adjunctive diagnostic tool that may improve the diagnostic sensitivity. The aim of this study is to assess the added value of NGS for morphological classification of biliary brushes and biopsies in patients with suspicious biliary strictures.
Methods: In this retrospective single-center cohort study between 2019-2022, patients with suspicious biliary strictures of which biliary specimens by brush or biopsy were obtained and on which NGS was performed, were included. Sensitivity and specificity of NGS were calculated for benign, atypical, suspicious for malignancy and malignant morphology. Final diagnosis of the suspicious biliary strictures was defined on surgical resection specimens and autopsy, other endoscopic or percutaneous biopsies and/or clinical follow-up. A selected group of experts retrospectively decided whether the outcome of NGS affected clinical decision making, based on a set of pre-specified criteria.
Results: A total of 109 samples (94 brushes, 15 biopsies) in 106 patients were included. NGS was able to identify 42 of the 75 (56%) malignancies correctly. There were no false positive results. NGS had an overall sensitivity of 65% for brushes and 58% for biopsies, and specificity of 100% for both. For brushes the sensitivity and specificity [95% confidence interval] of NGS were the following: benign (N.A., 100% [29 - 100]), atypical (64% [41 – 83], 100% [85 – 100]), suspicious for malignancy (67% [46 – 83], 100% [16 – 100]) and malignancy (60% [15 – 95], N.A.). For biopsies these were the following: atypia (0% [0 – 60], 100% [16 – 100]) and suspicious for malignancy (88% [47 – 99], 100% [3 – 100]). In nine of the 106 patients (8%) NGS caused a change in CDM.
Conclusion: There is a significant additional yield of NGS in the setting of biliary strictures. NGS should only be used in patients in which the outcome is most valuable. However, in the future this will probably increase with more targeted therapy options and when more sensitive NGS panels for cholangiocarcinoma are developed.

Colonoscopic-assisted laparoscopic wedge resection for the treatment of suspected T1 colon cancer

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Background: Local en-bloc resection of pT1 colon cancer is gaining acceptance over the last few years. In the absence of histological risk factors, the risk of lymph node metastases (LNM) is negligible and does not outweigh the morbidity and mortality of an oncologic resection. Colonoscopic-assisted laparoscopic wedge resection (CAL-WR) has been proven to be an effective and safe technique to remove complex benign polyps. Its role for the primary resection of suspected T1 colon cancer has to be established.
Methods: The aim of this retrospective study was to determine the radicality and safety of CAL-WR as local en-bloc resection technique for a suspected T1 colon cancer. Therefore, we identified patients in which high-grade dysplasia or a T1 colon carcinoma was suspected, based on histology and/or macroscopic assessment, requiring an en-bloc resection.
Results: In total, 57 patients underwent CAL-WR for a macroscopic suspected polyp or polyps with biopsy proven high-grade dysplasia or T1 colon carcinoma. Of these 57 patients, 27 were diagnosed with a pT1 colon carcinoma at pathological examination following CAL-WR. Histological risk factors for LNM were present in 3 cases and 70% showed deep submucosal invasion (Sm2/Sm3). In patients with pT1 colon carcinoma an overall R0-resection rate of 88.9% was achieved. A minor complication was noted in one patient (1.8%).
Conclusion: CAL-WR is an effective and safe technique for lesions suspected for high-grade dysplasia or T1-colon carcinoma. CAL-WR may fill the gap for tumors that are macroscopic suspected for deep submucosal invasion, providing more patients an organ-preserving treatment option.

13C-butyrate and 13C-glucose breath testing to detect mesenteric ischemia, a proof of principal study in healthy volunteers

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Background: Chronic mesenteric ischemia (CMI) is an incapacitating disease that can progress to potentially fatal acute mesenteric ischemia. A gold standard diagnostic test to diagnose CMI is currently lacking, causing both undertreatment and overtreatment of patients. Since CMI is accompanied by a switch of the intestinal epithelium from butyrate-dependent oxidative phosphorylation to anaerobic glucose metabolism and oxygen is needed to absorb and metabolize butyrate and glucose in the enterocyte, a labelled-butyrate and labelled-glucose breath test could theoretically quantify mucosal oxygen content and thereby detect ischemia.
Methods: This study is a multi-center randomized interventional proof of principal study, conducted in healthy volunteers without gastrointestinal complaints and with an unremarkable medical history. Two control groups and two intervention groups each consisting of five volunteers received either 13C-butyrate or 13C-glucose. The control groups performed breath tests without performing any physical exercise. The intervention groups performed a 30 minute standardized bicycle ergometer exercise test, which has been proven to elicit mesenteric ischemia. Breath samples of expired 13CO2 were collected during a period of 4 hours.
Results: A total of twenty volunteers were included in this study. In the control and intervention group butyrate reached the peak concentration of expired 13CO2 faster than glucose (65 min. vs. 130 min). Compared to the control group butyrate and glucose were metabolized less in the intervention group (T30 min p=0.0043, T60 min p=0.0171, T75 min p= 0.0360).
Conclusion: Glucose/butyrate breath testing can identify exercise-induced mesenteric ischemia by measuring mucosal oxygen consumption. This holds great promise for the development of a new diagnostic tool to detect and quantify mesenteric ischemia.

The clinical effect of benescoTM on reflux symptoms: a double-blind randomized placebo-controlled trial

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Background: Gastroesophageal reflux disease (GERD) is one of the most prevalent gastrointestinal diseases in the western world. Lifestyle modifications and proton pump inhibitors (PPIs) form the basis of the management of GERD. A subset of patients seeks for (natural) alternative therapies besides PPIs, therefore we aim to assess the effect of benesco™, an over-the-counter nutritional supplement on reflux symptoms.
Methods: We performed a double-blind randomized placebo-controlled trial in patients with reflux symptoms. Patients were assigned randomly (1:1) to receive 6 weeks of benesco™ (three times daily one lozenge containing 200mg of quercetin) or placebo. The primary outcome was treatment success defined as 50% or more reduction in Reflux Disease Questionnaire Score (RDQ). Secondary outcomes included GERD-related quality of life, reflux free days and nights and patient-reported treatment success.
Results: One hundred patients were randomized. Treatment success was seen in 18 (39%) of 46 patients in the intervention group compared to 21 (47%) of 45 in the placebo group, an absolute risk difference of 8% (95% CI, -13% to 28%; p=0.468). In the intervention group 10 (1-21) reflux free days were reported compared to 10 (2-25) in the placebo group (p=0.673). In addition, 38 (34-41) vs 39 (35-42) nights not disturbed by reflux were reported (p=0.409). In the responder subgroup (n=40; reduction RDQ-GERD > 50%) the reduction rate in the benesco™ group was higher than the reduction in the placebo group (84% (66 -100) compared to 70% (63-81) (p=0.046)). No serious adverse events occurred.
Conclusion: At group level benesco™ showed no significant benefit over placebo. Subgroup analysis among responders showed symptom reduction to be significantly greater in benesco™.

The effect of consumer expectancy versus actual gluten intake on gastrointestinal symptoms in non-coeliac gluten sensitivity

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Background: Many individuals reduce their gluten intake because of self-reported gastrointestinal (GI) symptoms, despite having ruled out coeliac disease (CD) and wheat allergy (WA). The origin of their symptoms is not clear and may be affected by negative expectancies (nocebo effect). Therefore, we aimed to investigate the effects of consumer expectancy versus actual gluten intake on GI symptoms in individuals with non-coeliac gluten sensitivity (NCGS).
Methods: We performed a randomized, double blind, placebo-controlled, international multicentre study with 83 individuals with self-reported NCGS (mean age 33.6±14.2 years old, 85.5% female) in whom CD and WA were ruled out. Participants were randomised to one of four groups based on the expectation that they will consume "gluten-containing" (E+) or "gluten-free" (E-) oat bread for breakfast and lunch (two slices each), and actual intake of gluten-containing (G+) or gluten-free (G-) oat bread (E+G+, E+G-, E-G+ and E-G-). GI symptoms were evaluated by visual analogue scale at baseline (before breakfast), and hourly for 8 hours, with lunch served at t = 4 hours. Overall and individual GI symptoms were analysed using repeated measures analysis of covariance.
Results: Mean overall GI symptoms throughout the test day were significantly higher in the E+G+ group (VAS 16.6±1.7mm) compared to E-G+ (VAS 6.9±1.7mm, p=0.001) and E-G- (VAS 7.4±1.6mm, p=0.002). When analysed separately across the morning (after breakfast) and afternoon (after lunch), differences between groups were strongest in the afternoon (morning E+G+ vs E-G+ p=0.031; afternoon E+G+ vs E-G+ and E+G+ vs E-G- both p=0.001). Ratings of abdominal discomfort and bloating showed consistent differences between the 4 groups. GI symptoms in E+G- did not differ significantly from the other groups. There was no significant effect of gluten within each expectancy group (*i.e.* E+G+ vs. E+G-, and E-G+ vs. E-G-).
Conclusion: The combined effect of expectancy and actual gluten intake had the largest effect on overall and individual GI symptoms, reflecting a nocebo effect. Repeated exposure following a lunch bolus accentuated symptom scores. The results of this study support the importance of further research into the role of the gut-brain axis in NCGS.

Highly stable epigenome-wide peripheral blood DNA methylation signatures accurately predict endoscopic response to adalimumab, vedolizumab and ustekinumab in Crohn's disease patients: The EPIC-CD study

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Background: Despite the proven efficacy of biological treatments in Crohn's disease (CD), many patients fail to respond or lose response over time. Therefore, predictive biomarkers for treatment efficacy would be of extreme value. Previous epigenome-wide association studies associated differential DNA methylation with CD-specific phenotypes, suggesting a potential use in classification and prediction of response to treatment.
Methods: We prospectively collected and measured longitudinal peripheral blood DNA methylation profiles of 184 adult CD patients prior to (T1) and after a median of 28 weeks (T2) following biological treatment with Adalimumab (ADA), Vedolizumab (VEDO) or Ustekinumab (USTE) in a discovery (n=88) and independently collected internal validation cohort (n=96) using the Illumina EPIC BeadChip array. Response (R) was defined as the combination of endoscopic response (≥50% reduction in SES-CD score) and steroid-free clinical response (≥3 point drop in HBI or HBI ≤4 AND no systemic steroids) and/or biochemical response (≥50% reduction in C-reactive protein (CRP) and fecal calprotectin or a CRP ≤5 g/mL and fecal calprotectin ≤250 µg/g). Biomarker identification and classification analyses were performed using stability selection gradient boosting on samples taken at T1 whereas samples taken at T2 and intraclass correlation (ICC) data were used to assess long-term stability of our identified CpG loci.
Results: A total of 58 ADA-patients (N_R=29, N_{NR}=29), 64 VEDO-patients (N_R=36, N_{NR}=28) and 62 USTE-patients (N_R=30, N_{NR}=32) were included. Prior to treatment, at T1, we identified distinct panels of 100 ADA-, 22 VEDO- and 68 USTE-associated CpG loci that, in combination, predict clinical- and endoscopic response with high accuracy (AUC ADA=0.73, VEDO=0.89 and USTE=0.94) at validation. Notably, for these CpG loci, methylation levels did not significantly differ between T1 and T2, implicating stability during both induction and maintenance treatment, irrespective of inflammatory status and therapeutic intervention. In addition, the majority of these CpG loci (>60%) demonstrated long-term hyper stability (ICC-values ≥0.90). Furthermore, genes annotated to the CpGs of interest suggest drug specific involvement in TNF-signaling, endothelial cell-cell adhesion, integrin dependent T-cell homing, the innate immune system and Th17/Treg differentiation, corroborating to the mode of action of each drug.
Conclusion: Here, we report on 3 validated panels of highly stable, epigenetic biomarkers that predict clinical and endoscopic response in CD patients treated with ADA, VEDO or USTE. Additional external- and clinical validation as part of EPIC-CD and the OMICROHN clinical trial are currently ongoing.

A higher red blood cell methotrexate polyglutamate 3 concentration is associated with methotrexate drug-survival in patients with Crohn's disease: first results of a prospective cohort

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Background: Prediction and monitoring of drug response of methotrexate (MTX) in patients with Crohn's disease (CD) is an unmet need. MTX-polyglutamates (MTX-PGs) in red blood cells (RBC) are potential markers for response in other immune-mediated inflammatory diseases. Our objectives were investigating the relation between MTX-PGs and efficacy and defining predictors of response in CD patients treated with MTX.
Methods: In a multicenter prospective cohort study, CD patients starting subcutaneous (sc) MTX without biologics were included and followed for 12 months or until MTX sc was discontinued or a concomitant step-up therapy was started. At baseline clinical and biochemical predictors were recorded. At 2, 3, 6 and 12 months after start of therapy or when dropping out, blood samples were collected and MTX-PGs ($MTX\text{-}PG_1$ - $MTX\text{-}PG_5$) were analyzed in RBC using mass spectometry. The outcome was either MTX sc discontinuation or initiation concomitant step-up therapy, due to disease activity or toxicity. Predictors were analysed in an univariate Cox regression model and MTX-PGs in an extended Cox model, corrected for prednisone (at start) and budesonide.
Results: Eighty CD patients were included (age mean±SD 55±13y, 35% male). The median Harvey Bradshaw Index (HBI) was 4 (IQR 2-7). After 12 months 21 patients were still on MTX sc monotherapy, 21 patients stopped because of disease activity, 29 because of toxicity, 4 because of a combination of both and 5 patients were censored (4 ended study participation, 1 MTX was stopped on patient's own initiative). A higher HBI at baseline was associated with an increased rate of MTX sc monotherapy discontinuation (HR 1.08, 95% CI 1.02-1.16). Predictors of discontinuation because of disease activity (cause specific hazards) were male sex (3.83, 1.62-9.05), baseline eGFR (1.06, 1.02-1.09), baseline HBI (1.12, 1.02-1.23) and baseline plasma folate (0.94, 0.88-0.99). Sex and plasma folate were not correlated with HBI. No cause specific hazards for stopping MTX because of toxicity were identified. $MTX\text{-}PG_3$ was the most abundant MTX-PG subspecie with a median concentration of 51 nmol/L RBC (IQR 37-62) at month 3 and was associated with better MTX survival (HR 0.98, 95% CI 0.971-0.999). For every ten points increase in the $MTX\text{-}PG_3$ concentration, the rate of MTX sc monotherapy discontinuation decreases with 14%.
Conclusion: Higher eGFR, higher HBI, lower plasma folate at baseline and male sex are predictors for MTX failure in the first year in CD patients. The last two parameters are likely predictors of MTX response specifically rather than prognostic disease factors. The measurement of $MTX\text{-}PG_3$ in packed RBC holds potential as a tool for therapeutic drug monitoring in CD.

Switching out of class or to another anti-TNF agent is the most effective strategy for clinical efficacy and treatment persistence in IBD patients with immunogenicity against anti-TNF

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Background: Immunogenicity to anti-TNF agents is associated with loss of response in inflammatory bowel disease (IBD). However, the efficacy of different strategies to restore favorable pharmacokinetics and/or clinical response upon the detection of anti-drug antibodies (ADA) has not been widely studied. We evaluated the success of different strategies leading to clinical remission with ADA disappearance (in patients continuing the same anti-TNF), in patients with IBD.
Methods: IBD patients with ADA to infliximab or adalimumab were identified through an electronic database search at a single tertiary center between 2004 and 2021. ADA were measured using a drug-sensitive assay at Sanquin laboratories. Data concerning clinical, biochemical and endoscopic activity, medication and surgery were retrospectively and systematically collected by reviewing clinical records. Criteria for success of a strategy were clinical remission 1 year after ADA detection without further change in strategy combined with disappearance of ADA (in patients continuing the same anti-TNF).
Results: Two-hundred-and-fifty-five IBD patients (206 Crohn's disease, 46 ulcerative colitis, 3 IBD-unclassified, 149 female) were included, 129 patients were diagnosed to have ADA against infliximab and 126 against adalimumab. At baseline, median ADA titer was 77 AU/ml (IQR 25-350), 50.2% of patients were in clinical remission. Groups were as follows: 1) 81/255 (32%) conservative management, 2) 102/255 (40%) optimization of the same anti-TNF, 3) 72/255 (28%) switch to another anti-TNF or biological class. Switch to another anti-TNF or out of class was the most successful strategy in terms of improvement of clinical remission (from 19.4% at ADA detection to 69.4% at 1 year, $p<0.001$). Patients that continued with the same dose anti-TNF or discontinued all biological therapy after ADA detection were often in clinical remission at baseline, but deteriorated significantly in the following year (22.7%, $P=0.004$). Anti-TNF dose intensification with concomitant addition/optimization of immunomodulators was the fastest (median 3 months (IQR 2-4.5), $p=0.004$) and most effective (in 73% of these patients, $p=0.007$) strategy to suppress ADA to undetectable levels compared to anti-TNF dose intensification or immunomodulator optimization alone.
Conclusion: Switching to another anti-TNF or out of class switch is the most successful strategy to regain and maintain clinical remission upon detection of ADA. Intensification of anti-TNF dosing with concomitant optimization of immunomodulatory therapy is the fastest strategy to suppress ADA.

Clinical validation of a capillary blood self-sampling technique for monitoring of infliximab and vedolizumab concentrations in patients with inflammatory bowel disease

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Background: Therapeutic drug monitoring of biological therapy, e.g. infliximab (IFX) and vedolizumab (VEDO), provides important guidance for the treatment of patients with inflammatory bowel diseases (IBD). Enabling monitoring of biological serum concentrations in a home setting could help to early identify treatment failure and over- or undertreatment. This study aimed to validate an at-home finger prick-based capillary blood sampling technique and evaluate patient performance and support of self-sampling.
Methods: Patients with IBD receiving IFX or VEDO therapy performed capillary blood self-sampling at home using lancet devices and minicollect tubes. On the same day, blood was collected through routinely performed in-hospital venipuncture prior to scheduled biological infusion. IFX and VEDO concentrations were measured by enzyme-linked immunosorbent assay (ELISA) in both venous and capillary samples. Bland-Altman, Passing-Bablok regression, and Cohen's kappa analyses (after categorizing IFX and VEDO levels) were performed to evaluate concordance of both methods. A patient experience survey was conducted to assess practicality and patient support of the self-sampling technique.
Results: In total, 81 patients (46 IFX, 35 VEDO) were enrolled. Mean differences between both sampling methods was 0.42 [limits of agreement: -1.74;2.58] μg/mL for IFX and 0.72 [-5.50;6.94] μg/mL for VEDO as calculated by Bland-Altman analysis. Passing-Bablok regression demonstrated no evidence for either systematic or proportional bias. Venous and capillary IFX (ρ = 0.96, P<0.001) and VEDO (ρ = 0.97, P<0.001) levels strongly correlated and showed high intermethod agreement (IFX: Cohen's kappa 0.82; VEDO: 0.94). Most patients (>95%) were able to successfully perform the self-sampling at home without prior instructions and 88% of patients were willing to perform self-sampling periodically in the future for the purpose of proactive therapeutic drug monitoring.
Conclusion: This study clinically validated the utility of a finger prick-based capillary blood self-sampling technique allowing monitoring of IFX and VEDO levels at home for patients with IBD. Most patients participating experienced the self-sampling as a straightforward and feasible test, reflecting a high degree of patient support, tolerability, and practicality.

Patient preferences in treatment options of ulcerative colitis: a discrete choice experiment

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Background: Since the number of treatment options for Ulcerative Colitis (UC) has expanded over the last decades, patients and physicians face challenges regarding decisions about the medication options. In shared decision making, treating physicians help patients understand the trade-offs and their own preferences. We aimed to identify patients preferences about the relative risks and benefits of UC treatment options in patients with UC in the Netherlands. Furthermore, we assessed after how many failed treatment options, patients are willing to consider surgical treatment.
Methods: We conducted a discrete choice experiment (DCE) among adult UC patients. Patients were repeatedly asked to choose between two hypothetical treatment options with varying combinations of attribute levels. Attributes were based on consecutively a literature search, patient interviews, surveys and a focus group. The six included attributes were: administration route, administration location, chance on symptom reduction (on short and long term), chances on infection and on adverse events. A balanced overlap design was used. Patients were recruited via the patient association Crohn & Colitis NL and in two academic hospitals. Data were analyzed by using Hierarchical Bayes estimation.
Results: A total of 172 patients participated in the DCE. Median disease duration was 8 (IQR 3-16) years. Most patients were anti-TNF experienced (52.9%). Symptom reduction after one year (relative importance (RI) 27.7 (95% CI 25.6-29.7)) was the most important when choosing between treatment options, followed by the chance of infection (22.3 (21.2 - 23.4)) and chance of symptom reduction after eight weeks (RI 19.5 (18.1 - 20.9)). The location of administration of the treatment and the chance of adverse events were the least important (8.7 (7.7 - 9.79) and 8.5 (7.9 - 9.2), respectively). Patients preferred oral administration over subcutaneous injections. Intravenous route of administration was least favourite. 133 patients filled in the trade off questions regarding surgery. Forty-four patients (33.1%) responded with unknown. Nineteen patients (14.3%) would not even consider surgery after failing eight treatment options without any new available therapies left. Nine patients would consider surgery before trying any treatment options. Of the remaining patients, nine (6.8%) would consider surgery after failing six treatment options.
Conclusion: We found that symptom reduction after one year was the most important treatment attribute in UC patients. These outcomes can help understand the trade-offs and preferences of UC patients.

Early induction infliximab trough levels in paediatric IBD patients predict sustained remission

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Background: Therapeutic drug monitoring (TDM) is an approach to improve treatment effectiveness of anti-TNF therapy in Inflammatory Bowel Disease (IBD), but timing and threshold trough levels (TL) are still subject of investigation, especially in paediatric populations.
The aims of our study were (1) to analyse induction – and post-induction infliximab TLs (respectively after 6 and 14 weeks) to predict sustained biochemical and clinical remission between 6 and 12 months in paediatric patients with IBD, and (2) to define paediatric threshold TLs at these timepoints.
Methods: We performed a retrospective study in 70 anti-TNF naïve paediatric IBD patients from two centres who were treated with an induction scheme of 5 mg/kg on 0, 2 and 6 weeks, and subsequently every approximately 8 weeks. We measured infliximab TLs at week 6 and 14 combined with (non)-invasive markers for disease activity. Patients were in sustained biochemical and clinical remission when they were asymptomatic and had normalised CRP and faecal calprotectin between 6 and 12 months after initiating therapy. Receiver operating characteristic (ROC) analysis was used to determine infliximab TL thresholds that best predicted sustained biochemical remission.
Results: Median infliximab TL at 6 and 14 weeks were higher for children in sustained remission versus children who were not (TL6 p=0.028 and TL14 p=0.028). Area under the ROC curve (AUROC) for infliximab TL6 and TL14 to predict sustained biochemical remission was 0.68 (95% Confidence Interval [CI] 0.53-0.83) and 0.67 (95%CI 0.53-0.82), respectively (Figure 1 and 2). The optimal infliximab thresholds were 13.2 mg/L and 6.9 mg/L for TL6 and TL14, respectively, yielding a sensitivity and specificity of 70% and 68% for TL6 and 57% and 76% for TL14.
Conclusion: In children with IBD treated with a regular infliximab induction scheme, infliximab TLs at week 6 and 14 both predicted sustained clinical and biochemical remission between 6 and 12 months after initiating therapy. TDM and early dose optimization may improve infliximab effectiveness and drug survival.

The efficacy of an over the counter multivitamin and mineral supplement to prevent opportunistic infections in patients with inflammatory bowel disease in remission

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Background: Patients with inflammatory bowel disease (IBD) treated with immunomodulators or biological therapy are at increased risk of infections. Malnutrition and vitamin or mineral deficiencies are common among patients with IBD. The results of various studies have indicate that vitamin deficiencies might increase the risk of infections.
Methods: Single-centre, randomized, double-blinded, placebo-controlled clinical trial to compare a multivitamin and mineral supplement (vitamin group) versus identical in appearance placebo (placebo group). Patients with Crohn's disease or ulcerative colitis using immunomodulators and/or biological therapy without vitamin deficiency, were considered for participation in our study.
Participants were asked to take a daily multivitamin and mineral supplement or placebo and report the occurrence of infections during a 24 weeks period of follow up. The primary endpoint of this study was the difference in incidence of infection between the two groups measured by a validated questionnaire, the revised version of the ID screen to assess infection[13].
Randomization was conducted by using computer generated random numbers with an allocation ratio of 1:1 to vitamin supplement or placebo in blocks of 8 and stratified according to type of IBD.
Results: Between July 2020 and February 2021, 320 patients were randomized. Treatment arms consisted out of 162 and 158 for vitamin and placebo, respectively. Both groups showed similarity in patient characteristics. All patients were included in the intention-to -Treat (ITT), 265 patients in the per protocol (PP) (compliance >80%) analyses. For both groups, 107 patients reported an infection during the 24 weeks follow up period (Unadjusted Odds Ratio: 0.93 (95% confidence interval: 0.56-1.48). In the vitamin group, 32 patients received antibiotics for an infection compared with 21 patients in the placebo group (Unadjusted Odds Ratio: 1.61 (95% confidence interval:0.88-2.93). 166 patients in the PP analysis reported an infection (Unadjusted Odds Ratio: 0.91 (95% confidence interval: 0.55-1.50), 23 reported an serious infection (Unadjusted Odds Ratio: 2.57 (95% confidence interval: 1.02 -6.46). None of the patients was hospitalized due to serious infection.
Conclusion: An over the counter multivitamin and mineral supplement did not reduce the risk of infection for patients with IBD in remission with immunomodulators and/or biological therapy.

Fibroblast-specific endoglin expression alters colonic immune infiltrate in premalignant colorectal lesions

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Background: Endoglin expression on cancer-associated fibroblasts has been reported to promote tumor growth and metastasis, especially in colorectal cancer (CRC). However, little research has been done on the function of endoglin-expressing fibroblasts in the early stages of CRC and how it interacts with the host immune system. Here, we investigated the role of endoglin expression on fibroblasts during intestinal inflammation and tumorigenesis in a chemically induced colitis-associated CRC model.
Methods: We generated two inducible fibroblast-specific endoglin (ENG) knockout mice Collagen1a1 CreERT2.ENG$^{fl/fl}$ (ENG$^{Col1a1-/-}$) and Collagen1a2-CreERT.ENG$^{fl/fl}$ (ENG$^{Col1a2-/-}$). Cre-mediated recombination in mice was induced by oral administration of tamoxifen for three consecutive days. Polyp formation was induced by a single injection of azoxymethane (AOM), followed by three cycles of dextran sodium sulphate (DSS). Analysis of the immune cell composition in the colon and polyps was done using flow cytometry. Hematoxylin and eosin (H&E) staining was performed to evaluate intestinal inflammation.
Results: ENG$^{Col1a1-/-}$ mice showed a considerably higher number of colonic lesions than non-induced controls, whereas in the ENG$^{Col1a2-/-}$, surprisingly no significant difference in the number of lesions was observed. Flow cytometry analysis revealed, compared to controls, the lesions of ENG$^{Col1a1-/-}$ mice had a significant increase in F4/80^{+} Ly6C^{-} macrophages and Ly6G^{+} neutrophils, while those of ENG$^{Col1a2-/-}$ mice had a marked decrease in CD11C^{+} dendritic cells. Given the changes in immune cell infiltration, we also assessed acute inflammation, using a short-term DSS experiment. Interestingly, ENG$^{Col1a1-/-}$ mice lost significantly more weight compared to controls, indicating increased inflammation. Although weight loss did not differ in Col1a2 mice between the two groups, ENG$^{Col1a2-/-}$ mice had a much lower H&E staining score, indicating less colonic damage and inflammation. Furthermore, a decrease in F4/80^{+} Ly6C^{-} macrophages was observed in the colons of both ENG$^{Col1a1-/-}$ and ENG$^{Col1a2-/-}$ mice, despite no change in the overall CD45^{+} immune cell population. Notably, the number of Ly6G^{+} neutrophils was decreased in the colons of ENG$^{Col1a1-/-}$ mice but increased in ENG$^{Col1a2-/-}$ mice. In addition, a decrease in CD11C^{+} dendritic cells was seen in the colons ENG$^{Col1a2-/-}$ mice.
Conclusion: Our results suggest that AOM/DSS-induced polyp formation and infiltrating immune cells differ in ENG$^{Col1a1-/-}$ and ENG$^{Col1a2-/-}$ mice. Fibroblast-specific deletion of endoglin can reduce macrophage and dendritic cell infiltration, colonic damage and protect mice from DSS colitis.

Abdominal pain severity for IBD in remission correlates with genetic clustering and enzymatic activity of feces-derived Candida albicans strains

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Background: Abdominal pain is a common occurrence for patients with inflammatory bowel diseases in remission (quiescent IBD; qIBD). There is increasing evidence for a contributing role of the gut mycobiome, the gastrointestinal fungal community, in relation to intestinal inflammation and irritable bowel syndrome (IBS). As such, abundance of *Candida* spp. and sub-species variation of *Candida albicans* were previously associated with IBD severity. In the current study, we aim to investigate mycobiome of patients with qIBD and qIBD with abdominal pain (qIBD–AP).
Methods: Patients with qIBD (defined as fecal calprotectin (FCP) ≤250 μg/g) were recruited at Amsterdam University Medical Center (AUMC) and Maastricht UMC+ (MUMC+). In total, *n*=91 qIBD–AP and *n*=58 qIBD patients provided fecal samples. Abdominal pain was scored based on either the IBS Symptom Severity Scale (IBS–SSS, for AUMC) or Gastrointestinal Symptom Rating Score questionnaire (GSRS, for MUMC+). Fecal fungal communities were determined based on Internal Transcribed Spacer 1 (ITS1) sequencing. Cultivable yeasts from feces were identified using Matrix Assisted Laser Deionization Time–of–Flight Mass Spectrometry. Genotypes of *C. albicans* strains (*n*=137 strains from *n*=29 individuals) were determined by Sanger sequencing analysis of ITS regions and by microsatellite typing based on seven loci. Release of virulence-related enzymes (proteinase, phospholipase, lipase, esterase) by *C. albicans* was assessed through determination of precipitation zones on solid agar mediums containing enzyme-specific substrates.
Results: Machine-based learning models determined a discriminative mycobiota signature associated with qIBD–AP in spite of limited differences in descriptive analyses. ITS Sanger sequencing of feces-derived *C. albicans* strains lacked resolution to describe genetic variability. Contrasting, analysis of microsatellite loci revealed extensive variability and clustering into six clone clusters with a likely distinction between qIBD and qIBD–AP patients. Phospholipase enzymatic activity of *C. albicans* strains correlated significantly with severity of abdominal pain according to the GSRS–Abdominal Pain sub-score and IBS–SSS (Pearson r=0.63, *p*=0.048; r=0.60, *p*=0.010 resp.). Lipase activity inversely correlated with fecal calprotectin (r=-0.50, *p*=0.022).
Conclusion: The fecal gut mycobiome is associated with self–reported abdominal pain in patients with qIBD. This is based on both compositional and culture-dependent methods. Clones of *C. albicans* may selectively contribute to abdominal pain for qIBD patients. This study opens further possibilities to investigate the role of fecal gut fungi in light of abdominal pain for qIBD-AP patients.

Identification of hepatocyte-restricted antigens, epitopes, and T cell receptors to treat recurrent hepatocellular carcinoma after liver transplantation

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Background: Recurrent hepatocellular carcinoma (HCC) after liver transplantation does not respond to standard treatments. The regrowth of HCC in the context of an HLA-mismatched donor liver provides the unique setting that liver antigens from HCC versus the liver allograft are presented by different alleles of Human Leukocyte Antigen (HLA). In the present translational study, we are developing an adoptive therapy with T cell receptor (TCR)-engineered T cells directed against hepatocyte-restricted antigens (HRAs) that are presented by the recipient, but not donor HLA.
Methods: We have applied an integrative approach of *in silico* antigen and epitope prediction, immunopeptidomics, as well as *in vitro* laboratory tools to stringently select and validate HRAs, their immunogenic epitopes, as well as corresponding TCRs.
Results: Our search for HRAs started with 58 presumed liver antigens retrieved from the human protein ATLAS that were further evaluated for liver-restricted expression in 6 public RNA databases and 1 protein database (HIPED) which shortlisted 14 candidate HRAs. Three of these 14 HRAs did not show RNA expression in healthy tissues, except for liver, in another five tissue datasets (n=1,709). The expression data of these 3 HRAs were confirmed with qPCR using various healthy tissues of multiple individuals. Two HRAs demonstrated RNA expression in >70% of HCC patients (n=421). Immunopeptidomics of HCC-derived hepatocytes (n=12), together with *in silico* predictions of immunogenicity, revealed a set of 36 HLA-A2-restricted epitopes from these HRAs. These epitopes were tested and ranked according to their in vitro ability to bind to HLA-A2 and potential off-target sequence. Epitope-specific T cells were enriched from healthy donors for 6 of these epitopes using an *in vitro* co-culture with autologous antigen presenting cells. Eleven TCRαβs directed against 4 HRA-derived epitopes were selected following epitope-MHC-directed fluorescence-activated sorting of T cells. Five TCRs were functionally expressed upon gene transfer into T cells and recognized their cognate peptide, of which 4 TCRs harboured a stringent safety profile according to amino acid scanning, and are expected to mediate no to negligible cross-reactivity.
Conclusion: We have identified HRAs, epitopes and corresponding TCRs, of which the lead TCRs will be further exploited for the treatment of recurrent HCC after liver transplantation with adoptive therapy of TCR-engineered T cells.

Single cell analysis of Crohn's disease fistula; comparison of different locations

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Background: A common complication of Crohn's disease(CD) are perianal fistulae, impacting the quality of life in these patients. The pathogenesis of these fistulas is incompletely understood. Treatment is often given based on knowledge of disease processes in the inflamed intestine itself, but whether the immune activity in the fistula tract is similar remains unknown. Full characterization of the intestinal mucosa versus the fistula tract itself may reveal immunological differences between the two, and generate leads for both development of new interventional options as well as allow better stratification of patients.
Methods: Matched biopsies were obtained from the rectal mucosa, internal opening of the fistula and the tract itself. A total of 30 patients were included (20 CD; 10 non-IBD). Tissues were processed to cell suspensions and selected for live CD66b- cells. Single cell RNASeq analysis was performed using 10x Chromium. In total, 111.955 immune cells were annotated and used for analysis
Results: T cells comprised the largest cluster of immune cells, which subclustered into 19 clusters. Both the internal opening and fistula tracts contained elevated proportions of effector memory and cycling T cells. Conversely, the rectum contained more central and tissue resident memory cells. T cells expressing IL-22, which were previously described in fistula were detected in considerable number in the rectum and internal opening, but were scarce in the fistula tract. These cells were clearly distinct from the IL17A producing, and IL17F expressing cells and mainly found in fistula tracts. Only the tract contained a clear subset of CXCL13 expressing T cells, suggesting follicular helper T cells. Presence of these cells was strongly correlated to the presence of lymphoid inducer cells as well as IgG producing B cells rather than the IgA subset found in the rectum. Clusters of myeloid cells were largely derived from the fistula tracts. Subclustering into 10 clusters indicated a shift from anti-inflammatory to pro-inflammatory macrophages in the tracts compared to the rectal mucosa. Finally, a striking difference in NK cells subsets was observed, with significantly more CD56bright NK cells present in the rectal samples while the internal opening and tracts were comparable.
Conclusion: Cellular composition and activity of the immune cell compartment differs considerably between the rectum, the internal opening of the fistula and the tract. Subsequently, therapy targeted at processes involved in mucosal inflammation may not actually target the fistula itself, which may explain the low success rate in fistula resolution. Careful analysis of the fistula may help to identify targets useful in the treatment.

Atypical anti-neutrophil cytoplasmatic antibodies recognize non-lytic neutrophil extracellular traps (ANNE): A Novel pathophysiological mechanism in ulcerative colitis

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Background: The number of mucosal neutrophils, as well as the presence of neutrophil extracellular traps (NETs), correlate with disease activity in Ulcerative colitis (UC), an inflammatory bowel disease. Over 80% of UC patients have atypical Anti-Neutrophil Cytoplasmic Antibodies (a-ANCAs) directed to a yet unknown antigen, showing different immunofluorescence staining patterns compared to the cytoplasmic (c-ANCA) and perinuclear (p-ANCA) antibodies targeting proteinase (PR3) and myeloperoxidase (MPO), respectively. Here, we analyzed the specific a-ANCAs binding to NETs.
Methods: Blood neutrophils were treated to form non-lytic NETs using LPS-treated platelets with and without DNAse and trypsin. In vitro-formed non-lytic NETs and patient biopsies were incubated with p-ANCA, c-ANCA, and a-ANCA positive patient and ANCA negative serum (from control (n=10) and UC (n=20), CD (n=5)), and processed using confocal microscopy (Leica TCS SP8). Macrophage-mediated clearance of serum-pretreated NETs was analyzed in real-time using the Incucyte S3 system.
Results: Ethanol-fixed neutrophils displayed c-ANCA, p-ANCA patterns, and a-ANCA web-like staining. Only c- and p-ANCA react to DNAse-treated ethanol-fixed neutrophils. Serum containing a-ANCA's bound to non-lytic NETs that disappeared upon treatment with DNAse and Trypsin whereas c- and p- ANCA binding did not disappear upon DNAse treatment indicating that both DNA and proteins are needed for a-ANCAs to bind to non- lytic NETs. Neither ANCA-negative serum from healthy controls, nor CD patients showed an affinity for NETs, however serum from UC patients was present in all the cases in which ANCA were positive (P=0.009), and even in patients (n=2) who were ANCA-negative, suggesting that this a-ANCA/ANNE (Antibodies against Non -lyticNETs) assay has a higher sensitivity than the traditional ANCA test. In UC patients' inflamed colonic tissue, a-ANCA co-stained with extracellular DNA and neutrophil elastase covering the intestinal epithelium. Additionally, NETs were efficiently cleared by macrophages *in vitro*and strongly inhibited after pre-incubating with α-ANCAs. Macrophages exposed to a-ANCA-opsonized NETs expressed higher CXCL-8 and IFN-B levels than NETs exposed to control serum (both $p<0.05$).
Conclusion: a-ANCAs specifically bind to de novo DNA-protein antigens in non-lytic NETs, preventing efficient macrophage-mediated clearance and inducing a pro-inflammatory (M1) phenotype. This could lead to a positive pro-inflammatory feedback loop that contributes to the pathophysiology of UC. More research is needed to fully understand the mechanism and its potential applicability for novel ANNE testing as a new biomarker in UC.

TGFβ signaling in colorectal cancer-associated fibroblasts (CAFs) initiates a GP130-dependent IL-6 family signaling cascade in hepatocytes, neutrophil accumulation and pre-metastatic niche formation

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Background: Four consensus molecular subtypes (CMS1-4) have currently been described for colorectal cancer (CRC). CMS4 has been related to the worst prognosis and hepatic metastasis formation. The subtype is characterized by an increase in transforming growth factor-β (TGFβ) signaling and a high abundance of cancer-associated fibroblasts (CAFs) in the tumor microenvironment (TME). Preliminary data suggested that TGFβ signaling in CAFs could be involved in pre-metastatic niche formation in the liver, yet key downstream effectors remained undefined. This study aims to establish whether and how TGFβ driven CAF signaling causes a pro-inflammatory reaction in hepatocytes.
Methods: The effect of TGFβ primed, CAF-derived cytokines on hepatocytes was studied through chemical inhibition and genetic ablation in 2D and 3D hepatocyte models. Subsequently, the effects on the expression of myeloid chemo-attractants and subsequent neutrophil migration were studied in vitro and in an orthotopic CRC mouse model.
Results: TGFβ signaling in CAFs induced expression of IL-6 family cytokine members IL-11 and IL-6, which were shown to play a key role in the activation of the JAK/STAT pathway in hepatocytes as shown by increased STAT3 phosphorylation. This subsequently resulted in an upregulation of pro-inflammatory chemokines and chemo-attractants like SAA1 in hepatocytes. High SAA expression led to neutrophil migration, which was completely dependent on GP130, the IL-6 family co-receptor. Moreover, in mice with orthotopic CRC, an increase in neutrophils and pSTAT3-positive hepatocytes was observed before apparent metastasis occurred. This accumulation was further increased in micro-metastatic lesions in mice. In patient samples increased pre-operative SAA levels were detected as well as strongly increased IL-6 expression in liver metastasis samples.
Conclusion: TGFβ-driven CAF signaling is able to distantly initiate the JAK/STAT pathway in hepatocytes, leading to local neutrophil chemotaxis. Accordingly, the identified mechanisms could contribute to the pre-metastatic niche formation of CRC in the liver.

TGF-β blockade during viro-immunotherapy provides differential outcomes in tumor models which are associated with oncolytic reovirus-induced imprint on TGF-β signalling

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Background: The absence of T cells in the tumor microenvironment of solid tumors is a major barrier to cancer immunotherapy efficacy. Oncolytic viruses, including reovirus type 3 Dearing (Reo), can recruit $CD8^+$ T cells to the tumor and thereby enhance the efficacy of immunotherapeutic strategies that depend on high T-cell density, such as CD3-bispecific antibody (bsAb) therapy. Transforming growth factor-β (TGF-β) signaling might represent another barrier to effective Reo&CD3-bsAb therapy due to its immunoinhibitory characteristics.
Methods: Here, we investigated the effect of TGF-β blockade on the antitumor efficacy of Reo&CD3-bsAb therapy in the murine preclinical pancreatic KPC3 and colon MC38 tumor models, where TGF-β signaling is highly active. Reovirus was administered intratumorally (10^7 pfu/mouse) or intravenously (10^8 pfu/mouse) to tumor-bearing, immunocompetent C57BL/6J mice, and TGF-β signaling was blocked using the murine monoclonal antibody 1D11 (αTGF-β). Viral replication was measured using qPCR, and changes in the tumor microenvironment were studied using immunohistochemistry and flow cytometry. The efficacy of Reo&CD3-bsAb therapy in combination with TGF-β blockade was investigated by monitoring tumor growth and survival.
Results: TGF-β blockade impaired tumor growth in both KPC3 and MC38 tumors. Furthermore, TGF-β blockade did not affect reovirus replication in both models and significantly enhanced the Reo-induced T-cell influx in MC38 colon tumors. Unexpectedly, Reo administration decreased TGF-β signaling in MC38 tumors but instead increased TGF-β activity in KPC3 tumors, resulting in the accumulation of αSMA^+ fibroblasts. This enhanced TGF-β activity in Reo-treated KPC3 tumors correlated with neutralization of Reo&CD3-bsAb therapy-induced tumor regressions. This was not due to impaired T-cell influx or function after TGF-β blockade, nor intrinsic signaling of TGF-β in T cells. In contrast, TGF-β blockade significantly improved therapeutic efficacy of Reo&CD3-bsAb in mice bearing MC38 colon tumors, resulting in a 100% complete response.
Conclusion: Further understanding of the factors that determine this inter-tumor dichotomy is required before TGF-β inhibition can be exploited as part of viro-immunotherapeutic combination strategies to improve their clinical benefit.

TGFβ dependent epithelial to mesenchymal transition with maintenance of self-renewal capacity depends on Smad4 gene dosage

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Background: TGFβ/SMAD4 signaling has an ambiguous role in colorectal cancer (CRC) metastasis. Early in CRC, TGFβ/SMAD4 signaling is suppresses tumorigenesis, while later in CRC development TGFβ/SMAD4 signaling, usually in addition to an *Apc* and a *Kras* mutation, associated with epithelial-to-mesenchymal transition (EMT) and increased metastatic capacity. This is often accompanied by loss-of-function mutations in *SMAD4,* while homozygous null mutations in *SMAD4* are rare. We set out to investigate a role for *SMAD4* signaling in cell faith decisions, EMT and metastatic capacity in a TGFβ rich environment.
Methods: We generated *ex vivo* intestinal organoids with different gene levels of *Smad4*. These organoids all had mutations in *Apc* and $Kras^{G12D}$ (AK). These included: *Smad4* wildtype (AKS^{WT}), *Smad4* knockdown by short hairpin RNA (AKS^{KD}) and *Smad4* knockout (AKS^{KO}). We characterized EMT, viability, and clonogenic capacity in these organoids after exposure to TGFβ.
Results: Treatment with TGFβ resulted in reduced viability of AKS^{WT} but not viability of AKS^{KD} organoids. The viable organoids of AKS^{WT} and AKS^{KD} underwent morphological and genetic alterations associated with EMT, as opposed to AKS^{KO} organoids which were unaffected in by TGFβ. Since EMT and subsequent redifferentiation (mesenchymal to epithelial transition, MET) may underlie metastasis we next tested MET and clonogenicity. Interestingly, clonogenicity in TGFβ pretreated AKS^{KD} organoids was increased, while AKS^{WT} organoids exhibited reduced clonogenicity. Unsurprisingly, AKS^{KO} organoids were unaffected by TGFβ. Given the hypoxic environment in which metastases occur, we cultured TGFβ treated organoids under hypoxic conditions. We found that AKS^{KO} organoids that could not undergo EMT exhibited decreased clonogenicity capacity whereas AKS^{KD} organoids treated with TGFβ had normal survival when exposed to hypoxic conditions.
Conclusion: High levels of TGFβ signaling have been associated with cell death, differentiation and EMT. Distinct levels of *SMAD4* determine susceptibility to TGFβ induced cell fate decisions. In the presence of mutations in *Apc* and *Kras*, normal levels of *Smad4* result in EMT without the proper capacity for redifferentiation and cellular self-renewal. Absence of *Smad4* signaling is associated with incapacity to undergo EMT, which renders cells vulnerable to hypoxic conditions. We thus show that *Smad4* gene levels are critical, since absent Smad4 renders cells incapable to undergo EMT and thus withstand hypoxia, while normal levels exhibit reduced levels of clonogenecity upon MET compared to low levels. Low but not absent Smad4 therefore provides a sweet spot that enables enduring hypoxia while maintaining clonogenicity and MET.

Mucosal host-microbe interactions associate with clinical phenotypes in inflammatory bowel disease

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Background: Host intestinal gene expression signatures and microbial perturbances are central to the pathogenesis of inflammatory bowel diseases (IBD). Profiling of the intestinal mucosa-attached microbiota allows understanding of locally present microbial communities and their immediate impact on the host. This study aimed to comprehensively examine interactions between mucosal gene expression, mucosal microbiota, and their associations with clinical phenotypes of patients with IBD.
Methods: Intestinal mucosal RNA-sequencing data was combined with mucosal 16S rRNA gene sequencing data from 696 intestinal biopsies derived from 337 patients with IBD (181 with Crohn's disease [CD] and 156 with ulcerative colitis [UC]) and 16 non-IBD controls. Mucosal gene expression and bacterial abundances were systematically analyzed in relation to the presence of inflammation, Montreal disease classification, medication use (e.g. TNF-α-antagonists) and dysbiotic status. Pathway-based clustering and network analysis (Sparse-CCA and centrLCC analysis) and individual pairwise gene–taxa associations were investigated to identify host–microbiota interactions in different clinical contexts. Subsequently, the contribution of microbiota to variation in intestinal cell type–enrichment was analyzed. To confirm key findings, publicly available datasets were used for external validation.
Results: In total, 1,141 inflammation-specific genes and 131 microbial taxa were identified, which were further classified by sparse-CCA into six hubs of molecular pathways associated with specific bacterial groups (FDR<0.05), findings we could partially validate in an independent cohort. An increased abundance of *Bifidobacterium* was associated with higher expression of genes involved in fatty acid metabolism, while *Bacteroides* was associated with increased metallothionein signaling. Fibrostenotic CD was characterized by a transcriptional network dominated by immunoregulatory genes associated with *Lachnoclostridium* bacteria in non-stenotic tissue. In patients using TNF-α-antagonists, a transcriptional network dominated by fatty acid metabolism genes associated with *Ruminococcaceae*. Mucosal microbiota composition was associated with enrichment of distinct intestinal cell types, particularly intestinal epithelial cells, macrophages, and NK-cells.
Conclusion: This study is the largest of its kind demonstrating the diversity and versatility of host-microbe interactions in IBD. Furthermore, it highlights the strong effects of patient characteristics on these interactions, providing important pathophysiological insights. Overall, we identify multiple host–microbe interactions that may guide microbiota-directed personalized medicine in IBD.

The risk of mild, moderate and severe infections in IBD patients: results from a prospective, multicentre, observational cohort study – PRIQ

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Background: Immunomodulators and biologicals are essential in current IBD management, but are associated with increased risk of infections. Considering the growing number of treatment options, the benefit-risk balance of drugs is becoming increasingly important in clinical decision making. To date, post-marketing surveillance studies mainly focus on severe infections. As a result, data on mild and moderate infections are scarce. These infections take longer to clear in immunosuppressed patients and can substantially impact quality of life. We aimed to assess the incidence of all infections and identify risk factors for the development of infections in IBD patients.
Methods: We previously developed and validated a Patient-Reported Infections Questionnaire (PRIQ), with excellent diagnostic accuracy, covering 15 infection categories with a 3-month recall period. The current prospective, multicentre, observational cohort study was performed between Jun, 1 2020 and Jul, 1 2021, enrolling consecutive IBD patients using the PRIQ implemented in myIBDcoach. Infection severity was defined as mild (self-limiting or topical treatment), moderate (oral antibiotics, antivirals or antifungals) or severe (hospitalization or IV treatment). Incidence rates (IR) were calculated for all infections, stratified for severity and subtype. Risk factors for infections were identified using multivariable logistic regression.
Results: In total, 629 IBD patients (n=346 CD, n=283 UC) were included which completed 2391 PRIQs during 572 person-years (PY) of follow-up, resulting in 990 reported infections, corresponding to IRs of 17.3, 11.8, 5.1, and 0.4 per 10PY for all, mild, moderate, and severe infections, respectively. Upper respiratory tract (IR 2.69/10PY) and urinary tract infections (IR 1.48/10PY) were the most commonly reported mild and moderate infections. Compared to patients without treatment, patients on immunosuppressives more frequently experienced infections of any severity (mild: IR ratio (IRR) 1.57 [95%CI 1.21-2.06] p<0.001, moderate: IRR 1.42 [95%CI 1.20-1.69] p<0.001). On multivariable logistic regression, female sex (mild aOR 1.96; moderate aOR 1.71), smoking status (mild aOR 1.66; moderate aOR 1.86), higher BMI (moderate aOR 1.05), and more comorbidities (mild aOR 2.41; moderate aOR 1.82) were all significantly associated with the development of mild and moderate infections.
Conclusion: In this prospective study, immune suppressive therapy was associated with mild and moderate infections of any kind in IBD patients. These infections particularly occur in females, smokers, patients with higher BMI and more comorbidities. This information should be considered in personalised treatment selection.

Small bowel permeability improvement is associated with microbial changes seen in mild to moderate active paediatric Crohn's disease patients on nutritional therapy

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Background: Barrier disruption leading to impaired intestinal permeability (IP) in Crohn's Disease (CD) has been associated with various processes, including (pro-inflammatory) cytokine production, impaired mucus production and altered tight junction protein expression. A recent study showed that healthy first-degree relatives of CD patients had abnormal IP which was associated with altered gut microbiome composition. We have previously reported that IP improves with nutritional therapy (by either Crohn's disease exclusion diet (CDED) or exclusive enteral nutrition (EEN)). We hypothesized this improvement in permeability might be associated with changes in the gut microbiome caused by nutritional therapy.
Methods: Paediatric participants with mild-to-moderate CD from a prospective clinical trial evaluating nutritional therapy (with CDED+PEN or EEN) for induction of remission were included (NCT01728870). A lactulose/mannitol (L/M) test for IP was performed at weeks 0 and 3 by administering a sugar solution containing lactulose (5 g) and mannitol (1 g) followed by urine collection for LC-MS/MS analysis. A cut-off L/M ratio 0.025 was used (Leibovitzh, Gastroenterology 2022). We compared 16S rRNA (V4V5) changes of dietary responders between weeks 0 and 6 to identify microbial changes associated with improved IP.
Results: Paired L/M ratios were available for 53 patients (26 CDED+PEN and 27 EEN). Normal L/M ratios were seen in 15/26 (58%) of CDED+PEN patients and 15/27 (56%) of EEN patients at baseline, which improved to 19/26 (73%) in CDED+PEN and 17/27 (63%) in EEN (generalized linear model,p=0.574) at week 3. Notably, 7/11 (63%) CDED+PEN patients with abnormal IP at baseline normalised, compared to 5/12 (41%) patients in the EEN group (NS). Dietary response has been shown to be associated with significant increases in Clostridia and decrease in Gammaproteobacteria (Gastroenterology 2019). Of dietary responders, IP "non-improvers" showed no significant changes in microbial composition, whereas "improvers" showed significant increases in different genera of Eubacteriales (Clostridia), accompanied by increase in Alphaproteobacteria (all $p<0.05$,LDA >2) at week 6.
Conclusion: A subset of patients with paediatric CD have impaired intestinal barrier function and disrupted intestinal permeability. Achieving clinical remission and improvement in IP share features of microbiome correction. Further study to characterise the effect of the microbiome and metabolome (including whole metagenome analysis) on IP, particularly within a dysbiotic state such as CD, is warranted.

MAGNIFI-CD index is appropriate for treatment monitoring in perianal Crohn's Disease

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Background: Perianal Crohn's Disease (pCD) is a complication which occurs in 30% of CD patients and is often refractory to treatment. MAGNIFI-CD index was developed (ADMIRE-CD data) to monitor treatment with MRI. Our aim was to validate the MAGNIFI-CD index on responsiveness, reliability and accuracy.
Methods: At two tertiary IBD referral centers, patients (≥16yrs) with complex pCD that had pelvic MRI before and 3-24 months after medical and/or surgical treatment were included. Two independent, blinded abdominal radiologists randomly scored total MAGNIFI-CD and its separate items. Two clinicians scored clinical outcomes (remission, response, non-response) using a physician global assessment (PGA) based on patient-reported symptoms, physical examination and need for re-intervention. Responsiveness (according to PGA; Wilcoxon signed rank test), interobserver agreement (ICCs or weighted k), and test accuracy (ROC analyses and YImax for response/remission with the follow-up (FU) MAGNIFI-CD) were determined.
Results: Sixty-seven patients (median age 30 [IQR 23-47], 51% female) were eligible with mean CD and pCD duration of 7.0 yrs (SD 8.7) and 3.7 yrs (SD 4.3), respectively. 44% was biological naïve, 9% had defunctioning ostomy and 20% had proctitis. 43% had a seton at baseline, 25% during prolonged FU. Baseline MAGNIFI-CD was 18 [IQR 9–20]. Between baseline and FU MAGNIFI-CD a decrease was observed in responders ($p<0.001$) and remitters ($p<0.001$), while MAGNIFI-CD remained constant over time in non-responders ($p=0.754$). MAGNIFI-CD had an almost perfect ICC of 0.88 (95%CI 0.78-0.92); reliability of the separate items was moderate to substantial. To discriminate for remission the AUROC was 0.90 (SD0.04), a YI of 0.79 resulted in a cut-off value ≤10 with a sensitivity/specificity of 88%/76%. To discriminate for response the AUROC was 0.82 (SD0.06), a YI of 0.64 resulted in a cut-off value of ≤14 with a sensitivity/specificity of 76%/78%. Alternatively, to discriminate for response an AUROC (in absolute and %-change) of respectively 0.79 (SD0.06) and 0.80 (SD0.06) was observed with cut-off values of ≤ -2 points and ≤ -25% with a sensitivity/specificity of 78%/78% and 63%/89%.
Conclusion: MAGNIFI-CD index is appropriate for treatment monitoring of pCD with MRI as it has a robust responsiveness to clinical change and almost perfect interobserver agreement. MAGNIFI-CD showed an acceptable to excellent test accuracy to determine response or remission. We suggest a cut-off value of ≤10 for remission at follow-up MAGNIFI-CD, while for clinical response a decrease of ≥ 2 or ≥ 25% would be more clinical relevant. These results support that MAGNIFI-CD is suitable for treatment monitoring in clinical trials.

Sexual functioning in patients with perianal fistulizing Crohn's disease

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Background: Perianal fistulizing Crohn's disease (pCD) may affect sexual function. However, studies on sexual function and pCD are scarce. This study aimed to evaluate the sexual function and to assess the correlation of sexual function with health-related quality of life (HR-QoL) in patients with pCD.
Methods: Patients with pCD were identified from an ongoing national multicenter prospective cohort study in 46 Dutch academic and non-academic hospitals. Patients were included in this analysis if clinical data was obtained and questionnaires on sexual function and quality of life were available. Sexual function was assessed with Female Sexual Function Index (FSFI) for female patients and International Index of Erectile Function (IIEF) for male patients. HR-QoL was assessed with Crohn's Anal Fistula Quality of Life (CAF-QoL) scale and the short IBD questionnaire (SIBDQ). Primary outcome was the prevalence of sexual dysfunction (SD), defined as FSFI <26.5 or IIEF <22. The correlation for SD with the CAF-QoL and SIBDQ was assessed with the Spearman's correlation test.
Results: Of the 255 included patients, 148 patients responded to the questionnaires (response rate 58.0%). At time of analysis, clinical data was obtained from 96 patients (64.9%) and, thus, included for this study. 50% of the patients were female with a mean age of 39.5 years (SD: 13.5). Mean CD disease duration and median pCD disease duration at inclusion comprised 11.3 years (SD: 10.4) and 3.0 years (IQR: 1.1 – 7.5). 53.2% of the patients had active luminal disease at time of inclusion. 32.3% of the patients had a seton in place and 13.5% had an ostomy. The majority of patients (80.2%) was treated with a biological (infliximab 45.5%, adalimumab 29.9%, vedolizumab 5.2% and ustekinumab 13.0%) at baseline. Treatment with a thiopurine, methotrexate or prednisolone was reported in 27.1%, 7.3%, 3.1%. Mean FSFI and mean IIEF score comprised 16.9 (SD: 12.3) and 18.1 (SD: 7.9). Overall reported SD was 56.3%. SD was significantly more prevalent in female patients as compared to male patients (68.8% vs. 43.8%, p=0.014). SD was not significantly more prevalent in patients with active luminal disease (p=0.094), who had a seton in place (p=0.45) or an ostomy (p=0.68) and in those who reported discharge (p=0.876) or perianal pain (p=0.610). SD was weakly correlated with the CAF-QoL scale (r=0.32) and the SIBDQ (r=-0.31).
Conclusion: Sexual dysfunction is highly prevalent in patients with pCD, especially in female patients. A weak correlation with the used HR-QoL questionnaires was observed. Therefore, a focused approach is warranted to identify potential limitations in sexual activities. When necessary, a referral to an expert may be considered.

Prevalence of IBD in the Netherlands: development and validation of machine learning models for administrative data

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Background: Treatment of IBD has improved with the introduction of biologics and small molecules, yet this has come with a considerable increase in healthcare costs. Due to the increasing cost burden, reliable nationwide epidemiological data on the prevalence of IBD is necessary to inform health policy makers, especially as the prevalence of IBD is forecasted to double between 2010 and 2030. We aimed to develop a model for identifying prevalent IBD cases in administrative data and to determine prevalence of IBD in the Netherlands.
Methods: Data on hospital care came from the Dutch National Hospital Care Basic Registration (Landelijke Basisregistratie Ziekenhuiszorg). This database contains data on all hospital admissions (since 1991), outpatient clinic visits (since 2017), and dispensations of biologics and small molecules (since 2015) of all hospitals in the Netherlands. Data on pathology reports were retrieved from the nationwide network and registry of histo- and cytopathology in the Netherlands (PALGA), this database contains coded pathology reports of all Dutch hospitals since 1991. These datasets were combined with a reference cohort with a verified IBD diagnosis (yes/no) and demographics for all patients. Models were trained to optimise the F-score and evaluated using five-times repeated ten-fold cross-validation. The best performing model from cross-validation was applied to assess IBD prevalence in the Netherlands.
Results: The reference cohort consisted of 10,155 patients, of which 3,381 were diagnosed with IBD. All models performed well in the cross-validation procedure, with F-scores of 0.870 and higher. The use of more flexible models led to improved performance, with gradient boosted trees performing best in the cross-validation procedure. When applying the gradient boosted trees model to the general population, a prevalence of 691 per 100,000 was found for IBD in the Netherlands on 31-12-2020. Cases are unevenly distributed throughout the Netherlands, with the highest incidence in the south (Middle Limburg: 936 per 100,000 inhabitants) and the lowest in the northwest (Amsterdam: 545).
Conclusion: Prevalent IBD cases can be identified from administrative data using a gradient boosted trees model. Using this model, we have shown that prevalence of IBD in the Netherlands is increasing. However, while prior studies have predicted a growth in prevalence of 50% over the last 10 years, we found that IBD prevalence has only increased by 12% in that time range. The lower increase in prevalence may be predictive of a transition to the fourth epidemiological stage of IBD, aptly named Prevalence Equilibrium.

Intestinal ultrasound is accurate for detecting intra-abdominal complications in Crohn's disease: a meta-analysis

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Background: The clinical course of Crohn's disease (CD) is associated with development of complications including strictures, fistulas and abscesses. Close disease monitoring and optimizing therapy can prevent these complications. Intestinal ultrasound (IUS) is a non-invasive cross-sectional imaging method ideal for frequent assessment of disease activity and intra-abdominal complications. In this meta-analysis we provide an updated assessment of the diagnostic accuracy of IUS and its advanced modalities in the detection of CD related complications compared to endoscopy, MRI/CT and surgery/pathology.
Methods: We conducted a literature search in Pubmed/MEDLINE and EMBASE databases from 01-01-1970 up to and including 17-10-2022 for studies describing diagnostic accuracy of IUS in adult patients with CD related complications. Quality of the studies was assessed by the QUADAS-2 tool. A univariate random-effects model was used to calculate the diagnostic test accuracy variables, including the log diagnostic odds ratio and area under the pooled ROC (AUC). All data were calculated with 95% confidence intervals. Chi-squared test was used to assess study heterogeneity with $p < 0.05$ indicating significant heterogeneity. Funnel plots were created to assess publication bias. All meta-analysis were performed using the R-package mada. We calculated pooled sensitivity and specificity in Meta-DiSc.
Results: We identified 1506 studies of which 23 studies with 3863 patients were included in this meta-analysis with an overall moderate to high risk of bias. Overall pooled sensitivity and specificity for strictures, fistulas and inflammatory masses by IUS were 0.81 (0.78-0.84) and 0.91 (0.90-0.93), 0.90 (0.85-0.94) and 0.89 (0.87-0.92), 0.80 (0.72-0.87) and 0.97 (0.96-0.99), respectively. In total 6 meta-analyses were performed, both for conventional IUS (B-mode) and oral contrast IUS (SICUS) for diagnosing CD-related complications. Pooled overall log diagnostic odds ratio for strictures, fistulas and inflammatory masses by B-mode were 3.56 (2,90-4.21), 3.84 (3.28-4.41) and 3.97 (3.30-4.64) and the AUC were 0.926, 0.896 and 0.960, respectively. Pooled overall log diagnostic odds ratio by SICUS were 4.51 (3.28-5.73), 4.80 (3.46-6.14) and 5.46 (3.61-7.30) and the AUC were 0.955, 0.982 and 0.985, respectively. Significant heterogeneity was seen between studies reporting data on diagnosing strictures by B-mode.
Conclusion: These results indicate that IUS is an accurate tool for the diagnosis of intra-abdominal complications related to CD. IUS as a non-invasive, point-of-care modality is recommended as the first-line imaging tool if there is a suspicion of CD-related intra-abdominal complications.

PREFAB-study: PRediction tool for Early identification of patients at risk of Crohn's disease in perianal Fistulas and ABscesses: interim analysis of a prospective pilot study at a non-academic, IBD-expert centre in the Netherlands

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Background: Perianal abscesses (PAA) and perianal fistulas (PAF) are life impairing conditions associated with Crohn's disease (CD). A retrospective study at Flevohospital showed a reduced median delay in diagnosis of CD from 33 months (IQR 23-64) in the period 2007-2016 to 3 months (IQR 0-5) in the period 2017-2021, with <20% of patients diagnosed within 1 year after the first perianal surgical procedure in 2007-2016 versus 79% in 2017-2021. This study also showed CD in up to 10% of patients with PAA/PAF, which was reason to continue data collection in a larger prospective pilot study to identify risk factors for CD in patients presenting with PAA/PAF.
Methods: All consecutive patients ≥16 years presenting with PAA/PAF were included. Patients were prospectively screened for risk factors/red flags from a 'perianal Red Flag Index Questionnaire' (pRFI) (identified from previous literature searches/expert opinion) and fecal calprotectin (FC-)samples were taken in all patients. Colonoscopy was performed in case of ≥5 positive answers in the pRFI and/or FC-values ≥150mcg/g.
Results: Sixty-nine patients were included (72,5% male) with median age of 41 years (IQR 30,5-54,6). Thirty-five patients (50,7%) presented with PAA, whereas 34 patients presented with PAF (49,3%). Thirty-one patients (44,9%) had recurrent PAA/PAF. Additional colonoscopy was performed in 11 patients, in whom 5 patients (7,2%) eventually were diagnosed with CD with a median delay of 44 months (IQR 7,5-87,5, still 5 patients in diagnostic work-up). Median FC-values were 552mcg/g (IQR 198,5-4585) in patients with confirmed CD and 31,5mcg/g (IQR 10-102,75) in patients without CD (p=0,002). Risk factors associated with CD were a younger age, presence of PAF (compared to PAA only), higher number of previous perianal interventions, multiple internal fistula openings, fissures and proctitis (p<0,05 in all).
Conclusion: This pilot study reveals several risk factors associated with CD in patients presenting with PAA/PAF and forms the basis for development of a clinical decision tool that incorporates both the pRFI questionnaire and selected FC-measurement to early identify patients at risk of CD when presenting with perianal disease. This clinical decision tool will be subject of a larger prospective multicentre study to reduce diagnostic/treatment delay, thereby improving outcomes in patients with Crohn's fistulas.

Global perception of normal life by healthcare professionals and IBD patients: mind the gap

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Background: For patients living with inflammatory bowel diseases (IBD), the ultimate treatment goal is "normal life". However, no patient-reported outcome measurement (PROM) exists to measure the level of life normality in IBD. We previously asked patients across the world (5 continents) to identify and rank-order items important to their "normal life". The top-25 ranked items are being used for subsequent PROM development. In this study, we aimed to compare the perception of healthcare professionals (HCP) and patients with IBD on normal life.

Methods: IBD patients without an ostomy, pouch or significant comorbidities were interviewed *in their mother tongue* in 5 continents about "normal life" using a semi-structured interview guide. All items indicated as important were extracted from translated transcripts using directed content analysis until saturation of items occurred. Categorisation was guided by the Wilson's & Cleary's Quality of Life model. Second, in an online Delphi procedure, interviewed patients and HCP from each participating centre scored importance of each item on a 0-10 scale. Items scored 7 or higher by >75% were considered important to the respective group. Patient-ranked items were then presented to a patient focus group to clarify wording and merge similar items. Items merged in the patient focus group were merged similarly in HCP rankings. Third, HCP- and patient-rankings were compared. We compared top-25 items selected for PROM development and top-3 items per category.

Results: 45 CD and 40 UC patients spread over 6 countries were interviewed (median age 36, 56% male, 68% employed, median disease duration 7 years [IQR 4-15]). Saturation occurred after 33 CD and 36 UC interviews, yielding 156 unique items. In the Delphi procedure, 54 patients considered 31 items important for normal life with IBD of which 25 remained after focus group discussion. 34 HCP (12 IBD nurses, 16 IBD gastroenterologists, 6 colorectal surgeons) considered 72 items important.

Top-25 rankings overlapped in 15 items between patients and HCP, being 5 of 12 physical, 1 of 4 activities, 2 of 3 social, 4 of 11 psychological items and 3 of 5 circumstances. Top-3 rankings per category overlapped in 2 physical, 1 activities, 2 social, 1 psychological items and 2 circumstances.

Conclusion: We identified discrepancies in the perception of normal life with IBD between patients living with IBD and healthcare professionals (HCP). Of top-25 selected items for PROM development, 15 items overlapped between patients and HCP. Of top-3 items per category, the least overlap was seen in activities and psychological items. PROM development and international validation is ongoing.

Change in Dietary Inflammatory Index Score in patients with Crohn's disease and healthy household members following the Groningen Anti Inflammatory Diet (GrAID)

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Background: Dietary patterns play an important role in Inflammatory Bowel Disease (IBD). The Dietary Inflammatory Index (DII) is a diet quality score that estimates the inflammatory potential of a dietary pattern on inflammatory markers. Recently, the Groningen Anti-Inflammatory Diet (GrAID) was developed to improve disease course in patients with IBD. The aim of this study is to investigate whether following the GrAID improves diet quality based on the DII compared to baseline intake in patients with Crohn's disease (CD) and healthy household members (HHM).
Methods: Between October 2021 and October 2022, patients with CD and HHM completed a 12-week GrAID intervention as part of an ongoing trial: VITA-GrAID (NCT04913467). In this sub analysis, nutrient intake from a 3-day food diary was calculated at baseline (T0; habitual diet) and after 12 weeks (T3; following the GrAID), using Evry software (version 2.3.7.0). At both timepoints the DII score according to the Shivappa method was calculated, based on 28 food parameters. Next, both scores were compared to the DII score of the GrAID, calculated assuming complete adherence to the GrAID. A lower DII score is regarded to having a higher anti-inflammatory potential. Paired nonparametric tests (Wilcoxon signed-rank) were performed to calculate differences between T0 and T3. Data were analysed using R (2021.09.0) and IBM SPSS Statistics 28.
Results: 18 individuals completed the 12-week GrAID intervention (12 patients with CD; 6 HHM). Median age was 39 years [IQR 23-68]. In patients, median screening faecal calprotectin was 228 [IQR 110-1752] and CDAI was 75 [IQR 18-211]. Between T0 and T3, significant increases were found in fibre (+16.5g), total protein (+21g), total plant protein (+14g), vitamin B2 (+0.29ug) and beta carotene (+1837ug) intake. Significant decreases were found in mono- and disaccharides (-18g), alcohol (-5.3g), and sodium (-875mg) intake. The median DII score at T0 was -0.112, [IQR -1.269; 1.362] and was significantly lower at T3 (median -2.040; [IQR -2.588; -1.417], $p<0.05$). Median DII score in patients with CD differed significant between T0 and T3 (0.323, [IQR -1.3897; 1.523] vs -2.040, [IQR -2.665; -1.549] respectively, $p<0.05$), but not in HHM (-0.692, [IQR -1.127; 0.566] vs -1.998, [IQR -2.441; -1.336] respectively, $p=0.09$).
Conclusion: These preliminary results show that diet quality improved in patients with CD following the GrAID for 12 weeks. For HHM, probably more participants are needed. Further research is necessary to determine whether a lower DII score will actually improve the disease course of patients with CD and the diversity of the microbiome in both CD and HHM.

Computer-aided diagnosis (CADx) improves characterization of barrett's neoplasia by endoscopists

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Background: Endoscopic detection of early neoplasia in Barrett esophagus (BE) generally is a two-step process of primary detection using white-light endoscopy (WLE) in overview, followed by targeted characterization of abnormalities by optical chromoscopy techniques such as narrow-band imaging (NBI). Endoscopists however struggle with detailed characterization of BE neoplasia, resulting in suboptimal diagnostic accuracy and poor inter-observer agreement. Our aim was to develop, validate and benchmark a deep-learning NBI-based CADx system for BE neoplasia.
Methods: The CADx system was pre-trained using ImageNet, followed by domain-specific pre-training with GastroNet using a dataset of 5 million images of wide endoscopic variety. This pre-trained system was subsequently trained and internally validated using 1754 NBI images of early BE neoplasia of 348 patients and 1838 NBI images of non-dysplastic BE of 197 patients, obtained in 8 international centers. The CADx system was designed to classify images or videoframes as either neoplastic or non-dysplastic. If the system could not reliably classify the imagery it was registered as "failure to classify". Video classification was based on a stability algorithm which provided a weighted prediction in real-time. The CADx system was tested on a corresponding image and video test set (i.e. images and videos were recorded of the same region of interest). The two test sets both consisted of 30 cases (20 patients) of BE neoplasia and 60 cases (31 patients) of non-dysplastic BE, which were not included in the training dataset. The video test set was benchmarked by 44 general endoscopists in 2 phases. In phase 1 endoscopists evaluated all cases without CADx assistance. In phase 2 endoscopists evaluated the same test set in a random order with CADx assistance. Finally, 10 international, independent BE experts evaluated this test set.
Results: Stand-alone sensitivity, specificity and "failure to classify" of the CADx system were 100%, 98% and 26% for images and 93%, 96% and 14% for videos, respectively. Sensitivity and specificity of general endoscopist increased from 84% to 96% and 90 to 96% with CAD assistance ($p<0.001$), respectively. CADx outperformed general endoscopists without CADx assistance in terms of sensitivity ($p=0.04$). CADx assistance furthermore increased endoscopists' confidence in characterization ($P<0.001$).
Conclusion: CADx assistance significantly increased characterization performance of BE neoplasia by general endoscopists to the level of expert endoscopists. The use of this CADx system may thereby improve daily Barrett surveillance.

Video-based computer aided detection system detects Barrett's neoplasia with high accuracy during live endoscopic procedures: a multi-center pilot and feasibility study

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Background: Computer Aided Detection (CADe) systems have the potential to improve endoscopic detection of early neoplasia in Barrett's Esophagus (BE) patients. We aimed to test a recently developed CADe system during live endoscopic procedures.
Methods: The CADe system was developed using a large and heterogeneous BE training dataset including 6.237 neoplastic (1.304 patients) and 7.595 non-dysplastic images (1.103 patients). Subsequently, it underwent rigorous external validation by means of multiple ex-vivo benchmarking studies. In this pilot study, the CADe system was evaluated during endoscopic procedures of BE patients with a neoplastic lesion or with non-dysplastic Barrett's esophagus (NDBE) in two tertiary hospitals. The protocol comprised a sequence of white light endoscopy videos obtained by a BE expert endoscopist with real-time evaluation and feedback by the CADe system. First, the Barrett's segment was completely visualized with a standardized pullback video, starting at the gastric folds up to the maximum extent of the Barrett's segment. Thereafter, every 2 centimeters of the Barrett's segment, a 10 second overview video was recorded, starting in retroflexed position. Ground truth (the presence or absence of visible abnormalities requiring targeted biopsy) was established by the endoscopist before starting the protocol, followed by post-hoc histopathological confirmation (by targeted biopsies/endoscopic resection or acquisition of random biopsies). Outcome measure was the stand-alone performance of the CADe system in terms of sensitivity and specificity per patient.
Results: A total of 15 neoplastic and 15 NDBE patients were enrolled in the study. The CADe system correctly detected all neoplastic lesions on a per patient basis, resulting in a sensitivity of 100%. 14 out of 15 visible lesions were correctly diagnosed in the pullback videos. The missed neoplastic lesion was subsequently detected in the level videos. The CADe system incorrectly predicted neoplasia in 8 NDBE patients. Extrapolated to clinical practice, this would result in one additional targeted biopsy per patient whereas the mean Barrett length in this study would dictate 16 random biopsies. Histopathological examination confirmed neoplasia in 13 neoplastic cases (11x adenocarcinoma, 2x high-grade dysplasia), 2 cases did not contain dysplasia. In 4 cases in the non-dysplastic group, low-grade dysplasia was found in the random biopsy protocol.
Conclusion: This study is one of the first to evaluate a CADe system for real-time BE neoplasia detection in the endoscopy suite. The system correctly diagnosed all neoplastic lesions against the background of an acceptable number of false positive detections.

Significant impact on health care utilization upon implementation of an electronic IBD care management program

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Background: The management of Inflammatory Bowel Diseases (IBD) remains to be a significant challenge because of its unpredictable clinical course and high associated costs. Recently, we implemented an electronic IBD care management program, provided by DEARhealth BV, which offers care pathways that configurate according to individual IBD risk profiles, called THINK. High-risk (HR) IBD patients (current biochemical disease activity) will receive more intense monitoring and provider interactions compared to Low-risk (LR) (>3 years in remission) and Intermediate-risk (IR) (other patients) individuals. In this project, we aimed to assess whether 1, current healthcare utilisation (HCU) (consultations, lab tests, calprotectin (FCP)) differs between risk groups and 2, what the effect of implementing THINK would be on HCU (focused on consultations and lab tests) in a retrospective-analysed population.
Methods: 161 consecutive IBD patients in hospital A, categorized in either the HR or IR group, were studied prospectively during 1 year before the implementation of THINK. HCU was captured using an electronic medical record (EMR) and included consultations, lab tests, and FCP. Furthermore, HCU in the years 2018-2019 in the IBD population of hospital B was studied (extraction of EMR). This historical data was compared to the fictive THINK care path when optimally implemented. The analysis focused on the activities present in de THINK care pathway (consultations and lab tests) to uncover the potential of the electronic IBD care management program.
Results: In hospital A, 161 patients were followed of whom 102 patients (60 Crohn) were assigned to the IR group and 59 patients (29 Crohn) to the HR group. Mean age was 42±11.5 years with a mean disease duration of 14.3 ± 11.5 years. As expected, significantly more HCU was present in the HR group with twice as many consultations (IR:4; HR:8) and more laboratory tests (IR: 3 lab test, 2 FCP; HR:5 lab test, 3 FCP). In hospital B, the HCU impact assessment was performed in the IBD cohort of 543 Crohn and 495 colitis patients. A difference in outpatient clinic consults was calculated of -52,7% (HR), -53.5% (IR), and -29,3% (LR). The difference in lab tests utilization was found -54,0% (HR), -27.8% (IR), and -3,1% (LR).
Conclusion: Our initial experiences with a novel IBD management program demonstrated a significant impact on utilization patterns due to the risk-based care pathway configurations. However, the analysis shows the ideal fictive situation when using standardized care pathways which cannot fully be considered a real-time situation. In this analysis, no unexpected events are included. Future research should investigate the realization of these predictions.

A tissue systems pathology test has significant clinical utility to standardize management leading to improved health outcomes for Barrett's esophagus patients with low-grade dysplasia

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Background: Confirmed low-grade dysplasia (LGD) is a predictor of progression to high-grade dysplasia (HGD) and esophageal adenocarcinoma (EAC) in patients with Barrett's esophagus (BE). However, pathology review of BE biopsies is prone to observer variability. As such, LGD represents a heterogenous pool, and a patient's management plan and outcome can vary significantly depending on which pathologist reviews their slides. Recent studies have shown that a tissue systems pathology test (TSP-9) outperforms pathology review in risk-stratifying BE patients with community-based diagnoses of LGD. This study aimed to evaluate the clinical utility of the TSP-9 test to improve management decision and health outcomes for BE patients with community LGD.
Methods: 154 BE patients with community LGD from the screening cohort of the SURF trial were evaluated. Baseline biopsies were independently reviewed by 14 expert and 16 generalist pathologists from five countries and tested by the TSP-9 test. Patient management decisions were simulated 500 times with varying pathology reviewers to determine the most likely care plan with or without use of TSP-9 for guidance. The percentage of patients receiving appropriate management was calculated based on the known progression/non-progression outcome.
Results: Use of the TSP-9 test with standard of care (SOC) pathology significantly increased the percentage of BE patients receiving appropriate management from a median of 80.8% (IQR, 64-92) with SOC to 100% (IQR, 81-100) (P=0.0007) when the test results were used to guide management decisions for progressors and non-progressors. A similar improvement in appropriate management was observed when TSP-9 results were used with one pathology diagnosis (without expert review of LGD), and when only TSP-9 results were used to guide decisions. The percentage of patients with 100% of simulations resulting in appropriate management increased from 9.1% for pathology alone, to 31.8% and 58.4%, respectively, when TSP-9 results were used with one pathology review or SOC pathology, and further increased to 77.3% of patients receiving appropriate management when only TSP-9 test results were used.
Conclusion: The TSP-9 test demonstrated significant clinical utility to improve health outcomes by providing objective risk stratification to target early therapeutic intervention or close surveillance to patients who progress to HGD/EAC, and by reducing unnecessary endoscopies in BE patients who will not progress. Optimal utility was obtained when TSP-9 results were used independently, indicating the test can guide management decisions for BE patients across a variety of practice settings.

Network meta-analysis to evaluate the comparative efficacy of intravenous and subcutaneous infliximab and vedolizumab in the maintenance treatment of adult patients with Crohn's disease and ulcerative colitis

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Background: Network meta-analysis (NMA) using randomised controlled trial (RCT) data can provide indirect evidence on comparative efficacy of various treatments. The NMA reported herein was conducted to evaluate infliximab (IFX) and vedolizumab (VDZ) comparative efficacy during maintenance treatment of moderate-to-severe Crohn's disease (CD) and ulcerative colitis (UC), covering various dosing regimens and administration routes for each biologic.
Methods: Studies were identified by literature searches that included publications up to 1 November 2022. Parallel-group RCTs evaluating IFX or VDZ (intravenous [IV] or subcutaneous [SC]) for maintenance treatment of adult patients with moderate-to-severe CD or UC that reported clinical remission rates were included. Eligible studies treated patients for a minimum of 22 weeks, with follow-up of 30–60 weeks for maintenance. Clinical remission rates in tumour necrosis factor inhibitor (TNFi)-naïve patients from each study were analysed in a Bayesian NMA fixed-effect model.
Results: Overall, 13 RCTs were identified and included in the analysis. The difference in study design between IFX (treat-through) and VDZ (re-randomisation of induction responders only) was noted. A connected network of evidence could be generated using CD and UC studies. In both CD and UC, IFX SC 120 mg had the highest odds ratio (95% confidence interval [CI]) vs. placebo for clinical remission during the maintenance phase (CD: 5.90 [1.90–18.2]; UC: 5.45 [1.94–15.3]), albeit with the CIs overlapping with the CIs of the other tested regimens. In both CD and UC, IFX SC 120 mg ranked highest for clinical remission among the biological agents, dosing regimens, and routes of administration tested.
Conclusion: In both CD and UC, IFX SC showed a favourable efficacy profile for achieving clinical remission during maintenance treatment of TNFi-naïve adult patients, when compared with the other IFX IV or VDZ IV/SC regimens tested.

Colonoscopy surveillance in Lynch syndrome is burdensome and frequently delayed

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Background: Subjects with Lynch syndrome have an increased colorectal cancer risk, hence, are advised to undergo biannual colonoscopy surveillance. We aimed to investigate patients' perception and preferences regarding colonoscopy surveillance, and to further explore compliance behaviour.
Methods: Subjects with Lynch syndrome received a validated survey evaluating experiences of most recent three colonoscopies. Subjects were non-compliant to surveillance if the interval between colonoscopies differed by ≥6 months from the recommended interval.
Results: In total, 217 of 311 (70%) subjects returned the questionnaire. Colonoscopy surveillance was mostly performed biannually (98%), under mild sedation (76%) and with bowel preparation performed by Moviprep® (95%). In total, 56% of subjects perceived surveillance as moderately to extremely burdensome, and 22% as impacting quality of life. To reduce the burden, patients prioritised improvements in amount and taste of bowel preparation, laxation-related bowel movements, waiting times, and more personal and respectful approach of endoscopic staff. Additionally, 60% of subjects would favour less-invasive surveillance modalities such as biomarkers.
In total, 28% of subjects had delayed colonoscopy surveillance and an additional 10% considered quitting/postponing surveillance. Upon multivariable analysis, patient-related delay was associated with low or medium education, having undergone ≤4 colonoscopies and no hospital recall-system.
Conclusion: Colonoscopy surveillance in Lynch syndrome is often experienced as burdensome, and is frequently delayed. We identified determinants of surveillance behaviour in this population, and potential interventions to lower the burden and non-compliance rates.

Long-term impact of the COVID-19 pandemic on inflammatory bowel disease healthcare utilization: A two-year nationwide update

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Background: The COVID-19 pandemic has profoundly impacted utilization of inflammatory bowel disease (IBD) healthcare, with a large reduction in scheduled procedures in the early phase of the pandemic. In this current nationwide study, we aimed to determine the impact of consecutive COVID-19 waves on IBD healthcare utilization including IBD-related diagnoses and procedures during the first two years of the COVID-19 pandemic.
Methods: We conducted a search in the Dutch nationwide pathology databank (PALGA) to identify IBD patients who underwent an IBD-related procedure between March 1, 2018 and February 28, 2022. We determined the incidence of IBD-related endoscopic and surgical procedures, new IBD diagnoses and neoplasia diagnoses (indefinite (IND), low-grade (LGD), high-grade dysplasia (HGD) and colorectal cancer (CRC)) during the first two years of the COVID-19 pandemic in the Netherlands (March 2020 – February 2022). The mean incidence of the previous two years (March 2018 – February 2020) served as a comparator.
Results: Our search yielded 89,401 (94.2%) endoscopic and 5,462 (5.8%) surgical procedures. We calculated a net reduction of 2.9% (1,391 IBD procedures) after the first two years of the COVID-19 pandemic compared to the two pre-pandemic years (endoscopic procedures: -3.1%, n=1,409; surgical procedures: +0.7%, n=18, figure 1). For both endoscopic and surgical procedures, an initial net decrease after the first pandemic year was followed by a net increase after the second year (-6.2% (n=1,413) versus +0.02% (n=4) and -1.3% (n=18) versus +2.7% (n=36), respectively). A net reduction of 0.9% (n=54) in new IBD diagnoses was observed over the first two years of the COVID-19 pandemic (first year: -0.8%, n=24; second year: -1.0%, n=30). A net reduction of 1.9% (n=74) in IND/LGD diagnoses was observed after the two-year pandemic period (first year: -10.9%, n=213: second year: +7.1%, n=139). No net decrease was seen for HGD and CRC diagnoses.
Conclusion: In this nationwide cohort study covering the first two pandemic years, we observed a mitigation of the initial reduction of IBD-related procedures after the first COVID-19 wave. This illustrates the rapid adaptation of the national IBD healthcare system during subsequent COVID-19 peaks.

Patients with Immune Mediated Inflammatory Diseases are insufficiently protected against vaccine-preventable influenza and pneumococcal infections due to low vaccination rates

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Background: Patients with Immune Mediated Inflammatory Diseases (IMIDs) treated with immunosuppressive drugs are at an increased risk of infections and a more complicated course of the infection, including vaccine-preventable infections. National and international guidelines have specified vaccination strategies in patients with IMIDs. However, the adherence to these guidelines in clinical practice is uncertain. Therefore, we evaluated the current vaccination status of patients with IMIDs at the outpatient clinic of the Erasmus MC Rotterdam.
Methods: Between August 2022 and October 2022 a survey was sent out to patients with various IMIDs at the rheumatology, dermatology and gastroenterology outpatient clinics. Only patients on immunosuppressive treatment were included. The survey contained questions on patient demographics, disease characteristics and current vaccination status.
Results: The survey was sent out to 3,345 patients with IMIDs, of whom 1,094 patients filled in the questionnaire (response rate 32.7%). Patients were treated by a dermatologist (n=306), gastroenterologist (n=414) or rheumatologist (n=527). Mean age was 51 ± 16 years and 40.8% were male. Patients with rheumatoid arthritis had the highest mean age of 56 ± 16 years. Overall, 55.1% of patients received a yearly influenza vaccination and 9.2% occasionally. Furthermore, 8.7% of patients received the pneumococcal vaccination five-yearly and 1.4% occasionally. Both the influenza and pneumococcal vaccination rates were highest in patients with rheumatoid arthritis (64.1%, and 14.7%, respectively). On the contrary, patients with hidradenitis suppurativa had the lowest rates for both the influenza vaccination (32.3%) and pneumococcal vaccination (n=0). Overall, 91.7% of patients (n=1,003) received one or more COVID-19 vaccinations, of which 98.5% (n=988) were fully vaccinated and 77.6% received one or more booster vaccinations (n=778).
Conclusion: Patients with Immune Mediated Inflammatory Diseases are insufficiently protected against vaccine-preventable infections due to low vaccination rates. Better implementation strategies of current guidelines on seasonal influenza vaccination and pneumococcal vaccination are required. A high rate of COVID-19 vaccination was observed, possibly indicating the willingness of patients to receive vaccinations. Further research into facilitators and barriers to vaccination in these specific patient populations is required.

A prediction model for successful increase of adalimumab dose intervals: analysis of the pragmatic open-label randomised controlled non-inferiority LADI trial

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Background: We showed in the pragmatic open-label randomised controlled non-inferiority LADI trial that increasing adalimumab (ADA) dose intervals was non-inferior to conventional dosing for persistent flares in Crohn's disease (CD) patients in stable remission, while infection-related adverse events (AE) were reduced. This was counterbalanced by lower rates of clinical remission and more gastro-intestinal AEs. In the current study we aimed to develop a prediction model to identify patients who could successfully increase their ADA dose interval.Methods: This is a secondary analysis of the LADI trial. In the intervention group, patients in steroid-free clinical remission for ≥ 9 months (Harvey-Bradshaw Index < 5, CRP < 10 mg/L and faecal calprotectin (FCP) < 150 µg/g), on ADA dosing every two weeks increased ADA intervals to 3 and then to 4 weeks. A successful dose interval increase was defined as: no persistent flare (>8 weeks), no intervention-related severe AE, no rescue medication use, and an increased dose interval >2 weeks while in clinical and biochemical remission at week 48. Candidate baseline predictors were selected after a study group consensus meeting. Prediction models were based on logistic regression. Four variable selection strategies were used: inclusion of all variables as a naïve reference model, stepwise backwards regression, LASSO with minimal lambda, and LASSO using the 'one standard error' rule. Models were evaluated on discrimination, calibration and net benefit. Models were internally validated using bootstrap optimism correction.Results: The four models were developed on 109 patients, of which 59.1% experienced the outcome of successful dose interval increase. Apparent performance of the models was moderate, with areas under the receiver operating characteristic curves (AUC) between 0.70 and 0.74. Calibration for the naïve model and backwards selection was good, but LASSO-based models gave too moderate risk predictions. Internal validation showed optimism-corrected AUCs for all models around 0.62, meaning that model performance was overestimated. Optimism-corrected calibration estimates for the naïve model and backwards selection showed too extreme predictions and LASSO-based models again showed too moderate predictions. Net benefit analysis showed no situations in which the prediction models could inform clinical decision making.Conclusion: After 48 weeks, around 60% of patients successfully increased their ADA dose interval without negative clinical impact, but these could not be identified with a series of prediction models. Risks and benefits of this strategy should be discussed with individual patients based on their risk perception and medication preferences.

Ultrasound-guided needle biopsy fluorescence spectroscopy with quantitative fluorescence endoscopy for response monitoring in patients with esophageal cancer after neoadjuvant chemoradiotherapy using bevacizumab-800CW

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Background: Quantitative fluorescence endoscopy (QFE) enables real-time in vivo visualization and quantification of targeted fluorescence tracers and can thereby highlights tumor tissue. QFE has proven its potential in detection of residual disease but is limited to the mucosal side only. Ultrasound guided needle biopsy (USNB) reflectance spectroscopy potentially enables assessment of lymph nodes and all esophageal wall layers. This pilot study evaluates the clinical impact of USNB fluorescence spectroscopy using bevacizumab-800CW for the identification of residual tumor in patients with esophageal cancer.
Methods: Patients diagnosed with locally advanced esophageal adenocarcinoma (cT1b-4a N0-3 M0) scheduled for neoadjuvant chemoradiotherapy (CROSS) followed by surgery were included. Patients were intravenously injected with either 4.5, 10 or 25 mg bevacizumab-800CW 2-3 days prior to the QFE to establish the optimal dose. FME collected real-time white light and fluorescence images of the tumorbed and normal esophageal tissue. Quantitative fluorescent measurements were acquired luminal using multi-diameter single fiber reflectance / single fiber fluorescence (MDSFR/SFF) and inside the esophageal wall and within lymph nodes using USNB fluorescence spectroscopy. Additionally, optical properties like the reduced scattering coefficient and absorption coefficient were determined from the MDSFR/SFF data.
Results: Fifteen patients were included in the dose-escalation, where 25mg had the best differentiation between tumorbed and normal tissue (TBR: 2.63±0.60, p=0.0002). USNB was evaluated in 6/8 patients from the 25mg cohort. The tumorbed (p=0.059) and lymph nodes (p=0.041) showed a higher fluorescence intensity compared to normal tissue, as expected. Fluorescence measurements of normal tissue were comparable between the luminal MDSFR/SFF and USNB measurements. In 33% of all patients residual tumor was found only below a tumor-free mucosa. Last, the optical properties, the reduced scattering coefficient and absorption coefficient at 800nm, both showed a trend between normal tissue and amount of residual tumor. This trend was decreasing for the scattering and increasing for the absorption.
Conclusion: In the present study we showed the potential of bevacizumab-800CW and QFE for response monitoring in esophageal cancer. QFE allows for both superficial and deeper tissue measurements to determine both the targeted fluorescence tracers and optical properties in vivo. A phase II study should establish the sensitivity and specificity of this bevacizumab-800CW and QFE and its additional value for response monitoring for individual patients.

Reporting Dutch National Outcomes after Gastrectomy According to the Gastrectomy Complications Concensus Group (GCCG)

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Background: In 2019, the Gastrectomy Complications Consensus Group (GCCG) provided a list of complications to standardize complication reporting after gastrectomy for gastric cancer, to which the Dutch Upper Gastrointestinal Cancer Audit (DUCA) was amended in 2020. The aim of this study was to report postoperative morbidity and mortality after gastrectomy in the Netherlands according to the definitions of the GCCG.
Methods: This nationwide, population-based cohort study included all patients undergoing gastrectomy for gastric cancer registered in the DUCA in 2020-2021. The investigated outcomes consisted of postoperative morbidity and 30-day/in-hospital mortality according to the definitions of the GCCG. For all patients, baseline characteristics and outcomes were compared with the European cohort of the GCCG study (2017-2018).
Results: In total, 726 patients underwent a gastrectomy in the Netherlands in 2020-2021. Complications occurred in 184 (25.3%) patients in the Netherlands, developing a total of 330 complications. The most common complications were non-surgical infections (30.0%), anastomotic leakage (12.1%) and postoperative bowel obstruction (10.0%). Patients in the Netherlands had significantly higher ASA-scores and neo-adjuvant treatment rates, whilst open surgery was significantly more performed in the GCCG cohort (N=1349). In the Netherlands, a lower complication rate was observed compared to the GCCG cohort (25.3% vs. 29.8%, p=0.038). Postoperative 30-day/in-hospital mortality was 4.0% in the Netherlands compared to 3.6% in the GCCG cohort.
Conclusion: Reporting outcomes after gastrectomy according to the standardized GCCG list allows for international benchmarking. Differences in baseline characteristics and postoperative outcomes after gastrectomy exist between the European GCCG cohort and patients treated in the Netherlands.

Factors associated with retreatment outcome in treated achalasia patients with recurrent symptoms

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Background: A subgroup of patients with achalasia develops recurrent symptoms after initial treatment. It is not always clear which patients will benefit from retreatment, in particular when symptoms are atypical. Symptoms can be due to an obstructive lower esophageal sphincter, but also due to absent esophageal contractility. Measuring esophagogastric junction (EGJ) parameters and stasis on timed barium esophagram (TBE) may be useful in predicting retreatment outcome. Aim of our study was to investigate factors that can be used as predictors for symptomatic response in treated achalasia patients.
Methods: An ongoing prospective inception cohort study was performed in achalasia patients with recurrent symptoms after treatment, regardless of type of previous treatments. Consecutive patients were assessed by Eckardt symptom score and by high-resolution manometry, TBE and EGJ distensibility measurement using Endoflip before retreatment. EGJ distensibility index (DI) was measured at 40ml balloon volume using a 14 cm balloon. Eckardt symptom score was reassessed 3 months after retreatment, where a score of <3 plus a reduction of >2 points was considered as good symptomatic response.
Results: A total of 25 patients (9 female; mean age 56 years (standard deviation 16) with recurrent symptoms were included, having a baseline Eckardt score of 5 (4-6) (median (interquartile range)). Patients were retreated with pneumatic dilation (n=13), laparoscopic heller myotomy (n=6) or per-oral endoscopic myotomy (n=6). Eckardt scores reduced significantly after retreatment to 1 (0-3) (p<.001), 16 patients (64%) achieved good symptomatic response after retreatment. In the group with good symptomatic response, barium column height at 5 minutes prior to retreatment was 5.7 cm (2.0-8.0), compared to 3.0 cm (2.0-3.5) in the group with poor symptomatic response (p=.207). DI was 1.1 mm^2/mmHg (0.6-3.0) in the group with good responders and 3.0 mm^2/mmHg (0.8–4.8) in the group with poor-responders (p=.357). Median integrated relaxation pressure (IRP-4) in the responders versus poor-responders group was 24.8 mmHg (14.7-30.3) compared to 18.5 mmHg (15.0-22.3) (p=.329). No significant correlations were found between Eckardt score after retreatment or Eckardt score reduction after retreatment and barium column height, DI and IRP-4 before retreatment.
Conclusion: These preliminary results suggest that in achalasia patients with recurrent symptoms, the presence of more stasis on TBE, a higher IRP-4 and lower DI prior to retreatment seem to be associated with a good symptom response after retreatment, although statistical significance was not reached. No factors for prediction of retreatment outcome could be identified.