**Programma jubileumcongres**
**3 en 4 oktober 2013**
**NH Conference Centre Koningshof Veldhoven**

**De volgende verenigingen en secties verzorgen symposia en sessies tijdens het congres:**

*Nederlandse Vereniging voor Gastroenterologie*
Sectie Gastrointestinale Endoscopie
Sectie Neurogastroenterologie en Motiliteit
Sectie Experimentele Gastroenterologie
Sectie Gastrointestinale Oncologie
Sectie Inflammatoire Darmziekten IBD
V&VN MDL

Nederlandse Vereniging van Maag-Darm-Leverartsen

Nederlandse Vereniging voor Hepatologie

Nederlandse Vereniging voor Gastrointestinale Chirurgie

Vereniging Verpleegkundigen en Verzorgenden
Nederland MDL

*Inlichtingen:*
Congressecretariaat Nederlandse Vereniging voor Gastroenterologie
Postbus 657
2003 RR Haarlem
Telefoon 023 – 5513016 - Fax 023 – 5513087
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**INHOUDSOPGAVE** **pag**

# Toonaangevend

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**Belangrijke mededeling**
**over de aanwezigheid van farmaceutische industrieën**



*Aan alle deelnemers tijdens het jubileumcongres op 3 en 4 oktober 2013*

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 de najaarsvergadering 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 gebruik worden gemaakt van 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.

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## VOORWOORD

Hierbij treft u het volledige programma aan van het Jubileumcongres dat gehouden wordt op 3 en 4 oktober a.s. in NH Conference Center Koningshof te Veldhoven. Wij vieren deze dagen het 100-jarig bestaan van onze vereniging! De lustrumactiviteiten staan apart vermeld op pagina 4. Met name wil ik u allen wijzen op de uitreiking van het eerste exemplaar van het jubileum boek om 11.45 uur in de Brabantzaal direct aansluitend aan een korte ALV van de NVGE.
Zoals gebruikelijk wordt ons congres vooraf gegaan door het cursorisch onderwijs, waarvan u het programma vindt u op bladzijde 8 en 9.
Naast de wetenschappelijke voordrachten zijn er meerdere symposia. De NVH organiseert op donderdag een klinisch symposium en op vrijdag de richtlijn Hepatocellulair Carcinoom. Op donderdagochtend wordt tevens de aangepaste richtlijn oesophagus-carcinoom besproken door prof. dr. P.D. Siersema, die direct daarna de voorzittershamer van de NVGE van prof. dr. C.J.J. Mulder zal overnemen tijdens de ALV van de NVGE. Op donderdag is ook nog een symposium georganiseerd door de Sectie Experimentele Gastroenterologie die tijdens dit lustrumcongres niet mag ontbreken.

Donderdagmiddag vindt het plenaire lustrumsymposium plaats onder voorzitterschap van scheidend NVGE voorzitter prof. dr. C.J.J. Mulder en NVMDL voorzitter prof. dr. A.A.M. Masclee. Deze middag wordt tevens de Dicke medaille uitgereikt aan professor dr. D.J. Gouma wiens werk van fundamentele betekenis is geweest voor de MDL. Tevens zal een voordracht worden gegeven door prof. dr. H.L.A. Janssen, thans werkzaam in Toronto, die in het kader van een aan hem door de toegekende onderscheiding - de Distinguished Hepatology Award – een state of the art lecture zal geven over Hepatitis B. Prof. dr. J.C. Clevers zal tenslotte een voordracht geven over basaal MDL onderzoek.
Donderdagavond is er na het diner met cabaret een feest georganiseerd door onze Juniorvereniging.
Naast de eerder genoemde richtlijn HCC, zijn er op vrijdag symposia van de Sectie Neurogastroenterologie en Motiliteit en de Sectie Gastrointestinale Endoscopie.
's Middags is er wederom een plenair lustrum symposium, waarbij 100 jaar MDL in Nederland zal worden belicht. Het programma wordt afgesloten met een historische quiz door prof. J.F.W.M. Bartelsman.

Het bestuur ziet uit naar een fantastisch lustrum!

Dr. K. van der Linde
Dr. J.J. Keller

## Activiteiten in het kader van het jubileum


| **Donderdag 3 oktober 2013** | | **Locatie** |
|---|---|---|
| 11.45 | Uitreiking eerste exemplaar van het Jubileumboek | Brabantzaal |
| 14.00 | Wetenschappelijk Jubileumsymposium | Brabantzaal |
| | Uitreiking Dicke medaille aan Prof. dr. D.J. Gouma | Brabantzaal |
| 17.30 | Distinguished Hepatology Award Prof. dr. H.L.A. Janssen | Brabantzaal |
| 18.00 | State of the Art lecture: Prof. dr. J.C. Clevers | Brabantzaal |
| 18.30 | Jubileumborrel | Expohallen |
| 19.30 | Feestelijk Jubileumdiner en cabaret | Beneluxzaal |
| 23.00 | Feestavond | Brabantzaal |

*Dresscode diner:* FEESTELIJK!

**Vrijdag 4 oktober 2013**

| | | |
|---|---|---|
| 14.00 | Symposium: 100 jaar MDL in Nederland<br>gevolgd door Historische quiz | Brabantzaal |

**Mini-tentoonstelling**

Tijdens beide dagen van het congres is er een mini-tentoonstelling waar u het oude archiefmateriaal van de vereniging kunt bekijken

## Ophalen van uw Jubileumboek

Alle leden ontvangen via de post een voucher op naam waarmee het Jubileumboek in Veldhoven kan worden opgehaald. Ophalen van uw Jubileumboek kan in alle pauzes na de officiële uitreiking van het eerste exemplaar op 3 oktober om 11.45 uur in de Brabantzaal.

Bent u ***bevoegd om medicijnen voor te schrijven*** dan wordt het boek, na inlevering van de voucher, aan u verstrekt door de hoofdsponsor van het Jubileumboek: Dr. Falk Pharma.
Indien u niet aanwezig kunt zijn in Veldhoven dan zal het boek na het congres door Dr. Falk Pharma of de NVGE bij u worden bezorgd.

Alle ***overige leden*** kunnen hun Jubileumboek ophalen in **zaal 19** (in de gang naar de Baronie- en Brabantzaal) tegen inleveren van de voucher. Voor niet in Veldhoven aanwezige collega's kunt u het Jubileumboek direct meenemen tegen inleveren van de voucher van de betreffende collega.
Maakt u hiervan zoveel mogelijk gebruik!

***Tijdstippen diverse ledenvergaderingen:***

| | | |
|---|---|---|
| Vergadering Sectie Inflammatoire Darmziekten (IBD) | 3 oktober, | 09.15 uur – Brabantzaal |
| Nederlandse Vereniging voor Gastroenterologie | 3 oktober, | 11.30 uur – Brabantzaal |
| NVMDL i.o. | 3 oktober, | 12.00 uur – N.t.b. |
| Nederlandse Vereniging voor Hepatologie | 3 oktober, | 12.00 uur – Baroniezaal |
| Nederlandse Vereniging van Maag-Darm-Leverartsen | 4 oktober, | 08.00 uur – Zaal 81-82-83 |

*Woensdag 2 oktober 2013*

## Cursorisch onderwijs in maag-darm-leverziekten — Auditorium

Cursuscommissie

Prof. dr. P.D. Siersema (voorzitter), MDL-arts, UMC Utrecht
Mevr. dr. C.M. Bakker, MDL-arts, Atrium MC, Heerlen
Prof. dr. U.H.W. Beuers, MDL-arts, AMC, Amsterdam
Drs. M.P.J. van den Broek, AIOS MDL, LUMC, Leiden
Dr. J. Heisterkamp, chirurg, St. Elisabeth Ziekenhuis, Tilburg
Mevr. dr. A.M.J. Langers, MDL-arts, LUMC, Leiden
Drs. M.C.P. Pennings, AIOS MDL, UMC St Radboud, Nijmegen
Dr. B.J. Veldt, MDL-arts, Reinier de Graaf Gasthuis, Delft
Dr. J. Vecht, MDL-arts, Isala Klinieken, Zwolle
Dr. R.A. de Vries, MDL-arts, VUmc, Amsterdam
Dr. P.J. Wahab, MDL-arts, Rijnstate Ziekenhuis, Arnhem

**Algemeen/Hepatitis |** *voorzitter: P.D. Siersema*

13.50–14.00 Opening en kennistoets

14.00–14.25 Inleiding: Diagnostisch algoritme bij chronische leverziekten e.c.i.
*Prof. dr. U.H.W. Beuers, MDL-arts, AMC Amsterdam*

14.25–14.50 Hepatitis B: Wat zijn anno 2013 behandelindicaties en is er nog plaats voor behandeling met IFN?
*Dr. R.A. de Man, MDL-arts, Erasmus MC, Rotterdam*

14.50–15.15 Hepatitis C: Iedereen behandelen of wachten op Interferon vrije tijden?
*Dr. B.J. Veldt., MDL-arts, Reinier de Graaf Groep, Delft*

15.15–15.35 Ligt Hepatitis E op de loer bij de Albert Heijn?
*Prof. dr. H.L. Zaaijer, medisch microbioloog, Sanquin, Amsterdam*

15.35–15.55 Echo en fibroscan: (on)misbaar voor de MDL-arts in 2013?
*Dr. R.J. de Knegt, MDL-arts, Erasmus MC, Rotterdam*

15.55–16.05 Kennistoets

16.05–16.35 Pauze

**Acute leverproblemen/Levertransplantatie |** *voorzitter: B. van Hoek*

16.35–16.45 Kennistoets

16.45–17.05 Inleiding: Acuut leverfalen
*Prof. dr. H.J. Metselaar, MDL-arts, Erasmus MC, Rotterdam*

**Cursorisch onderwijs in maag-darm-leverziekten** **Auditorium**

17.05–17.30 Leverziekten in de zwangerschap (HELLP, pre-eclampsie, zwangerschaps-cholestase, etc.)
*Dr. J.M.L. de Vree, MDL-arts, UMC Groningen*

17.30–17.55 Diagnostische work-up en therapie bij vena portae trombose en het Budd – Chiari syndroom
*Prof. dr. H.L.A. Janssen, MDL-arts, Toronto Western Hospital, Toronto, Canada*

17.55–18.20 Levertransplantatie: Wanneer doorverwijzen? Indicatiestelling? Uitkomst in NL
*Prof. dr. G. Kazemier, chirurg, VU medisch centrum, Amsterdam*

18.20–18.45 Diagnostiek en therapie van symptomatisch en gecompliceerd galsteenlijden: altijd "evidence-based" of soms ook "personalized"?
Dr. *K.J. van Erpecum, MDL-arts, UMC Utrecht*

18.45–18.55 Kennistoets

19.00–20.15 Diner

**'What's hot' in de hepatologie |** *voorzitter: R.A. de Vries*

20.15–20.20 Kennistoets

20.20–20.40 IgG4 geassocieerde cholangitis en gerelateerde aandoeningen
*Prof. dr. U.H.W. Beuers, MDL-arts, AMC, Amsterdam*

20.40–21.00 HCC, nieuwe ontwikkelingen in de behandeling
*Dr. M.J. Coenraad, MDL-arts, LUMC, Leiden*

21.00–21.20 Beleid bij: "Acute on Chronic" leverfalen (o.a. 'CANONIC')
*Prof. dr. J.P.H. Drenth, MDL-arts, UMC St Radboud, Nijmegen*

21.20–21.25 Kennistoets en sluiting

*De cursuscommissie verwacht van de MDL-artsen i.o. dat ze de Cursus Klinische Hepatologie (NVH) tijdens de Dutch Liver Week éénmaal bezoeken in het tweede deel van de MDL-opleiding (jaar vier tot zes).*
Op het cursorisch onderwijs zijn conform de eisen van het Centraal Register Kort Beroepsonderwijs leveringsvoorwaarden van toepassing. Informatie vindt u op de onderwijspagina van www.mdl.nl en www.nvge.nl.

## Programma donderdag 3 oktober 2013

| Donderdag | Brabantzaal | Baroniezaal | Auditorium | Parkzaal |
|---|---|---|---|---|
| 09.00 | Ontvangst en koffie | Ontvangst en koffie | Ontvangst en koffie | Ontvangst en koffie |
| 09.30 - 11.30 | Vrije voordrachten Sectie Inflammatoire Darmziekten<br>pagina 12 | NVH-symposium: '(On)gewone leverziekten voor de clinicus'<br>pagina 21 | 09.15 uur: Auditing, wie registreert er mee? Visie vanuit de deelregistraties<br><br>10.20:Richtlijnbespreking Oesofaguscarcinoom 2.0 aanvang programma om 10.15 uur.<br>pagina 18 | Vrije voordrachten Sectie Gastrointestinale Oncologie<br>pagina 24<br><br>Symposium Sectie Experimentele Gastroenterologie<br>pagina 25 |
| 11.30 - 12.00 | Ledenvergadering NVGE Om 11.45 uur uitreiking eerste Jubileumboek | Geen programma i.v.m. ALV NVGE en uitreiking eerste Jubileumboek | Geen programma i.v.m. ALV NVGE en uitreiking eerste Jubileumboek | Geen programma i.v.m. ALV NVGE en uitreiking Jubileumboek |
| 12.00 - 13.00 | Lunch in expositiehal | ALV + lunch in expo | Lunch in expositiehal | Lunch in expositiehal |
| 13.00 -14.00 | President Select en Uitreiking NVGE Gastrointestinale Researchprijs 2013<br>pagina 15 | Vrije voordrachten Nederlandse Vereniging voor Hepatologie<br>pagina 22 | Vrije voordrachten Nederlandse Vereniging voor Gastrointestinale Chirurgie<br>pagina 19 | Symposium Sectie Experimentele Gastroenterologie<br>pagina 25 |
| 14.00 – 15.15 | Wetenschappelijk Jubileumsymposium<br>pagina 16 | Geen programma in deze zaal | Vrije voordrachten Ned. Vereniging voor Gastro-intestinale Chirurgie (tot 15.00 uur) pagina 19 | Geen programma in deze zaal |
| 15.15 – 15.45 | Theepauze | Theepauze | Theepauze | Theepauze |
| 16.00 - 17.00 | Vervolg Wetenschappelijk Jubileumsymposium<br><br>16.10 uur: uitreiking van de Dicke medaille aan prof. dr. D.J. Gouma<br>pagina 16 | Geen programma in deze zaal | Geen programma in deze zaal | Geen programma in deze zaal |
| 17.00 – 17.30 | Pauze in de expohal | Pauze in de expohal | Pauze in de expohal | Pauze in de expohal |
| 17.30 - 18.30 | Distinguished Hepatology Award 2013: lezing prof. dr. H.L.A. Janssen.<br>State of the art lecture: prof. dr. J.C. Clevers<br>pagina 16-17 | | | |
| 18.30 - 19.30 | Borrel in expositiehal | | | |
| 19.30 - 23.00 | Jubileumdiner en cabaret in de Beneluxhal | | | |
| 23.00 - 01.30 | Feest Brabantzaal | | | |

## Vrijdag 4 oktober 2013

| Vrijdag | Brabantzaal | Baroniezaal | Auditorium | Parkzaal |
|---|---|---|---|---|
| 08.30 | Ontvangst en koffie | Ontvangst en koffie | Ontvangst en koffie | Ontvangst en koffie |
| 09.30 – 11.00 | Vrije voordrachten sectie Gastrointestinale Endoscopie<br>pagina 26 | Vrije voordrachten Nederlandse Vereniging voor Hepatologie<br>pagina 32 | Symposium Sectie Neurogastroenterologie en Motiliteit: An update on Functional Consti-pation and Irritable Bowel Syndrome<br>pagina 31 | Aanvang 09.00 uur: Vrije voordrachten Nederlandse Vereniging voor Gastrointestinale Chirurgie<br>pagina 36 |
| 11.00 - 11.30 | Koffiepauze expo | Koffiepauze expo | Koffiepauze expo | Koffiepauze expo |
| 11.30 - 13.00 | Minisymposium 'Het tweede leven van …' gevolgd door Zonderlinge video's van eigen bodem<br>pagina 28 | Vrije voordrachten Nederlandse Vereniging voor Gastroenterologie<br>pagina 34 | Richtlijnsymposium: Hepatocellulair Carcinoom<br>pagina 31 | Vrije voordrachten Nederlandse Vereniging voor Gastroenterologie<br>pagina 38 |
| 13.00 – 14.00 | Lunch expositiehal | Lunch expositiehal | Lunch expositiehal | Lunch expositiehal |
| 14.00 – 16.00 | Historisch Jubileum-symposium, gevolgd door historische quiz<br>pagina 30 | Geen programma in deze zaal in de middag | Geen programma in deze zaal in de middag | Geen programma in deze zaal in de middag |
| 16.00 – 16.30 | Napraten en drankje in de expositiehallen | Napraten en drankje in de expositiehallen | Napraten en drankje in de expositiehallen | Napraten en drankje in de expositiehallen |

## Vrijdag 4 oktober 2013 - programma V&VN MDL

| Vrijdag | Beneluxhal | Zaal 63 | Zaal 64 |
|---|---|---|---|
| 09.30 – 10.00 | Ontvangst en koffie | Ontvangst en koffie | Ontvangst en koffie |
| 10.00 – 12.15 | Plenair ochtendprogramma V&VN MDL<br>pagina 40 | Geen programma in deze zaal | Geen programma in deze zaal |
| 12.15 | Lunch in expo | Lunch in expo | Lunch in expo |
| 13.45 – 15.30 | Parallel programma Endoscopie-verpleegkundigen<br>pagina 40 | Parallel programma Lever- en IBD-verpleegkundigen<br>pagina 41 | Parallel programma MDL – kliniek verpleegkundigen<br>pagina 42 |
| 15.30 | Einde programma | Einde programma | Einde programma |

*Donderdag 3 oktober 2013*

**Vrije voordrachten Sectie Inflammatoire Darmziekten** **Brabantzaal**

09.00 Inschrijving, koffie

**Voorzitters**: A.E. van der Meulen-de Jong en M.G.V.M. Russel

Voordrachten in het Nederlands, spreektijd 7 minuten, discussietijd 3 minuten

09.30 Disease localization determines fecal calprotectin levels in Crohn's disease (p.44)

*K.B. Gecse[1], J.F. Brandse[1], S. van Wilpe[1], M. Löwenberg[1], C.Y. Ponsioen[1], G.R. van den Brink[1], G.R. D'Haens[1], [1]Dept. of Gastroenterology and Hepatology, Academic Medical Center, Amsterdam, The Netherlands*

09.40 Faecal calprotectin accurately predicts flares in inflammatory bowel disease patients in clinical and endoscopic remission (p. 45)

*M. Severs[1], E. Mooiweer[1], H.H. Fidder[1], P.D. Siersema[1], R.J.F. Laheij[1], B. Oldenburg[1], [1]Dept. of Gastroenterology and Hepatology, University Medical Center Utrecht, Utrecht, The Netherlands*

09.50 The role of sub-clinical inflammation and TRPV1 in the development of IBS-like symptoms in ulcerative colitis in remission (p. 46)

*D. Keszthelyi[1], D.M. Jonkers[1], H. Hamer[1], F. Troost[1], A.A.M. Masclee[1], [1]Division of Gastroenterology and Hepatology, Dept. Internal Medicine, Maastricht University Medical Center, Maastricht, The Netherlands*

10.00 Assessment of the Montreal classification for IBD reveals good inter-observer agreement but poor performance on disease severity (p.47)

*L.M. Spekhorst[1*], M.C. Visschedijk[1,2*], R. Alberts[2], E.A. Festen[2], E.J. van der Wouden[3], G. Dijkstra[1], R.K. Weersma[1] on behalf of the Dutch Initiative on Crohn and Colitis, *Both authors contributed equally, [1]Dept. of Gastroenterology and Hepatology, University of Groningen and University Medical Centre Groningen[1], Groningen, [2]Dept. of Genetics University of Groningen and University Medical Centre Groningen, Groningen, [3]Dept. of Gastroenterology, Isala klinieken, Zwolle, The Netherlands*

10.10 Predicting disabling disease in newly diagnosed IBD patients, results from the Delta cohort (p. 48)

*V.J.A.A. Nuij[1], C.W.H. Looman[2], M.C.M. Rijk[3], R. Beukers[4], R.J.T. Ouwendijk[5], R. Quispel[6], A.J.P. van Tilburg[7], T.J. Tang[8], H. Smalbraak[9], K.F. Bruin[10], F. Lindenburg[11], L.Peyrin- Biroulet[12], C.J. van der Woude[1] on behalf of the Dutch Delta IBD Group, [1]Dept. of Gastro-enterology and Hepatology, Erasmus Medical Center, Rotterdam, The Netherlands, [2]Dept. of Public Health, Erasmus Medical Center, Rotterdam, The Netherlands, [3]Dept. of Gastroenterology and Hepatology, Amphia Hospital, Breda, The Netherlands, [4]Dept. of Gastroenterology and Hepatology, Albert Schweitzer Hospital, Dordrecht, The Netherlands, [5]Dept. of Gastroenterology and Hepatology, Ikazia Hospital, Rotterdam, The Netherlands, [6]Dept. of Gastroenterology and Hepatology, Reinier de Graaf Gasthuis, Delft, The Netherlands, [7]Dept. of Gastroenterology and Hepatology, St. Franciscus Gasthuis, Rotterdam, The Netherlands, [8]Dept. of Gastroenterology and Hepatology, IJsselland Hospital, Capelle aan den IJssel, The Netherlands, [9]Dept. of Gastroenterology and Hepatology, Lievensberg Hospital, Bergen op Zoom, The Netherlands, [10]Dept. of Gastroenterology and Hepatology, Tweesteden Hospital, Tilburg, The Netherlands, [11]Dept. of Gastroenterology and Hepatology, Franciscus Hospital, Roosendaal, The Netherlands, [12]Dept. of Gastroenterology and Hepatology, Nancy University Hospital, Université de Lorraine, Vandoeuvre-les-Nancy, France*

10.20 IBD-Unclassified in childhood and adolescence; a complicated diagnosis (p. 49 )

*D.A. Winter[1], E.K. George[2], A. Kindermann[3], M.L. Mearin-Manrique[4], J.C. Escher[1], IBD working group of ESPGHAN[5], [1]Dept. of Pediatric Gastroenterology, Erasmus Medical Center - Sophia Children's Hospital, Rotterdam, The Netherlands, [2]Dept. of Pediatrics, Medical Center Alkmaar, Alkmaar, The Netherlands, [3]Dept. of Pediatric Gastroenterology Academic Medical Center - Emma Children's Hospital, Amsterdam, The Netherlands, [4]Pediatric Gastroenterology, Leiden University Medical Center, Leiden, The Netherlands, [5]European Society for Paediatric Gastroenterology, Hepatology and Nutrition, Europe*

10.30 Increased intestinal permeability among first-degree relatives of Crohn's patients is not associated with increased mucosal ulcerations on small bowel video capsule endoscopy (p. 50)

*S. Turk[1], C. Teshima[1], M. El-Kalla[1], W. El Matary[1], R. Valcheva[1], R. Danchak[1], M. Gordon[1], P. Ho[1], A. Mullins[1], D. Wong[1], J. Meddings[1], H. Huynh[1], L.A. Dieleman[1], [1]Division of Gastroenterology, Dept. of Medicine and Pediatrics, University of Alberta, Edmonton, Alberta, Canada*

10.40 A Phase 3 Randomized, Placebo-Controlled, Double-Blind Study to Evaluate the Safety and Efficacy of Subcutaneous Golimumab Maintenance Therapy in Patients with Moderately to Severe Active Ulcerative Colitis: PURSUIT-Maintenance (p. 51)

*P. Rutgeerts[1], B.G. Feagan[2], C. Marano[3], R. Strauss[3], J. Johanns[3], H. Zhang[3], C. Guzzo[3], J.-F. Colombel[4], W. Reinisch[5], P. Gibson[6], J. Collins[7], G. Jarnerot[8], W. Sandborn[9] Submitted and presented by A.A. van Bodegraven, on behalf of the PURSUIT SC investigators, [1]University of Leuven, Leuven, Belgium, [2] Robarts Research Institute, London, Ontario, Canada, [3]Janssen Research and Development, Spring House, PA, U.S.A., [4]CHU, Lille, France, [5]Universitätsklinik für Innere Medizin IV, Vienna, Austria, [6]Alfred Hospital, Melbourne, VIC, Australia, [7]Oregon Health Sciences University, Portland, OR, U.S.A., [8]Orebro University Hospital, Orebro, Sweden, [9]University of California San Diego, La Jolla, CA, U.S.A.*

10.50 Comparison of health-related quality of life and disability in patients with ulcerative colitis in remission after proctocolectomy with ileal pouch-anal anastomosis or treatment with anti-tumor necrosis factor agents (p. 52)

*S. Meijs[1], T. Gardenbroek[3], M. Sprangers[2], W. Bemelman[3], C. Buskens[3], G. D'Haens[1], M. Löwenberg[1], [1]Dept. of Gastroenterology and Hepatology, [2]Dept. of Medical Psychology, [3]Dept. of Surgery, Academic Medical Center, Amsterdam, The Netherlands*

11.00 Cancer and Mortality in Pediatric IBD-a European Multinational Survey (p. 53)

*L. de Ridder[1], J.C. Escher[1], D. Turner[2], S. Koletzko[3], M. de Carpi[4], U.L. Fagerberg[5], C. Spray[6], M. Sladek[7], D. Wilson[8], R. Shaoul[9], E. Roma-Giannikou[10], J. Bronsky[11], D. Serban[12], S. Cucchiara[13], G. Veres[14], F. Ruemelle[15], I. Hojsak[16], K.L. Kolho[17], A. Levine[18], The Porto IBD Working Group of ESPGHAN, [1]Erasmus Medical Center - Sophia Children's Hospital, Rotterdam, The Netherlands, [2]Shaare Zedek Medical Center, The Hebrew University of Jerusalem, Jerusalem, Israel, [3]Koletzko, University of Munich Medical Centre, Munich, Germany, [4]Barcelona, Unidad para el Cuidado Integral de la Enfermedad Inflamatoria Intestinal Pediátrica, Sección de Gastroenterología, Hepatología y Nutrición Pediatrica, Hospital Sant Joan de Déu, Barcelona, Spain, [5]Centre for Clinical Research, Västmanland*

*County Hospital, Västerås, Karolinska Institutet, Stockholm, Sweden, [6]Bristol Royal Hospital for Children, Bristol, U.K., [7]Dept. of Pediatrics, Gastroenterology and Nutrition, Polish- American Children's Hospital, Jagiellonnian University Medical College, Cracow, Poland, [8]Child Life and Health, University of Edinburgh, U.K., [9]Pediatric Day Care Unit, Dept. of Pediatrics, Bnai Zion Medical Center, Haifa, Israel, [10]1st Dept. of Paediatric of Athens University, Athens, Greece, [11]2nd Faculty of Medicine, Charles University and University Hospital Motol, Prague, Czech Republic, [12]University of Medicine and Pharmacy Iuliu Hatieganu, Cluj-Napoca, Romania, [13]Pediatric Gastroenterology and Liver Unit,"La Sapienza" University, Rome, Italy, [14]Semmelweis University, Budapest, Hungary, [15]Université Paris Descartes, Sorbonne Paris Cité, APHP, Hôpital Necker Enfants Malades, Paris, France, [16]Referral Center for Pediatric Gastroenterology, Children's Hospital Zagreb, School of Medicine, University of Zagreb, Croatia, [17]Children's Hospital, Helsinki, University Central Hospital and University of Helsinki, Finland, [18]the Wolfson Medical Center, Tel-Aviv University, Tel-Aviv, Israel*

11.10 Does liver transplantation affect the risk of colorectal neoplasia in PSC-IBD patients? (p. 54)

*P.W.J. Maljaars[1], M. Sharma[1], K. Amanh[1], K. Sebib Korkmaz[1], B. van Hoek[1], A.E. van der Meulen[1], [1]Dept. of Gastroenterology and Hepatology, Leiden University Medical Center, Leiden, The Netherlands*

11.20 Cost-effectiveness of Intestinal Transplantation (ITx) for adult patients with permanent intestinal failure (IF) depending on home parenteral nutrition (HPN) (p. 55)

*A.M. Roskott[1,6], H. Groen[2], P. Krabbe[2], E. Rings[3], J.W. Haveman[1], M. Serlie[4], G. Wanten[5], G. Dijkstra[6], [1]Dept. of Surgery, University of Groningen, University Medical Center Groningen, Groningen, [2]Dept. of Epidemiology, University of Groningen, University Medical Center Groningen, Groningen, [3]Dept. of Pediatrics, University of Groningen, University Medical Center Groningen, Groningen, [4]Dept. of Endocrinology and Metabolism, University of Amsterdam, Academic Medical Center, Amsterdam, [5]Dept. of Gastroenterology and Hepatology, University Medical Center St Radboud, Nijmegen, [6]Dept. of Gastroenterology and Hepatology, University of Groningen, University Medical Center Groningen, Groningen, The Netherlands*

11.30 Korte ledenvergadering Nederlandse Vereniging voor Gastroenterologie

11.45 **Officiële uitreiking van het eerste Jubileumboek 100 jaar MDL-arts in Nederland**

12.00 Lunch in expositiehal

**Uitreiking van het boek aan de leden**

Leden van de Nederlandse Vereniging voor Gastroenterologie, Nederlandse Vereniging van Maag-Darm-Leverartsen en Nederlandse Vereniging voor Hepatologie ontvangen voor het congres een voucher op naam waarmee zij tijdens het congres kosteloos een exemplaar van het Jubileumboek kunnen ophalen. Artsen kunnen het boek ophalen in de expositiehal bij de hoofdsponsor Dr. Falk Pharma, alle overige leden kunnen het boek ophalen in **zaal 19**, zie voor nadere informatie bladzijde 5.

**President Select en uitreiking Researchprijs** **Brabantzaal**

**Voorzitters:** C.J.J. Mulder en P.D. Siersema

Voordrachten in het Nederlands, spreektijd 10 minuten, discussietijd 5 minuten

13.00 Full Spectrum Endoscopy vs. traditional forward-viewing colonoscopy: final results of a randomized, multicenter tandem study - the FUSE study (p. 56)
*V.K. Dik[1], P.D. Siersema[1], I.M. Gralnek[2], Z. Halpern[3], A. Sloyer[4], O. Segol[5], A. Suissa[2], L.M. Moons[1], E. Santo[3], R.B. D'Agostino[6], D.K. Rex[7], [1]University Medical Center, Utrecht, Netherlands, [2]Elisha Medical Center, Haifa, Israel, [3]Sourasky Medical Center, Tel Aviv, Israel, [4]North Shore Gastroenterology Associates, New York, U.S.A, [5]The Lady Davis Carmel Medical Center, Haifa, Israel, [6]Wake Forest School of Medicine, Winston-Salem, U.S.A., [7]Indiana University School of Medicine, Indianapolis, U.S.A.*

13.15 Characterizing and redefining clinical subtypes of inflammatory bowel disease using genotypes and phenotypes from 47,000 patients (p. 57)
*R.K.Weersma[1] on behalf of the International IBD Genetics Consortium, [1]Dept. of Gastroenterology and Hepatology, University of Groningen, University Medical Center Groningen, Groningen, The Netherlands*

13.30 Ursodeoxycholic acid counteracts celecoxib in reduction of duodenal polyps in patients with familial adenomatous polyposis: a multicentre, randomized controlled trial (p. 58)
*B.W.H. van Heumen[1], H.M.J. Roelofs[1], M.E. Vink-Börger[2], E. Dekker[3], E.M.H. Mathus- Vliegen[3], J. Dees[4], J.J. Koornstra[5], A.M.J. Langers[6], I.D. Nagtegaal[2], E. Kampman[7], W.H.M. Peters[1], F.M. Nagengast[1], [1]Dept. of Gastroenterology and Hepatology, [2]Pathology, and [7]Health Evidence, University Medical Center St Radboud, [3]Dept. of Gastroenterology and Hepatology, Academic Medical Center, Amsterdam, [4]Erasmus Medical Center, Rotterdam, [5]University Medical Center Groningen, Groningen, [6]Leiden University Medical Center, The Netherlands*

13.45 **NVGE Gastrointestinale Researchprijs 2013**
Uitreiking van de prijs door de voorzitter van de jury, gevolgd door erevoordracht door de prijswinnaar

*Donderdag 3 oktober 2013*

**Jubileumsymposium 100 jaar MDL en uitreiking Dicke medaille** **Brabantzaal**

**Voorzitters**: A.A.M. Masclee en C.J.J. Mulder

14.00 Een eeuweling met toekomst!
*Prof. dr. A.A.M. Masclee, voorzitter NVMDL*

14.25 Oncologie: een taak voor de MDL
*Prof. dr. H.M. Pinedo, Emeritus hoogleraar oncologie*
*VU medisch centrum, Amsterdam*

14.50 Oud worden met IBD
*Prof. dr. G. van Assche, afdeling gastroenterologie*
*Universitair Ziekenhuis Leuven, België*

15.15 Theepauze in de expositiehal

15.45 Gastrointestinale endoscopie, nog steeds het hart van de MDL?
*Prof. dr. P. Fockens, afdeling maag-, darm- en leverziekten,*
*Academisch Medisch Centrum, Amsterdam.*

16.10 **Uitreiking Dicke-medaille aan prof. dr. D.J. Gouma**

16.25 NVGE: bakermat voor multidisciplinaire zorg
*Prof. dr. D.J. Gouma, afdeling heelkunde,*
*Academisch Medisch Centrum, Amsterdam*

Discussie

17.00 Pauze in de expositiehal

17.30 **Distinguished Hepatology Award 2013**
*Lezing door prof. dr. H.L.A. Janssen, MDL-arts,*
*Toronto Western Hospital, Toronto,Canada*
"Hepatitis B - state of the art and future perspectives"

**Jubileumsymposium 100 jaar MDL** **Brabantzaal**

18.00 **State of the Art Lecture:**
Stamcellen: Dr Jekyll of Mr Hyde?
*Prof. dr. J.C. Clevers, Professor of Molecular Genetics*
*Hubrecht Institute, Utrecht*

18.30 Einde wetenschappelijk programma.

**Avondprogramma**

**Feestelijkheden in het kader van 100 jaar MDL:**

18.30 Congresborrel voor alle deelnemers
Expositiehallen

19.30 Jubileumdiner en cabaret
Beneluxzaal

22.30 Feest en muziek
in en om de Brabantzaal

*Donderdag 3 oktober 2013*

**Symposium NVGIC** **Auditorium**

**Voorzitters:** J. Ruurda en J. Heisterkamp

**Auditing, wie registreert er mee? Visie vanuit de deelregistraties.**

09.15 DSCA (audit colorectaal carcinoom)
*Dr. T. Karsten, chirurg, OLVG, Amsterdam*

09.30 DPCG (audit pancreas carcinoom)
*Dr. M.G.H. Besselink, chirurg, AMC, Amsterdam*

09.45 DHBA (audit levertumoren)
*R.M. van Dam, chirurg, UMCM, Maastricht*

10.00 DUCA (audit oesophagus en maagcarcinoom)
*D. Henneman, arts onderzoeker, LUMC, Leiden*

**Richtlijnbespreking** **Auditorium**

**Voorzitters:** M.I. van Berge Henegouwen en B. Wijnhoven

**Richtlijn Oesofaguscarcinoom 2.0**

10.20 Diagnostiek oesofaguscarcinoom
*P.D. Siersema, MDL-arts, UMC Utrecht*

10.40 Behandeling oesofaguscarcinoom
*G.A.P Nieuwenhuijzen, chirurg, Catharina Ziekenhuis, Eindhoven*

11.00 Discussie

11.15 Einde richtlijnbespreking

11.30 *Voor de ledenvergadering van de NVGE en de officiële uitreiking van het eerste Jubileumboek kunt u zich begeven naar de Brabantzaal.*

12.00 Lunchbuffet in de expositiehal

**Vrije voordrachten Ned. Vereniging voor Gastrointestinale Chirurgie Auditorium**

**Voorzitters**: P. van Duijvendijk en H.C. van Santvoort

Voordrachten in het Nederlands, spreektijd 7 minuten, discussietijd 3 minuten

13.00 Introduction of new high volume circular staplers results in increase in resected tissue for the treatment of haemorrhoidal disease (p.59)
*J. Nonner[1], E.J.R. de Graaf[1], P.J. Doornebosch[1], [1]IJsselland Hospital, Capelle aan de IJssel, The Netherlands*

13.10 Long-term evaluation of intraperitoneal mesh placement, experiences with three new meshes (p. 60)
*R.R.M. Vogels[1], M.H.F. Schreinemacher[1] , K.W.Y. Van Barneveld[1], M.J.J. Gijbels[1], N.D. Bouvy, [1]Dept. of General Surgery, Maastricht University Medical Centre, Maastricht, [1]NUTRIM, School of Nutrition, Toxicology and Metabolism, Maastricht University, Maastricht, The Netherlands*

13.20 Short-term results of prophylactic mesh placement during formation of an end- colostomy for prevention of parastomal hernia; The Dutch PREVENT-trial (p.61)
*T. Brandsma[1], B.M.E. Hansson[1], Th.J. Aufenacker[2], C. Rosman[1], R.P. Bleichrodt[1], [1]Dept. of Surgery, Canisius Wilhelmina Hospital, Nijmegen, [2]Dept. of Surgery, Rijnstate Hospital, Arnhem, The Netherlands*

13.30 Intraperitoneal mesh for incisional hernia prevention after stoma reversal: a pilot study (p. 62)
*M.H.F. Schreinemacher[1], K. van Barneveld[1], R. Vogels[1], G. Beets[1], S. Breukink[1], J. Greve[2], N. Bouvy[1], [1]Dept. of General Surgery, Maastricht University Medical Center, Maastricht, [2]Dept. of Surgery, Atrium Medical Center, Heerlen, The Netherlands*

13.40 A cut-off for C-Reactive Protein in early diagnosis of postoperative complications after major abdominal surgery (p.63)
*J. Straatman[1], S.S. Gisbertz[2], E.S.M de Lange[3], G. Kazemier[1], W.J.H.J. Meijerink[1], M.A. Cuesta[1], D.L. van der Peet[1], [1]Dept. of Gastro-Intestinal Surgery, VUmc, Amsterdam, [2]Dept. of Gastro-Intestinal Surgery, Academic Medical Center, Amsterdam, [3]Dept. of Epidemiology and Biostatistics, VU Medical Center, Amsterdam, The Netherlands*

13.50 An early oral feeding strategy after pancreatoduodenectomy enhances recovery without increasing morbidity (p. 64)
*A. Gerritsen[1], R.W. Wennink[1], M.G.H. Besselink[1,2], H.C. van Santvoort[1], D.S.J. Tseng[1], E. Steenhagen[3], I.H.M. Borel Rinkes[1], I.Q. Molenaar[1], [1]Dept. of Surgery, University Medical Center Utrecht, Utrecht, [2]Dept. of Surgery, Academic Medical Center, Amsterdam, [3]Dept. of Dietetics, Julius Center for Health Sciences and Primary Care, University Medical Center Utrecht, Utrecht, The Netherlands*

**Vrije voordrachten Ned. Vereniging voor Gastrointestinale Chirurgie Auditorium**

14.00 Systematic review of the literature on the use of sealants in pancreatic surgery (p. 65)

*F.J. Smits[1], H.C. van Santvoort[1], M.G. Besselink[2], I.Q. Molenaar[1], [1]Dept. of Surgery, University Medical Center Utrecht, Utrecht, [2]Dept. of Surgery, Academic Medical Center, Amsterdam, The Netherlands*

14.10 Improvement of the learning curve of cytoreduction and HIPEC in the Netherlands (p. 66)

*A.M.J. Kuijpers[1], M. Hauptmann[1], A. Aalbers[1], S. Nienhuijs[2], I. de Hingh[2], R. Wiezer[3], B. van Ramshorst[3], R. van Ginkel[4], K. Havenga[4], V. Verwaal[1], [1]Antoni van Leeuwenhoek - Dutch Cancer Institute, Amsterdam, [2]Catharina Hospital, Eindhoven, [3]St. Antonius Hospital, Nieuwegein, [4]University Medical Center Groningen, Groningen, The Netherlands*

14.20 Patterns of recurrence after R0 resection of gallbladder cancer: Analysis of patients undergoing lymph node dissection of the hepatoduodenal ligament without routine extrahepatic bile duct resection (p.67)

*J.K. Wiggers[1], B. Groot Koerkamp[1], O.R.C Busch[1], D.J. Gouma[1], T.M. van Gulik[1], [1]Dept. of Surgery, Academic Medical Center, Amsterdam, The Netherlands*

14.30 One year outcome of a randomized trial comparing minimally invasive versus open oesophagectomy for cancer: Quality of life, survival and late complications (p.68)

*K.W. Maas[1], S.S. Biere[1], M.I. van Berge Henegouwen[2], L. Bonavina[3], C. Rosman[4], J.R. Garcia[5], S.S. Gisbertz[2], J.H. Klinkenbijl, M.W. Hollmann[2], E.S. de Lange[1], H.J. Bonjer[1], D.L. van der Peet[1] , M.A. Cuesta[1], [1]VU Medical Center, Amsterdam, The Netherlands, [2]Academic Medical Center, Amsterdam, The Netherlands, [3]Policlinico San Donato, Milaan, Italy, [4]Canisius Wilhelmina Hosp., Nijmegen, The Netherlands, [5]Dr. Josep Trueta, Girona, Spain*

14.40 Minimally invasive esophagectomy: preliminary results after introduction of an intra -thoracic anastomosis (p. 69)

*F. van Workum[1] , F.J.H. van den Wildenberg[2] , F. Polat[2] , J.H.W. de Wilt[1], C. Rosman[2] ,[1] Department of Surgery, University Medical Centre St Radboud, Nijmegen, [2] Department of Surgery, Canisius-Wilhelmina Hospital, Nijmegen, The Netherlands*

14.50 Laparoscopic versus Open Total Gastrectomy in Patients with Gastric Cancer (p. 70)

*L. Haverkamp[1], J.P. Ruurda[1], R. van Hillegersberg[1], [1]University Medical Center Utrecht, Utrecht, The Netherlands*

15.00 Theepauze in de expositiehal

**"(On)gewone leverziekten voor de clinicus"** **Baroniezaal**

**Voorzitters:** U.H.W. Beuers en J.P.H. Drenth

Nederlandse Vereniging voor Hepatologie

09.30 Polycystische leverziekte: pathogenese en actuele therapie
*Prof. dr. J.P.H. Drenth, MDL-arts,*
*Afdeling Maag-, Darm- en Leverziekten, UMC St Radboud Nijmegen*

10.00 Khat-gerelateerde leverziekte: een aandoening met auto-immuun fenomenen en slechte prognose (p. 71)
*Abstract ingezonden door:*
*Dr. A.C. de Vries, Dept. of Gastroenterology and Hepatology, Erasmus MC, University Medical Center, Rotterdam, The Netherlands*

10.10 Cholestatische leverziekten: pathofysiologie en actuele behandelopties
*Prof. dr. U.H.W. Beuers, MDL-arts, Afdeling Maag-, Darm- en Leverziekten, Academisch Medisch Centrum, Amsterdam.*

10.40 Validation of alkaline phosphatase and bilirubin as prognostic markers in primary biliary cirrhosis (p. 72)
*Abstract ingezonden door:*
*W.J. Lammers, Dept. of Gastroenterology and Hepatology, Erasmus MC, University Medical Center, Rotterdam, The Netherlands*

10.50 Hepatitis E: a clinical problem?
*Dr. R.A. de Man, MDL-arts, Afdeling Maag-, Darm- en Leverziekten, Erasmus MC, Rotterdam*

11.20 Effect of thrombocytopenia on treatment tolerability and outcome in chronic hepatitis C patients with advanced hepatic fibrosis receiving (peg)interferon-based antiviral treatment. (p. 73)
*Abstract ingezonden door:*
*R. Maan, Dept. of Gastroenterology and Hepatology, Erasmus MC , University Medical Center Rotterdam, Rotterdam, the Netherlands*

11.30 Einde symposium, ledenvergadering van de NVGE in de Brabantzaal.

12.00 Algemene ledenvergadering van de Nederlandse Vereniging voor Hepatologie in de Baroniezaal, aansluitend lunch in de expositiehal.

**Vrije voordrachten Nederlandse Vereniging voor Hepatologie** **Baroniezaal**

**Voorzitters**: Dr. G.H. Koek en Dr. J.T. Brouwer

Voordrachten in het Nederlands, spreektijd 7 minuten, discussietijd 3 minuten

13.00 Update on the histopathological key-features of autoimmune hepatitis (p. 74)

*Y. S. de Boer[1], B.I. Witte[2], C.J.J. Mulder[1], C.M.J. van Nieuwkerk[1], G. Bouma[1], E. Bloemena[3], [1]Dept. of Gastroenterology and Hepatology, VU University Medical Center, Amsterdam, [2]Dept. of Biostatistics and Epidemiology, VU University Medical Center, Amsterdam, [3]Dept. of Pathology, VU University Medical Center, Amsterdam, The Netherlands*

13.10 Defining optimal laboratory response criteria in UDCA treated Primary Biliary Cirrhosis. Results of an international multicenter long-term follow-up study (p. 75)

*W.J. Lammers[1], H.R. van Buuren[1], A. Parés[2], G.M. Hirschfield , H.L.A. Janssen[4], T. Kumagi[4], P. Invernizzi[5], P.M. Battezzati[6], A. Floreani[7], C.Y. Ponsioen[8], C. Corpechot[9], M.J. Mayo[10], J. Talwalkar[11], A.K. Burroughs[12], F. Nevens[13], A.L. Mason[14], K.V. Kowdley[15], M. Leeman[1], L. Caballeria[2], P.J. Trivedi[3], A. Cheung[4], A. Lleo[5], N. Cazzagon[7], I. Franceschet[7], K. Boonstra[8], E.M.G. de Vries[8], R. Poupon[9] , M. Imam[11], G. Pieri[12], P. Kanwar[15], K.D. Lindor[11,16], B.Hansen[1] - On behalf of The Global PBC Study Group, [1]Dept. of Gastroenterology and Hepatology, Erasmus Medical Center, Rotterdam, The Netherlands, [2]Liver Unit, Hospital Clínic, CIBERehd, IDIBAPS, University of Barcelona, Barcelona, Spain, [3]NIHR Biomedical Research Unit and Centre for Liver Research, University of Birmingham, Birmingham, U.K., [4]Liver Clinic, Toronto Western and General Hospital, University Health Network, Toronto, Canada, [5]Liver Unit and Center for Autoimmune Liver Diseases, Humanitas Clinical and Research Center, Rozzano (MI), Italy, [6]Dept. of Health Sciences, Università degli Studi di Milano, Milan, Italy, [7]Dept. of Surgical, Oncological and Gastroenterological, University of Padua, Padua, Italy, [8]Dept. of Gastroenterology and Hepatology, Academic Medical Center, Amsterdam, The Netherlands, [9]Centre de Référence des Maladies Inflammatoires des Voies Biliaires, Hôpital Saint-Antoine, APHP, Paris, France, [10]Digestive and Liver diseases, UT Southwestern Medical Center, Dallas, TX, U.S.A., [11]Dept. of Gastroenterology and Hepatology, Mayo Clinic, Rochester, MN, U.S.A., [12]The Sheila Sherlock Liver Centre, The Royal Free Hospital, London, U.K., [13]Dept. of Hepatology, University Hospitals Leuven, KULeuven, Leuven, Belgium, [14]Divison of Gastroenterology and Hepatology, University of Alberta, Edmonton, AB, Canada, [15]Liver Center of Excellence, Digestive Disease Institute, Virginia Mason Medical Center, Seattle, WA, U.S.A., [16]Arizona State University, Phoenix, AZ, U.S.A.*

13.20 A new HBsAg/anti-HBs immune complex assay predicts HBeAg loss in chronic hepatitis B patients (p. 76)

*A. de Niet[1], L. Jansen[1], H.L. Zaaijer[2], U. Klause[3], B. Takkenberg[1], H.L.A. Janssen[5], T. Chu[4], R. Petric[4], H.W. Reesink[1], [1]Dept. of Gastroenterology and Hepatology, Academic Medical Center, Amsterdam, The Netherlands, [2]Dept. of Virology, Academic Medical Center, Amsterdam, The Netherlands, [3]Roche Diagnostics, Penzberg, Germany, [4]Hoffman La-Roche, Nutley, New Jersey, U.S.A., [5]Dept. of Gastroenterology and Hepatology, Erasmus Medical Center, Rotterdam, The Netherlands*

13.30 The risk for hepatocellular carcinoma among patients with chronic hepatitis C virus infection and advanced hepatic fibrosis following sustained virological response (p.77)

*A.J. van der Meer[1], J.J. Feld[2], H. Hofer[3], P.L. Almasio[4], V. Calvaruso[4], C.M. Fernández- Rodríguez[5], S. Aleman[6,7], N. Ganne[8], R. D'Ambrosio[9], S. Pol[10], M. Trapero- Marugan[11], R. Moreno-Otero[11], V. Mallet[10], R. Hultcrantz[6], O. Weiland[7], K. Rutter[3], V. Di Marco[4], S.Alonso[5], S. Bruno[12], M. Colombo[9], R.J. de Knegt[1], B.J. Veldt[1], B.E. Hansen[1], H.L.A. Janssen[1,2], [1]Dept. of Gastroenterology and Hepatology, Erasmus Medical Center, Rotterdam, The Netherlands, [2]Liver Center, Toronto Western Hospital, University Health Network, Toronto, Ontario, Canada, [3]Dept. of Internal Medicine III, Division of Gastroenterology and Hepatology, Medical University of Vienna, Vienna, Austria, [4]Gastrointestinal & Liver Unit, Dipartimento Biomedico di Medicina Interna e Specialistica, University of Palermo, Palermo, Italy, [5]Unit of Gastroenterology and Liver Diseases, University Hospital Fundación Alcorcón, Madrid, Spain, [6]Dept.s of Gastroenterology and Hepatology, Karolinska University Hospital, Stockholm, Sweden, [7]Dept.s of Infectious Diseases, Karolinska Institutet, Stockholm, Sweden, [8]Hepato-gastroenterology Unit, AP-HP Jean Verdier Hospital, University Paris 13, Bondy, France, [9]A.M. and A. Migliavacca Center for Liver Disease, First Division of Gastroenterology, Fondazione IRCCS Cà Granda Ospedale Maggiore Policlinico, Università degli Studi di Milano, Milan, Italy, [10]Unité d'Hépatologie, AP-HP Hôpital Cochin, Université Paris Descartes, Inserm U1016, Paris, France, [11]Gastroenterology-Hepatology Dept., University Hospital La Princesa andPrincesa Research Institute, Autonomous University of Madrid, Madrid, Spain, [12]Dept. of Internal Medicine, Azienda Ospedaliera Fatebenefratelli e Oftalmico, Milan, Italy*

13.40 No increased risk of hepatocellular carcinoma in cirrhosis due to Wilson's disease during long term follow up (p.78)

*S. van Meer[1], R.A. de Man[2], A.P. van den Berg[7], R.H.J. Houwen[3], F.H.H. Linn[4-6], P.D. Siersema[1], K.J. van Erpecum[1], Dept. of [1]Gastroenterology, [3]Pediatrics and [4]Neurology, University Medical Center Utrecht, Utrecht, [5]Rudolf Magnus Institute of Neuroscience, Utrecht, [6]Central Military Hospital, Utrecht, [2]Dept. of Gastroenterology, Erasmus Medical Center, Rotterdam, [7]Gastroenterology, University Medical Center Groningen, Groningen, The Netherlands*

13.50 Patients with overt hepatic encephalopathy have increased risk of mortality awaiting liver transplantation (p.79)

*F.W.T. Chiang[1*], L. Verbruggen[1*], M. Navasa[2], H.W.Verspaget[1], B. van Hoek[1], J. Bosch[2], M.J. Coenraad[1] *Both authors contributed equally , [1]Dept. of Gastroenterology and Hepatology, Leiden University Medical Center, Leiden, The Netherlands, [2]Liver Unit, Hospital Clínic-IDIBAPS, CIBERehd, University of Barcelona, Barcelona, Spain*

14.00 Einde abstractsessie
Voor het plenaire Jubileumsymposium kunt u zich begeven naar de Brabantzaal

**Vrije voordrachten Sectie Gastrointestinale Oncologie** **Parkzaal**

**Voorzitters**: A. Cats en K.M.A.J. Tytgat

Voordrachten in het Nederlands, spreektijd 7 minuten, discussietijd 3 minuten

09.30 Magnetic Resonance Imaging after neoadjuvant chemoradiaton therapy is a suitable device for evaluation of tumour response (p. 80)

*L.B.M. Weerink[1], L.F.I.J. Oudenhoven[2], C.M. Gant[1], E.A. Kouwenhoven[1], I.F. Faneyte[1], [1]Dept. of Surgery, Ziekenhuisgroep Twente, Almelo, [2]Dept. of Radiology, Ziekenhuisgroep Twente, Almelo, The Netherlands*

09.40 Evaluation of the HER2 amplification status in esophageal adenocarcinoma by conventional and automated FISH, a tissue microarray study (p. 81)

*M.J.D. Prins[1], J.P. Ruurda[1], P.J. van Diest[2], R. van Hillegersberg[1], F.J.W. ten Kate[2], [1]Dept. of Surgery, University Medical Center Utrecht, Utrecht, [2]Dept. of Pathology, University Medical Center Utrecht, Utrecht, The Netherlands*

09.50 Recent trends in multidisciplinary treatment of oesophageal and gastric cancer in The Netherlands (p. 82)

*A.K. Trip[1], J.L. Dikken[2], O. Visser[3], J. Stiekema[4], A. Cats[5], H. Boot[5], J.W. van Sandick[4], E.P.M. Jansen[1], M. Verheij[1], [1]Dept. of Radiotherapy, [4]Surgery, [5]Gastroenterology and Hepatology, Antoni van Leeuwenhoek, Amsterdam, [2]Dept. of Surgery, Leiden University Medical Center, Leiden, [3]Integraal Kankercentrum Nederland, The Netherlands*

10.00 Increasing incidence of Barrett's esophagus and esophageal adenocarcinoma in the general population (p. 83)

*G.M.C. Masclee[1,2], P.M. Coloma[2], E.J. Kuipers[1], M.C.J.M. Sturkenboom[2], [1]Dept. of Gastroenterology and Hepatology, [2]Dept. of Medical Informatics, Erasmus Medical Center, Rotterdam, The Netherlands*

10.10 Predictive factors for enteral nutrition in patients receiving neoadjuvant chemoradiotherapy for locally advanced oesophageal carcinoma (p.84)

*M.W. van den Berg[1], S.A.L. Haijtink[1], E.M.G. de Vries[1], E.B. Haverkort[2], J.E. van Hooft[1], [1]Dept. of Gastroenterology & Hepatology, Academic Medical Center, Amsterdam, [2]Dept. of Nutrition & Dietetics, Academic Medical Center, Amsterdam, The Netherlands*

10.20 Cost Effectiveness Analysis of colonoscopy versus CT-colonography screening for colorectal cancer with attendance and costs from the Dutch COCOS trial (p. 85)

*M.P. van der Meulen[1], I. Lansdorp-Vogelaar[1], E.J. Kuipers[2,3], M. van Ballegooijen[1], [1]Dept. of Public Health, [2]Gastroenterology and Hepatology and [3]Internal Medicine, Erasmus Medical Center, Rotterdam, The Netherlands*

10.30 Einde abstractsessie

**Symposium Sectie Experimentele Gastroenterologie** **Parkzaal**

**Voorzitter:** A.A. te Velde

10.30 Ontstekingsziekten van de dunne darm
Pathogenetische mechanismen en aangrijpingspunten voor therapie.
*Dr. G. Bouma, MDL-arts, VU medisch centrum, Amsterdam*

11.00 Wat gaat de genetica van multifactoriële MDL ziekten betekenen voor de klinische praktijk?
*Prof. dr. R. Weersma, MDL-arts, UMC Groningen*

11.30 Voor de ledenvergadering van de NVGE en de uitreiking van het eerste exemplaar van het Jubileumboek kunt u zich begeven naar de Brabantzaal

12.00 Lunchpauze in de expo
*Het tweede deel van dit symposium start om 13.00 uur, wederom in de Parkzaal.*

**Voorzitter:** D.M.A.E. Jonkers

13.00 Microbiota compositie en functionaliteit in gastrointestinale ziekten
*Prof. dr. H. Smidt, WU Agrotechnologie & Voedingswetenschappen Laboratory of Microbiology*

13.30 Epigenetica en darmkanker
*Prof. dr. M. van Engeland, Professor Pathobiology of cancer-specifically the role of epigenetics, Dept. of Pathology, Maastricht Universitair Medisch Centrum+*

14.00 Einde symposium
Voor het plenaire Jubileumsymposium kunt u zich begeven naar de Brabantzaal

**Vrije voordrachten Sectie Gastrointestinale Endoscopie** **Brabantzaal**

**Voorzitters:** Y.C.A. Keulemans en B.L.A.M. Weusten

Voordrachten in het Nederlands, spreektijd 7 minuten, discussietijd 3 minuten

09.30 Impact of Variation in Screening Colonoscopy Quality on the Prevention of Colorectal Cancer Deaths. A Modeling Study (p. 86)

*R.G.S. Meester[1], D.A. Corley[2], C.A. Doubeni[3], A.G. Zauber[4], M. van Ballegooijen[1], [1]Dept. of Public Health, Erasmus Medical Center, Rotterdam, The Netherlands, [2]Division of Research, Kaiser Permanente, Oakland, California, U.S.A., [3]Dept. of Family Medicine and Community Health at the Perelman School of Medicine, Leonard Davis Institute for Health Economics and The Center for Public Health Initiatives, University of Pennsylvania, Philadelphia, Pennsylvania, U.S.A. [4]Memorial Sloan-Kettering Cancer Center, New York, New York, U.S.A.*

09.40 Bowel preparation and hospital are important factors influencing quality of colonoscopy as measured by cecum intubation and adenoma detection (p. 87)

*T.D.G. Belderbos[1], E.J. Grobbee[2], M.A.C. Meijssen[3], R.J.T.H. Ouwendijk[4], T.J. Tang[5], F. ter Borg[6], P. van der Schaar[7], D.M. Le Fèvre[8], M. Stouten[9], O. van der Galiën[8], T.J. Hiemstra[8], W.H. de Vos[3], P.C.J. ter Borg[4], L.M.G. Moons[1], E.J. Kuipers[2], P.D.* Siersema[1]*[1]Department of Gastroenterology and Hepatology, University Medical Center Utrecht, Utrecht, The Netherlands, [2]Department of Gastroenterology and Hepatology, Erasmus Medical Center, Rotterdam, The Netherlands, [3]Department of Gastroenterology and Hepatology, Isala Hospital, Zwolle, The Netherlands, [4]Department of Gastroenterology and Hepatology, Ikazia Hospital, Rotterdam, The Netherlands, [5]Department of Gastroenterology and Hepatology, IJsselland Hospital, Capelle aan den IJssel, The Netherlands, [6]Department of Gastroenterology and Hepatology, Deventer Hospital, Deventer, The Netherlands, [7]Department of Gastroenterology and Hepatology, Antonius Hospital, Nieuwegein, The Netherlands, [8]Achmea Health Care, Leiden, The Netherlands, [9]Gupta Strategists, Ophemert, The Netherlands*

09.50 "Pico-Bello-Klean study": Effectiveness and patient tolerability of bowel preparation agents Picoprep® and Kleanprep® before colonoscopy. A single-blinded randomized trial (p. 88)

*I.D. Munsterman[1], E. Cleeren[2], R. Brohet[2], T. Van der Ploeg[2], R.W.M. van der Hulst[1], [1]Dept. of Gastroenterology, Kennemer Gasthuis, Haarlem, [2]Linnaeus Institute, Kennemer Gasthuis, Haarlem, The Netherlands*

10.00 Towards instant lesion detection by ultrasensitive near-infrared fluorescence endoscopy using clinical applicable molecular targeted fluorescent antibodies (p. 89)

*J.J.J. Tjalma[1], P.B. Garcia-Allende[2], A.G.T. Terwisscha van Scheltinga[3], E. Hartmans[1], J. Glatz[2], M. van Oosten[4], J.J. Koornstra[1], E. de Vries[5], J.H. Kleibeuker[1], G.M. van Dam[4], V. Ntziachristos[2], W.B. Nagengast[1], [1]Dept. of Gastroenteroloy and Hepatology, University Medical Center Groningen, Groningen, The Netherlands, [2]Institute for Biological and Medical Imaging, Helmholtz Zentrum München, München, Germany, [3]Hospital and Clinical Pharmacy, University Medical Center Groningen, Groningen, The Netherlands, [4]Dept. of Surgery, University Medical Center Groningen, Groningen, The Netherlands, [5]Dept. of Medical Oncology, University Medical Center Groningen, Groningen, The Netherlands*

**Vrije voordrachten Sectie Gastrointestinale Endoscopie** **Brabantzaal**

10.10 Endoscopic follow-up intervals of indefinite for dysplasia in Barrett's esophagus should be similar to those recommended for low-grade dysplasia: a Dutch nationwide cohort study (p. 90 )

*C. Kestens[1], M. Leenders[1], G.J.A. Offerhaus[2], L.I.H. Overbeek[3], J.W.P.M. van Baal[1], P.D. Siersema[1], [1]Dept. of Gastroenterology and Hepatology, [2]Dept. of Pathology, University Medical Center Utrecht, Utrecht, [3]Stichting PALGA, Utrecht, The Netherlands*

10.20 High proximal migration rate of a partially covered big cup duodenal stent (Hanaro DPC-stent) in patients with malignant gastric outlet obstruction (p. 91)

*M.W. van den Berg[1], D. Walter[2], F.P. Vleggaar[2], P.D. Siersema[2], P. Fockens[1], J.E. van Hooft[1], [1]Dept. of Gastroenterology and Hepatology, Academic Medical Center, Amsterdam, [2]Dept. of Gastroenterology and Hepatology, University Medical Center Utrecht, Utrecht, The Netherlands*

10.30 Functional outcome following successful endoscopic reconstitution of patients with radiation-induced complete esophageal obstruction (p. 92)

*K.V. Grooteman[1], F.P. Vleggaar[1], P.D. Siersema[1], T.H. Baron[2], [1]University Medical Center Utrecht, Utrecht, The Netherlands, [2]Mayo Clinic, Rochester, U.S.A.*

10.40 Endoscopic versus bedside electromagnetic-guided placement of nasoenteral feeding tubes in surgical patients (p.93)

*A. Gerritsen[1], T. de Rooij[1], M.J. van der Poel[1], M.G. Dijkgraaf[3], O.R.C. Busch[1], M.G.H. Besselink[1], E.M.H. Mathus-Vliegen[2], [1]Dept. of Surgery, Academic Medical Center, Amsterdam, [2]Dept. of Gastroenterology, Academic Medical Center, Amsterdam, [3]Clinical Research Unit, Academic Medical Center, Amsterdam, The Netherlands*

10.50 The fishing line method: a simplified, non-traumatic technique facilitating Percutaneous Endoscopic Jejunostomy (p. 94)

*H.R. van Buuren[1], P. Didden[1], D.J. den Hartog[1], A. Sullivan[1], M. Baris[1], M.J. Bruno[1], E.J. Kuipers[1], H. Aktas[2], [1]Dept. of Gastroenterology and Hepatology, Erasmus Medical Center, Rotterdam, [2]Dept. of Internal Medicine and Gastroenterology, Ziekenhuisgroep Twente, Almelo, The Netherlands*

11.00 Koffiepauze in de expositiehal

*Vrijdag 4 oktober 2013*

**Symposium Sectie Gastrointestinale Endoscopie** **Brabantzaal**

**Voorzitters:** J.J.G.H.M. Bergman en T. Römkens

**Minisymposium "Het tweede leven van...."**

11.30 "Het tweede leven van de gepensioneerde endoscopist"
*Dr. H.P.M. Festen, MDL-arts*

11.50 "Het tweede leven van oude endoscopie apparatuur"
*Prof. dr. C.J.J. Mulder, MDL-arts, VUmc, Amsterdam*

12.10 Einde symposium

**Videosessie Sectie Gastrointestinale Endoscopie** **Brabantzaal**

**Voorzitters:** J.J.G.H.M. Bergman en T. Römkens

12.10 Zonderlinge video's van eigen bodem

EUS-guided gallbladder drainage.
*F.P. Vleggaar, D. Walter, P.D. Siersema*
*UMC Utrecht, Utrecht*

Rood bloedverlies per anum.
*D. van Erkel, S. Ganesh, P. Dewint*
*Maasstad ziekenhuis, Rotterdam.*

Ileocolische invaginatie.
*S. van der Velde, W.H. Steup*
*HAGA ziekenhuis, Den Haag*

Sprookjesachtige beelden.
*W. de Graaf, Brechtje Grotenhuis, I. Leeuwenburgh, A. Koch.*
*Erasmus MC, Rotterdam*

**Videosessie Sectie Gastrointestinale Endoscopie** **Brabantzaal**

Over dysfagie: een endoscopisch duet.
*E. Schoon*
*Catharina ziekenhuis, Eindhoven*

De Amersfoortse kei.
*M.P. Schwartz*
*Meander Medisch Centrum, Amersfoort.*

PEG in transversum.
*M.L. Mearin*
*Leids Universitair Medsich Centrum, Leiden*

The dream of an endoscopist.
*G.F. Nelis. Hattem*

13.00 Lunchbuffet in de expositiehal

*Vrijdag 4 oktober 2013*

**Historisch Jubileumsymposium** **Brabantzaal**

**Voorzitters:** G. Dijkstra en J.J. Keller


**100 jaar MDL in Nederland**

14.00 Inleiding
*Prof. dr. C.J.J. Mulder*

14.10 De geschiedenis van een verdeeld specialisme
*Mevr. Dr. A. Juch, medisch historicus en schrijver Lustrumboek*

14.25 Wetenschappelijke input en output van de NVGE
*Prof. dr. P.L.M. Jansen*

14.40 Hoogtepunten 100 jaar gastroenterologie
*Prof. dr. G.N.J. Tytgat*

15.00 Hoogtepunten 100 jaar hepatologie
*Prof. dr. G.P. van Berge Henegouwen*

15.20 **Historische Quiz**
*Presentatie: prof. J.F.W.M. Bartelsman*

Prijs voor winnaar van de quiz:
overnachting voor 2 personen in American Hotel te Amsterdam
waar op 26 oktober 1913 de oprichtingsvergadering plaatsvond.

16.00 Einde programma
gelegenheid tot een drankje in de expositiehal

**Symposium Sectie Neurogastroenterologie en Motiliteit** **Auditorium**

**Voorzitters:** J.M. Conchillo en R.J.F. Felt-Bersma

**An update on Functional Constipation and Irritable Bowel Syndrome**

09.30 Mechanisms of hypersensitivity in IBS
*Dr. R.M. van den Wijngaard (Academisch Medisch Centrum, Amsterdam)*

09.52 Pathophysiology of constipation.
*Prof. dr. M. Scott (Barts and The London School of Medicine, London)*

10.15 Algorithms for management of constipation and IBS
*Prof. dr. A.J.P.M. Smout (Academisch Medisch Centrum, Amsterdam)*

10.37 New drug treatment options
*Prof. dr. G. Boeckxstaens (University Hospital, Leuven)*

11.00 Einde symposium, koffiepauze

**Richtlijn Hepatocellulair Carcinoom** **Auditorium**

**Voorzitters:** R.A. de Man, MDL-arts en K. de Jong, chirurg

11.30 Screening op HCC
*Dr. K.J. van Erpecum, MDL-arts UMCU*

11.50 Beeldvorming bij HCC
*Dr. M. Burgmans, affiliatie afdeling radiologie LUMC*

12.10 Leverbiopt bij HCC: liever niet
*Prof. dr. P.L.M. Jansen, MDL-arts*

12.25 BCLC Selectiecriteria voor RFA, chirurgie, transplantatie
*Prof. dr. C. Verhoef, chirurg EMC*

12.40 Systemische therapie
*Dr. H.J. Klümpen, medische oncologie AMC*

**Voorzitters**: L.C. Baak en R.J. de Knegt

Voordrachten in het Nederlands, spreektijd 7 minuten, discussietijd 3 minuten

09.30 Clinical heterogeneity in polycystic liver disease families (p. 95)
*W.R. Cnossen[1], J. Salomon[1], R.H.M. te Morsche[1], J.P.H. Drenth[1], [1]Dept. of Gastroenterology and Hepatology, University Medical Center St Radboud, Nijmegen, The Netherlands*

09.40 Lanreotide halts polycystic liver and kidney growth in patients with autosomal dominant polycystic kidney disease: Results from the RESOLVE trial (p. 96)
*T.J.G. Gevers[1], J.C. Hol[1], R. Monshouwer[2], H.M. Dekker[3], J.P.H. Drenth[1], [1]Dept. of Gastroenterology and Hepatology, University Medical Center St Radboud, Nijmegen, [2]Dept. of Radiation Oncology, University Medical Center St Radboud, Nijmegen, [3]Dept. of Radiology, University Medical Center St Radboud, Nijmegen, The Netherlands*

09.50 A novel baseline prediction model based on hbsag levels predicts the probability of response to peginterferon alfa in hbeag-positive chronic hepatitis b (p. 97)
*M.J. Sonneveld[1], H.L.Y. Chan[2], V.W.S. Wong[2], T. Piratvisuth[3], J. Jia[4], S. Zeuzem[5], E. Gane[6], Y. Liaw[7], Q. Xie[8], H.L.A. Janssen[1,9], B.E. Hansen[1], [1]Dept. of Gastroenterology and Hepatology, Erasmus Medical Center, Rotterdam, The Netherlands, [2]Dept. of Medicine and Therapeutics and Institute of Digestive Disease, the Chinese University of Hong Kong, Hong Kong SAR, China, [3]NKC Institute of Gastroenterology and Hepatology, Songklanagarind Hospital, Prince of Songkla University, Hat Yai, Thailand, [4]Liver Research Center, Beijing Friendship Hospital, Capital Medical University, Beijing, China, [5]Medical Clinic 1, Johann Wolfgang Goethe University Medical Center, Frankfurt, Germany, [6]Liver Unit, Auckland City Hospital, Auckland, New Zealand, [7]Liver Research Unit, Chang Gung Memorial Hospital, Chang Gung University College of Medicine, Taipei, Taiwan, [8]Dept. of Infectious Diseases, Ruijin Hospital, Shanghai, China; [9]Division of Gastroenterology, University Health Network, Toronto, Canada*

10.00 Adequate virological response in chronic hepatitis B patients during entecavir therapy despite frequent suboptimal adherence: a prospective multicenter study with electronic adherence monitoring (p. 98)
*L.G. van Vlerken[1], P. Arends[2], F.I. Lieveld[1], J.E. Arends[3], W.P. Brouwer[2], P.D. Siersema[1], H.L.A. Janssen[2,4], K.J. van Erpecum[1], [1]Dept. of Gastroenterology and Hepatology, University Medical Center Utrecht, Utrecht, The Netherlands, [2]Dept. of Gastroenterology and Hepatology, Erasmus Medical Center, Rotterdam, The Netherlands, [3]Dept. of Internal Medicine and Infectious Diseases, University Medical Center Utrecht, Utrecht, The Netherlands, [4]Liver Clinic, Toronto Western and General Hospital, University Health Network, Toronto, Canada*

10.10 Prediction of Hepatocellular Carcinoma in Entecavir Treated Patients: Results from 744 Chronic hepatitis B Patients in a European Multicenter Study (p. 99)
*P. Arends[1], R. Zoutendijk[1], I. Carey[2], A. Brown[3], M. Fasano[4], D. Mutimer[5], K. Deterding[6], J.G.P. Reijnders[1], Y. Oo[5], J. Petersen[7], F. van Bommel[8], R.J. de Knegt[1], T. Berg[8], T.M. Wezel[9], B. Hansen[1], H. Wedemeyer[6], M. Buti[10], P. Pradat[11], F. Zoulim[11], H.L.A. Janssen[1,12] for the VIRGIL Surveillance Study*

*Group,[1]Dept. of Gastroenterology and Hepatology, Erasmus Medical Center, Rotterdam, The Netherlands, [2]Institute of Liver Studies and Transplantation, King's College School of Medicine, London, U.K., [3]Dept. of Hepatology and Gastroenterology, Imperial College London, London, U.K., [4]Clinic of Infectious Diseases, University of Foggia, Foggia, Italy, [5]NIHR Biomedical Research Unit and Centre for Liver Research, Queen Elizabeth Hospital, Birmingham, U.K., [6]Dept. of Gastroenterology, Hepatology, and Endocrinology, Medical School Hannover, Hannover, Germany, [7]IFI Institute, Asklepios Klinik St. Georg, Hamburg, Germany, [8]Dept. of Hepatology, University Clinic Leipzig, Leipzig, Germany, [9]Medizinische Klinik 1, Klinikum der Johann Wolfgang Goethe-Universität, Frankfurt am Main, Germany, [10]Dept. of Hepatology, Hospital Vall de Hebron, Barcelona, Spain, [11]Dept. of Hepatology, Hôpital de la Croix-Rousse Hospices Civils de Lyon, Lyon, France, [12]Liver Clinic, Toronto Western & General Hospital, University Health Network, Toronto, Canada*

10.20 Gene variants in the interferon gamma receptor 2 gene are associated with liver stiffness in the general population: Results of a population-based study (p. 100)

*E.P.C. Plompen[1], J.N.L. Schouten[2], D.W. Loth[3], B.E. Hansen[1,4], A. Hofman[3], A.G. Uitterlinden[3,5], B.H.Ch. Stricker[3], F.W.G. Leebeek[6], H.L.A. Janssen[1,7], [1]Dept. of Gastroenterology and Hepatology, Erasmus Medical Center, Rotterdam, The Netherlands, [2]Dept. of Gastroenterology and Hepatology, AZ Nikolaas, Sint-Niklaas, Belgium, [3]Dept. of Epidemiology, Erasmus Medical Center, Rotterdam, The Netherlands, [4]Dept. of Public Health, Erasmus Medical Center, Rotterdam, The Netherlands, [5]Dept. of Internal Medicine, Erasmus Medical Center, Rotterdam, The Netherlands, [6]Dept. of Hematology, Erasmus Medical Center, Rotterdam, The Netherlands, [7]Liver Centre, Toronto Western Hospital, University Health Network, Toronto, Ontario, Canada*

10.30 Liver stiffness measurement by transient elastography for the management of chronic hepatitis B patients (p. 101)

*H. Chi[1], B.E. Hansen[1], J.J. Feld[2], D. Wong[2], E.H.C.J. Buster[1], R.J. de Knegt[1], H.L.A. Janssen[1,2], [1]Dept. of Gastroenterology and Hepatology, Erasmus Medical Center, Rotterdam, The Netherlands, [2]Liver Clinic, Toronto Western and General Hospital, University Health Network, Toronto, Canada*

10.40 Dynamic changes in IP10 level during interferon therapy: association with IL28B genotype and early viral kinetics (p. 102)

*S.B. Willemse[1], R. Rientsma[2], H.C. Gelderblom[1], R. Molenkamp[2], H.W. Reesink[1], C.J. Schinkel[2], [1]Dept. of Gastroenterology and Hepatology, Academic Medical Center, Amsterdam, [2]Dept. of Virology, Academic Medical Center, Amsterdam, The Netherlands*

10.50 Comparison of the overall survival between patients with HCV-induced advanced hepatic fibrosis and the general population (p. 103)

*B.E. Hansen[1], A.J.P. van der Meer[1], J.J. Feld[2], H. Wedemeyer[3], J.-F. Dufour[4], F. Lammert[5], A. Duarte-Rojo[2], M.P. Manns[3], S. Zeuzem[6], W.P. Hofmann[6], R.J. de Knegt[1], B.J. Veldt[1], H.L.A. Janssen[1,2], [1]Dept. of Gastroenterology and Hepatology, Erasmus Medical Center, Rotterdam, The Netherlands, [2]Liver Center, Toronto Western Hospital, University Health Network, Toronto, Ontario, Canada, [3]Dept. of Gastroenterology, Hepatology, and Endocrinology, Medical School Hannover, Hannover, Germany, [4]Hepatology, Dept. of Clinical research, University of Bern, Bern, Switzerland, [5]Dept. of Medicine II, Saarland University Medical Center, Homburg, Germany, [6]Medizinische Klinik 1, Klinikum der Johann Wolfgang Goethe- Universität, Frankfurt am Main, Germany*

11.00 Koffiepauze

**Nederlandse Vereniging voor Gastroenterologie** **Baroniezaal**

**Voorzitters:** J.J. Keller en G. Wanten

Voordrachten in het Nederlands, spreektijd 7 minuten, discussietijd 3 minuten

11.30 National registration of children with intestinal failure (p. 104)
*E.G. Neelis[1], M.M. Tabbers[2], G.M. Damen[3], J.C. Escher[4], E.H.H.M. Rings[1], [1]Paediatrics, University Medical Center Groningen, Beatrix Children's Hospital, Groningen, [2]Paediatrics, Academic Medical Center, Emma Children's Hospital, Amsterdam, [3]Paediatrics, University Medical Center St Radboud, Nijmegen, [4]Paediatrics, Erasmus Medical Center - Sophia Children's Hospital, Rotterdam, The Netherlands*

11.40 Incidental colonic focal FDG uptake on PET-CT: can the maximum standardized uptake value ($SUV_{max}$) guide us in the timing of colonoscopy? (p. 105)
*F.B. van Hoeij, R.G.M. Keijsers[1], B.C.A.J. Loffeld[2], G.C. Dun[3], P.H.G.M. Stadhouders[4], B.L.A.M. Weusten[4], [1]Dept. of Nucleair Medicine, St. Antonius Hospital, Nieuwegein, [2]Dept. of Internal Medicine, Zuwe Hofpoort Hospital, Woerden, [3]Dept. of Internal Medicine, Hospital Rivierenland, Tiel, [4]Dept. of Gastroenterology, St. Antonius Hospital, Nieuwegein, The Netherlands*

11.50 The response to multiple rapid swallows during high-resolution manometry predicts oesophageal emptying in achalasia patients (p. 106)
*F.A.M. Ponds[1], A.J.P.M. Smout[1], A.J. Bredenoord[1], [1]Dept. of Gastroenterology and Hepatology, Academic Medical Center, Amsterdam, The Netherlands*

12.00 Feasibility of FISH on sponge brushes (Cytosponge) of Barrett patients (p. 107)
*C.T. Lau[1], P. Lao-Sirieix[2], C. Ross-Inness[2], M.R. Timmer[1,3], K. Parikh[1], R. Fitzgerald[2], K.K. Krishnadath[1,3], [1]Dept. of Experimental and Molecular Medicine, Academic Medical Center, Amsterdam, The Netherlands, [2]Medical Research Council Cancer Cell Unit, Cambridge, U.K., [3]Dept. of Gastroenterology and Hepatology, Academic Medical Center, Amsterdam, The Netherlands*

12.10 Long-term taurolidine lock therapy is more effective in preventing catheter related bloodstream infections in adult home parenteral nutrition patients than heparin: a follow-up of 212 patients (p. 108)
*E.D. Olthof[1], G.J. Huisman-de Waal[1], M.W. Versleijen[1], W. Kievit[2], G.J. Wanten[1], [1]Dept. of Gastroenterology and Hepatology, [2]Dept. of Health Evidence, University Medical Center St Radboud, Nijmegen, The Netherlands*

12.20 Microbiocidal effects of various taurolidine containing catheter lock-solutions (p. 109)
*E.D. Olthof[1], A.F. Gülich[1], A.J.M.M. Rijs[2], R. Nijland[3], G.J.A. Wanten[1], [1]Dept. of Gastroenterology and Hepatology, [2]Dept. of Medical Microbiology, University Medical Center St Radboud, Nijmegen, [3]Dept. of Medical Microbiology, University Medical Center Utrecht, Utrecht, The Netherlands*

12.30 Dysphagia and gastro-intestinal problems in adults carrying the mitochondrial DNA m.3243A>G mutation (p. 110)

*H. Zweers[1], P. de Laat[2], S. Knuijt[3], J. Smeitink[2], M. Janssen[2,4], G. Wanten[1], [1]Dept. of Gastroenterology and Hepatology, [2]Pediatrics, [3]Rehabilitation and [4]Internal Medicine, Nijmegen Center for Mitochondrial Disorders, UMC St Radboud Nijmegen, The Netherlands*

12.40 **MLDS-project**

Statins and the risk of colorectal cancer in relation to K-ras mutations and SMAD4 expression (p. 111)

*R.J. Jacobs, L.L. Kodach, N.L. Weil, M. Casparie, R.M. Herings, H. Morreau, D.W. Hommes, G.R. van den Brink, J.C.H Hardwick[1]Department of Gastroenterology & Hepatology, Leiden University Medical Center, Leiden, the Netherlands; [2]Center for Inflammatory Bowel Diseases, University of California Los Angeles Medical Center, Santa Monica, California, United States of America; [3]Department of Pathology, Leiden University Medical Center, Leiden, the Netherlands; [4]Stichting PALGA, Utrecht, The Netherlands [5]PHARMO Institute for Drug Outcomes Research, Utrecht, The Netherlands; [6]Department of Statistics, Leiden University Medical Center, Leiden, the Netherlands; [7]Department of Gastroenterology and Hepatology, Academic Medical Center, Amsterdam, the Netherlands; [8]Tytgat Institute for Liver & Intestinal Research, Academic Medical Center, Amsterdam, the Netherlands*

12.50 **MLDS-project**

A novel mouse model to study prevention strategies for intestinal cancer in Lynch Syndrome (p. 112)

*K. Wojciechowicz-Grazda, E. Cantelli, M. Dekker, A. van der Wal, E. Delzenne-Goette, H. te Riele, The Netherlands Cancer Institute/ Het Antoni van Leeuwenhoek, Division of Biological Stress Response, Amsterdam, The Netherlands*

13.00 Lunchbuffet in expositiehal

**Nederlandse Vereniging voor Gastrointestinale Chirurgie** **Parkzaal**

08.30 Ontvangst en koffie

**Voorzitters**: C.H.C. De Jong en F. Vleggaar

Voordrachten in het Nederlands, spreektijd 7 minuten, discussietijd 3 minuten

09.00 Laparoscopic gastrostomy is safer than percutaneous endoscopic gastrostomy in children: results of a systemic review and meta-analysis (p. 113)
*F. Mauritz[1], J. Franken[1], N. Suksamanapun[1], D. C. van der Zee[1], M.Y.A. van Herwaarden- Lindeboom[1], [1]University Medical Center Utrecht, Utrecht, The Netherlands*

09.10 Efficacy and adverse events of Laparoscopic Gastrostomy placements in children: Results of a large cohort study (p. 114)
*J. Franken[1], F.A. Mauritz[1,2], D.C. van der Zee[1], M.Y.A. van Herwaarden-Lindeboom[1], [1]University Medical Center Utrecht, Utrecht, The Netherlands*

09.20 Is there a relation between preoperative abnormalities at esophagogastroduodenoscopy and postoperative complications after laparoscopic gastric bypass (p. 115)
*U.K. Coblijn[1], S. de Castro[1], S.D. Kuiken[2], W.F. van Tets[1], L. de Wit[1], S.M. Lagarde[1], B.A. van Wagensveld[1], [1]Dept. of Surgery, [2]Dept. of Gastroenterology and Hepatology, St. Lucas Andreas Hospital, Amsterdam, The Netherlands*

09.30 Is laparoscopic cholecystectomy á froid necessary after conservative therapy of acute cholecystitis? (p.116)
*A. Firmansyah[1], G.I. Koffeman[1], W.F. van Tets[1], B.A. van Wagensveld[1], B.C. Vrouenraets[1], [1]St. Lucas Andreas Hospital, Amsterdam, The Netherlands*

09.40 Pattern of recurrence following complete cytoreductive surgery and hyperthermic intraperitoneal chemotherapy in patients with peritoneal carcinomatosis of colorectal cancer (p. 117) *H.J. Braam[1], T.R. van Oudheusden[2], S.W. Nienhuis[2], I.H.J.T. de Hingh[2], D. Boerma[1], M.J. Wiezer[1], B. van Ramshorst[1], [1]St. Antonius Ziekenhuis, Nieuwegein, [2]Catharina Ziekenhuis, Eindhoven, The Netherlands*

09.50 Treatment of ovarian metastases of colorectal carcinoma in the era of hyperthermic intraperitoneal chemotherapy (p. 118)
*A.M.J. Kuijpers[1], A.M. Mehta[1], A.G.J. Aalbers[1], H. Boot[1], V.J. Verwaal[1], [1]Antoni van Leeuwenhoek, Amsterdam, The Netherlands*

10.00 Colorectal surgery in octogenarians: age as the most relevant risk factor (p. 119)
*L.B.M. Weerink[1], C.M. Gant[1], E.A. Kouwenhoven[1], I.F. Faneyte[1], [1]Dept. of Surgery, Ziekenhuisgroep Twente, Almelo, The Netherlands*

10.10 Preoperative characteristics of patients with presumed pancreatic cancer but ultimately benign disease: a multicenter series of 344 pancreatoduodenectomies (p. 120)

*A. Gerritsen[1,2], I.Q. Molenaar[1], T.L. Bollen[3], C.Y. Nio[4], M.G. Dijkgraaf[5], H.C. van Santvoort[1], G.J. Offerhaus[6], E. Sieders[7], K.P. de Jong[7], R.M. van Dam[8], E. van der Harst[9], H. van Goor[10], B. van Ramshorst[11], B.A. Bonsing[12], I.H. de Hingh[13], M.F. Gerhards[14], C.H. van Eijck[15], D.J. Gouma[2], I.H.M. Borel Rinkes[1], O.R. Busch[2], M.G.H. Besselink[1,2], [1]Dept. of Surgery, University Medical Center Utrecht, Utrecht, [2]Dept. of Surgery, Academic Medical Center, Amsterdam, [3]Dept. of Radiology, St. Antonius Hospital, Nieuwegein, [4]Dept. of Radiology, Academic Medical Center, Amsterdam, [5]Dept. of Biostatistics and Clinical Epidemiology, Academic Medical Center, Amsterdam, [6]Dept. of Pathology, University Medical Center Utrecht, Utrecht, [7]Dept. of Surgery, University Medical Center Groningen, Groningen, [8]Dept. of Surgery, Maastricht University Medical Center, Maastricht, [9]Dept. of Surgery, Maasstad Hospital, Rotterdam, [10]Dept. of Surgery, University Medical Centre St Radboud, Nijmegen, [11]Dept. of Surgery, St. Antonius Hospital, Nieuwegein, [12]Dept. of Surgery, Leiden University Medical Center, Leiden, [13]Dept. of Surgery, Catharina Hospital, Eindhoven, [14]Dept. of Surgery, OLVG, Amsterdam, [15]Dept. of Surgery, Erasmus Medical Center, Rotterdam, The Netherlands*

10.20 Adjuvant chemoradiotherapy improves survival after a microscopically irradical (R1) gastric cancer resection (p.121)

*J. Stiekema[1], A.K. Trip[2], E.P.M. Jansen[2], M.J. Aarts[3], H. Boot[4], A. Cats[4], O. Balague Ponz[5], M. Verheij[2], J.W. van Sandick[1], Dept. of Surgery[1], Radiotherapy[2], Gastroenterology and Hepatology[4] and Pathology[5], Antoni van Leeuwenhoek, Amsterdam, Comprehensive Cancer Center South[3], Eindhoven, The Netherlands*

10.30 Treatment and outcome for young patients with esophageal cancer in the Netherlands (p. 122)

*A.M.J van Nistelrooij[1], [2], L.N. van Steenbergen[3], H.W. Tilanus[1], J.J.B. van Lanschot[1], V.E.P.P. Lemmens[2], [3], B.P.L. Wijnhoven[1], 1Dept. of Surgery and 2Dept. of Public Health, Erasmus Medical Center, Rotterdam, 3Comprehensive Cancer Center South, Eindhoven, The Netherlands*

10.40 Induction chemotherapy followed by surgery for primarily incurable oesophageal carcinoma (p. 123)

*E.L.A. Toxopeus[1], S. Talman[1], A. van der Gaast[2], V.M.C.W Spaander[3], C.M. van Rij[4], N.C. Krak[5], H.W. Tilanus[1], J.J.B. van Lanschot[1], B.P.L. Wijnhoven[1], [1]Dept. of Surgery, Erasmus Medical Center Rotterdam, [2]Dept. of Internal Oncology, Erasmus Medical Center Rotterdam, [3]Dept. of Gastroenterology, Erasmus Medical Center Rotterdam, [4]Dept. of Radiotherapy, Erasmus Medical Center Rotterdam, [5]Dept. of Radiology, Erasmus Medical Center Rotterdam, The Netherlands*

10.50 Which health-related quality of life outcomes should be discussed during the initial follow-up consultation after surgery for esophageal cancer? Preliminary findings of a Delphi survey (p. 124)

*M. Jacobs[1], I. Henselmans[1], R. Macefield[2], N. Blencowe[2], E. Smets[1], H. de Haes[1], M. Sprangers[1], J. Blazeby[2,3], M. van Berge Henegouwen[4], [1]Dept. of Medical Psychology, Academic Medical Center / University of Amsterdam, The Netherlands, [2]School of Social & Community Medicine, University of Bristol, Bristol, U.K., [3]Division of Surgery Head and Neck, University Hospitals Bristol NHS Foundation Trust, Bristol, U.K., [4]Dept. of Surgery, Academic Medical Center/ University of Amsterdam, Amsterdam, The Netherlands*

11.00 Koffiepauze in de expositiehal

**Nederlandse Vereniging voor Gastroenterologie** **Parkzaal**

**Voorzitters:** J.Ph. Kuijvenhoven en M.A.M.T. Verhagen

Voordrachten in het Nederlands, spreektijd 7 minuten, discussietijd 3 minuten

11.30 The long-term outcome of autoimmune pancreatitis (p. 125)

*J. Buijs[1], D. Cahen[1], M.J. van Heerde[1], E.A.J. Rauws[2], L.J. Maillette de Buij Wenniger[2], B.E. Hansen[1], K. Biermann[1], J. Verheij[2], F.P. Vleggaar[3], M.A. Brink[4], U.H.W. Beuers[2], H.R. van Buuren[1], M.J. Bruno[1], [1]Erasmus Medical Center, Rotterdam, [2]Academic Medical Center, Amsterdam, [3] University Medical Center Utrecht, Utrecht, [4]Meander Medical Center, Amersfoort, The Netherlands*

11.40 The Young Coeliacs of the PreventCD Study - A Prospective Cohort at High-Risk for Coeliac Disease (p. 126)

*S.L. Vriezinga[1], R. Auricchio[2], Bravi [3], G. Castillejo[4], A. Chmielewska[5], P. Crespo[6], J. Gyimesi[7], C. Hartman[8], S. KolaÄ ek[9], S. Koletzko[10], I. Korponay-Szabo[7], E. Martinez-Ojinaga[11], A. MoÄ iÄ‡ PaviÄ‡[9], E. Mummert[12], I. Polanco[11], H. Putter[13], C. Ribes-Koninckx[6], J. Romanos[14], R. Shamir[8], H. Szajewska[5], K. Werkstetter[10], C. Wijmenga[14], R. Troncone[2], M.L. Mearin[1] on behalf of the PreventCD working group, [1]Dept. of Pediatrics, Leiden University Medical Center, Leiden, The Netherlands, [2]Dept. of Pediatrics, University Federico II, Naples, [3]Eurospital SpA, Trieste, Italy, [4]Dept. of Pediatrics, Hospital Universitari Sant Joan, Reus, Spain, [5]Dept. of Pediatrics, Medical University of Warsaw, Warsaw, Poland, [6]Dept. of Pediatrics, La Fe University Hospital, Valencia, Spain, [7]Coeliac Disease Center, Heim Pál Children's Hospital, Budapest, Hungary, [8]Schneider Children's Medical Center, Sackler faculty of Medicine, Tel-Aviv University, Tel-Aviv, Israel, [9]University Children's Hospital Zagreb, Zagreb, Croatia, [10]Hauner Children's Hospital, University of Munich, Munich, Germany, [11]Dept. of Pediatrics, La Paz University Hospital, Madrid, Spain, [12]Phadia GmbH/ThermoFisher, Freiburg, Germany, [13]Dept. of Medical Statistics, Leiden University Medical Center, Leiden, [14]Dept. of Genetics, University Medical Center Groningen, Groningen, The Netherlands.*

11.50 A prognostic scoring model identifies patients with a low risk of an adverse outcome of an Ischemic Colitis (p. 127)

*R.H. Schönwetter[1], A. Rauwers[1], M. Leenders[1], R.J. Toorop[2], F.L. Moll[2], H.J.M. Pullens[3], P.D. Siersema[1], L.M.G. Moons[1], [1]Dept. of Gastroenterology and Hepatology, University Medical Center Utrecht, Utrecht, [2]Dept. of vascular surgery, University Medical Center Utrecht, Utrecht, [3]Dept. of Gastroenterology and Hepatology, Meander Medical Center, Amersfoort, The Netherlands*

12.00 The development of IC is associated with arteriopathy (p.128)

*A.W. Rauwers[1], R.H. Schönwetter[1], M. Leenders[1], R.J. Toorop[2], F.L. Moll[2], H.J.M. Pullens[3], J. Westerink[4], P.D. Siersema[1], L.M.G. Moons[1], [1]Dept. of Gastroenterology and Hepatology, University Medical Center Utrecht, Utrecht, [2]Dept. of Vascular surgery, University Medical Center Utrecht, Utrecht, [3]Dept. of Gastroenterology and Hepatology, Meander Hospital, Amersfoort, [4]Dept. of Vascular medicine, University Medical Center Utrecht, Utrecht, The Netherlands*

12.10 Intestinal microbiota profiling in healthy children: analysis of short-term and long- term stability (p. 129)

*T.G.J. de Meij[1], A.E. Budding[2], F.M. Jansen[1], E. de Groot[1], C.M.F. Kneepkens[1], P.H.M. van Savelkoul[2], A.A. van Bodegraven[3], [1]Dept. of Pediatric Gastroenterology, VU University Medical Center, Amsterdam, [2]Dept. of Infectious diseases, VU University Medical Center, Amsterdam, [3]Dept. of Gastroenterology and Hepatology, VU University Medical Center, Amsterdam, The Netherlands*

12.20 Altered faecal microbiota composition in patients with a first episode of acute uncomplicated diverticulitis (p.130)

*L. Daniels[1], A.E. Budding[2], N. de Korte[3], H.B.A.C. Stockmann[3], E.C.J. Consten[4], P.H.M. Savelkoul[2], M.A. Boermeester[1], [1]Dept. of Surgery, Academic Medical Center, Amsterdam, [2]Dept. of Medical Microbiology and Infection Control, VU University Medical Center, Amsterdam, [3]Dept. of Surgery, Kennemer Gasthuis, Haarlem, [4]Dept. of Surgery, Meander Medical Center, The Netherlands*

12.30 Helicobacter pylori colonization and preeclampsia: the Generation R study (p. 131)

*W.J. den Hollander[1], S. Schalekamp - Timmermans[2], I.L. Holster[1], V. W. Jaddoe[3], G.I. Perez- Perez[5], M.J. Blaser[5], E.A.P. Steegers[2], E.J. Kuipers[1,3], Dept. of [1]Gastroenterology and Hepatology, [2]Obstetrics and Gynaecology, [3]Pediatrics, [4]Internal Medicine, Erasmus Medical Center, Rotterdam, The Netherlands, [5]Dept. of Medicine and Microbiology, New York Langone Medicine Center, New York, U.S.A.*

12.40 Helicobacter pylori colonization rate in children is highly variable among different ethnic groups in Western populations: the Generation R study (p. 132)

*W.J. den Hollander[1], I.L.. Holster[1], B. van Gilst[1], A.J. van Vuuren[1], V.W. Jaddoe[3,4], G.I. Perez-Perez[5], M.J. Blaser[5], H.A. Moll[3], E.J. Kuipers[1,2], Dept. of [1]Gastroenterology and Hepatology, [2]Internal Medicine, [3]Pediatrics, [4]Generation R, Erasmus Medical Center, Rotterdam, The Netherlands, [5]Dept. of Medicine and Microbiology, New York Langone Medical Center, New York, U.S.A.*

12.50 Cost concerns should not affect the choice for plastic or metal stent for unresectable malignant common bile duct obstruction: a randomized controlled trial (p. 133)

*D. Walter[1], F.P.Vleggaar[1], P.D. Siersema[1] on behalf of the PLAMET study group, [1]Dept. of Gastroenterology and Hepatology, University Medical Center Utrecht, Utrecht, The Netherlands*

13.00 Lunchpauze in de expositiehal

Roche

# Tijd voor de volgende stap

## Pegasys

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Het is onduidelijk of deze groeiremming omkeerbaar is. 2. HBeAg-positieve of -negatieve chronische hepatitis B (CHB) bij volwassen patiënten met gecompenseerde leverziekte en bewijs van virale replicatie, verhoogd ALT en histologisch bevestigde leverontsteking en/of fibrose. **Contra-indicaties:** overgevoeligheid voor alfa interferonen of een van de hulpstoffen, auto-immuun hepatitis, ernstige leverdisfunctie of gedecompenseerde levercirrose, ernstige al bestaande hartaandoening in de anamnese en HIV-CHC patiënten met cirrose en een Child-Pugh score ≥6 behalve als deze volledig toegeschreven kan worden aan indirecte hyperbilirubinemie veroorzaakt door geneesmiddelen zoals atazanavir en indinavir, combinatie met telbivudine, neonaten en kinderen tot 3 jaar oud vanwege de hulpstof benzylalcohol en de aanwezigheid of voorgeschiedenis van een ernstige psychiatrische aandoening bij pediatrische patiënten. **Dosering en wijze van toediening:** de aanbevolen dosering Pegasys voor pediatrische patiënten is afhankelijk van het lichaamsoppervlak (minimaal 0,7 m2) en voor volwassen patiënten de aanbevolen dosering 180 µg eenmaal per week, subcutaan toegediend in buik of dij. De therapieduur is o.a. afhankelijk van het genotype, basale 'viral load' en de respons. **Belangrijkste waarschuwingen:** ernstige effecten op het centrale zenuwstelsel, voornamelijk depressie, suïcidale gedachten en pogingen tot suïcide, zijn waargenomen bij enkele patiënten tijdens en soms nog tot 6 maanden na Pegasys-behandeling. Pegasys-behandeling werd in verband gebracht met anemie (in combinatie met ribavirine), trombocytopenie, leukopenie, neutropenie en lymfopenie. Pancytopenie en beenmergsuppressie werden in verband gebracht met Pegasys in combinatie met ribavirine en azathioprine. Bij gebruik van alfa interferonen zijn schildklierfunctie-afwijkingen of verergering van schildklieraandoeningen gemeld. Hypertensie, supraventriculaire aritmieën, decompensatio cordis, pijn op de borst en myocardinfarct zijn in verband gebracht met alfa-interferontherapie. Indien tijdens behandeling aanwijzingen voor leverdecompensatie ontstaan dient de behandeling met Pegasys onmiddellijk gestaakt te worden. Ernstige, acute overgevoeligheidsreacties zijn zelden waargenomen tijdens behandeling met alfa interferonen. Auto-immuunziekte en gevallen van het Vogt-Koyanagi-Harada syndroom zijn gemeld. Ernstige infecties zijn gemeld tijdens behandeling met alfa interferonen. Bij Pegasys zijn hypoglykemie, hyperglykemie, diabetes mellitus, retinopathie en pulmonale symptomen waargenomen. Tevens zijn exacerbatie en provocatie van psoriasis en sarcoïdose waargenomen. Lever- en niertransplantaatafstotingen zijn gemeld met Pegasys, alleen of in combinatie met ribavirine. In combinatie met ribavirine zijn er dentale en periodontale aandoeningen gemeld. Voorzichtigheid is geboden als Pegasys en ribavarine toegevoegd worden aan een HAART therapie. Pegasys mag alleen tijdens de zwangerschap gebruikt worden wanneer het mogelijke voordeel het mogelijke risico voor de foetus rechtvaardigt. Borstvoeding moet voorafgaand aan de behandeling worden gestopt. **Bijwerkingen:** in studies bleek het veiligheidsprofiel van Pegasys bij CHB gelijk aan dat bij CHC. Met uitzondering van pyrexie was de frequentie van de meerderheid van de bijwerkingen opmerkelijk lager bij patiënten met CHB dan bij patiënten met CHC. Bij patiënten met HIV-CHC co-infectie waren de klinische bijwerkingprofielen gemeld voor Pegasys, alleen of in combinatie met ribavirine, gelijk aan die bij patiënten met CHC mono-infectie. Zeer vaak (≥1/10) voorkomende bijwerkingen tijdens Pegasys monotherapie of in combinatie met ribavirine i.h.g. van CHC zijn anorexie, hoofdpijn, angst, verminderde concentratie, dyspnoe, hoesten, alopecia, pruritus, dermatitis, droge huid, myalgie, artralgie, vermoeidheid, pyrexie, en asthenie. Bijwerkingen zeer vaak, tijdens behandeling met Pegasys in combinatie met ribavirine bij CHC, of vaak (>1/100 tot <1/10) bij Pegasys monotherapie bij CHB, voorkomend zijn depressie, slapeloosheid, duizeligheid, diarree, misselijkheid, buikpijn, rillingen, pijn, reacties op de injectieplaats en prikkelbaarheid. **Afleverstatus:** U.R. Pegasys wordt volledig vergoed. **Volledige productinformatie is beschikbaar bij Roche Nederland B.V.**, Postbus 44, 3440 AA WOERDEN. Telefoon: 0348-438171, www.roche.nl (03/2013, v1)

**Verkorte samenvatting van de productkenmerken van Copegus®**
**Samenstelling:** Copegus filmomhulde tabletten zijn verkrijgbaar in sterkten van 200 mg en 400 mg ribavirine per tablet. **Indicatie:** chronische hepatitis C (CHC) bij volwassen patiënten die positief zijn voor serum HCV-RNA, onder wie patiënten met gecompenseerde cirrose en/of een co-infectie met klinisch stabiele HIV. Copegus mag alleen gebruikt worden in combinatie met peginterferon alfa-2a of interferon alfa-2a. **Contra-indicaties:** overgevoeligheid voor ribavirine of één van de hulpstoffen, zwangerschap, het geven van borstvoeding, een ernstige reeds bestaande hartaandoening in de anamnese, ernstige leverdisfunctie of gedecompenseerde levercirrose, hemoglobinopathieën en HIV-CHC patiënten met cirrose en een Child-Pugh score ≥6, behalve als het aan indirecte hyperbilirubinemie te wijten is. **Dosering en wijze van toediening:** de aanbevolen dosis en behandelingsduur zijn afhankelijk van het aangewende interferonproduct, virale genotype en lichaamsgewicht van de patiënt. Copegus wordt dagelijks oraal toegediend samen met voedsel, verdeeld over twee giften. Wegens het teratogene potentieel van ribavirine mogen de tabletten niet worden gebroken of fijngemaakt. **Waarschuwingen:** ernstige effecten op het CZS, in het bijzonder depressie, zelfmoordgedachten en pogingtot zelfmoord, werden bij sommige patiënten waargenomen tijdens en soms nog tot 6 maanden na de combinatietherapie van Copegus met peginterferon alfa-2a of interferon alfa-2a. Een potentieel carcinogeen effect van ribavirine kan niet uitgesloten worden. Vanwege de mogelijke hemoglobine daling moet Copegus met voorzorg worden toegediend aan patiënten met een cardiale aandoening. Als een acute overgevoeligheidsreactie optreedt, moet de toediening onmiddellijk gestaakt worden en medische behandeling worden ingesteld. Copegus moet worden gestaakt indien tijdens de behandeling een bewezen leverdecompensatie ontstaat of wanneer, ondanks dosisverlaging, de ALT-waarde progressief en klinisch significant toeneemt of gepaard gaat met een toename van direct bilirubine. Het aanbevolen doseringsschema van ribavirine geeft bij patiënten met een verminderde nierfunctie stijging van de ribavirine plasmaspiegels. CHC patiënten die tevens met HIV geïnfecteerd zijn en die behandeld worden met HAART therapie kunnen verhoogd risico lopen op ernstige bijwerkingen. Patiënten met co-infectie dienen nauwgezet gecontroleerd te worden op tekenen en symptomen van hepatische decompensatie. De gecombineerde toediening van Copegus en zidovudine of stavudine zou kunnen leiden tot een toegenomen HIV-plasmaviremie. Daarom wordt aanbevolen de HIV RNA-spiegels nauwgezet te volgen bij patiënten die behandeld worden met Copegus en een van deze middelen. Gelijktijdige toediening van ribavirine en didanosine is niet aanbevolen. Het gelijktijdig gebruik van peginterferon alfa-2a en ribavirine met azathioprine dient te worden vermeden. Copegus mag niet gebruikt worden door zwangere vrouwen en er mag niet met Copegus worden begonnen voordat een negatieve uitslag van een zwangerschapstest is verkregen. Vrouwen in de vruchtbare leeftijd dienen een effectieve contraceptiemethode toe te passen tijdens de behandeling en gedurende maanden na beëindiging van de behandeling. Gedurende deze periode moet maandelijks een zwangerschapstest uitgevoerd worden. Mannelijke patiënten of hun vrouwelijke partners dienen een effectieve contraceptiemethode toe te passen tijdens de behandeling en gedurende 7 maanden na beëindiging van de behandeling. Omdat niet bekend is of Copegus in de moedermelk wordt uitgescheiden moet het geven van borstvoeding worden gestopt. **Bijwerkingen:** zeer vaak (≥1/10) voorkomende bijwerkingen bij de combinatie Copegus/peginterferon alfa-2a zijn anemie, anorexie, hoofdpijn, slapeloosheid, prikkelbaarheid, depressie, duizeligheid, verminderde concentratie, dyspnoe, hoesten, misselijkheid, diarree, buikpijn, alopecia, pruritus, dermatitis, droge huid, myalgie, artralgie, vermoeidheid, koorts, rillingen, reacties op de injectieplaats, asthenie en pijn. Soms komen suïcide-neigingen voor. **Afleverstatus:** U.R. Copegus wordt volledig vergoed. **Volledige productinformatie is beschikbaar bij Roche Nederland B.V.**, Postbus 44, 3440 AA WOERDEN. Telefoon: 0348-438171, www.roche.nl. (10/2011)

**Referenties**

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*Vrijdag 4 oktober 2013*

**Programma V&VN MDL** **Beneluxzaal**

10.00 uur Opening door de voorzitter

10.15 uur Behandelrichtlijnen diverticulitis
*Mw. D. Akol, MDL-arts i.o., UMC St Radboud, Nijmegen*

10.40 uur Acute pancreatitis
*Mw. S. van Brunschot, arts-onderzoeker, UMC St Radboud, Nijmegen*

11.05 uur Chronische pancreatitis
*Dhr. Y. Issa, arts- onderzoeker, UMC St Radboud, Nijmegen*

11.30 uur Voeding bij pancreatitis, laatste inzichten
*Mw. L. van Heteren, diëtist, Medisch Centrum Alkmaar*

11.55 uur Bariatrische chirurgie - Netwerk verpleegkundigen
*Mw. M. Kools, obesitas specialistisch verpleegkundige, Catharina Ziekenhuis, Eindhoven*

12.15 uur Lunchbuffet in de Kempenhal

**Middagprogramma Endoscopieverpleegkundigen** **Beneluxzaal**

**Voorzitter:** W. Bruijn

13.45 uur Nieuwe richtlijnen follow up bij poliepen en carcinomen
*Dr. J. van Hattum, MDL-arts, Bergman Kliniek, Bilthoven*

14.15 uur Ervaring van HKZ implementatie
*Mw. W. Bruijn, endoscopie-verpleegkundige en Mw. C. Luiten, manager inwendige zorg, Bergman Kliniek, Bilthoven*

**Middagprogramma Endoscopieverpleegkundigen** **Beneluxzaal**

14.35 uur Ontwikkelingen m.b.t. landelijke screening coloncarcinoom
*Mw. M. van Wieren, programmamedewerker invoering bevolkingsonderzoek darmkanker RIVM*

14.55 uur PEG sonde voor Duodopa
*Dhr. K.G.P.M. Gilissen, parkinson verpleegkundige, Medisch Centrum Alkmaar*

15.15 Einde programma

**Middagprogramma Lever-/IBD verpleegkundigen** **Zaal 63**

**Voorzitter:** T. van der Meijden

13.45 uur Immunosuppressiva bij IBD en leverziekten vanuit farmacologisch perspectief
*Dr. L. Derijks, ziekenhuisapotheker- klinisch farmacologie, MMC te Veldhoven*

14.15 uur IBD en immunosuppressie – confectie of maatwerk? De dagelijkse praktijk.
*Drs. P. Waayenberg, verpleegkundig specialist i.o. IBD, VUmc te Amsterdam*

14.45 uur Leverziekten en immunosuppressie – de dagelijkse praktijk
*Drs. Y.S. de Boer, arts-onderzoeker , VUmc te Amsterdam*

15.15 Einde programma

# Dr. Falk Pharma feliciteert de NVGE met haar 100 jarig bestaan.

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60-2013-NL

*Vrijdag 4 oktober 2013*

**Programma Voedingsverpleegkundigen / MDL kliniek verpleegkundigen Zaal 64**

**Voorzitter:** W. Kuin

13.45 uur De darmfalen unit in de kliniek
*Mw. C. van Eldijk, verpleegkundig consulent TPV, UMC St Radboud, Nijmegen*

14.15 uur Enterocutane fistel
*Dhr. R. Visschers, aios chirurgie, Orbis Medisch Centrum, Sittard*

14.45 uur 100 jaar klinische voeding
*Mw. C.F. Jonkers, diëtist, Academisch Medisch Centrum, Amsterdam*

15.15 Einde programma

# ABSTRACTS

**Disease localization determines fecal calprotectin levels in Crohn's disease**

*K.B. Gecse[1], J.F. Brandse[1], S. van Wilpe[1], M. Löwenberg[1], C.Y. Ponsioen[1], G.R. van den Brink[1], G.R. D'Haens[1, 1]Dept. of Gastroenterology and Hepatology, Academic Medical Center, Amsterdam, The Netherlands*

The correlation between Simple Endoscopic Index for Crohn's Disease (SES-CD) and fecal calprotectin is well established in (ileo)colonic Crohn's disease (CD). However, existing data are conflicting with regard to fecal calprotectin and endoscopic mucosal damage in ileal CD. The objective of this study was to evaluate the correlation between mucosal ulcerations and fecal as well as serum biomarkers and to examine possible differences between biomarker profiles of patients with ileal and (ileo)colonic CD. A retrospective search was carried out to identify CD patients seen between 2011 and 2013, where ileocolonoscopy, fecal calprotectin (CALPRO) Buhlmann Calprotectin ELISA), serum C-reactive protein (CRP) and serum leukocyte (LEU) were measured within four weeks of interval during which no change in medication occurred. Ileocolonoscopies were scored for the presence of ulcers in each segment as none (0), aphthous (1), large (2) and very large (3), as defined by the SES-CD. The sum of segment scores resulted in a partial SES-CD (pSES-CD). Statistical tests were performed with GraphPad Prism 5.01, including Spearman correlation and unpaired t-test. 44 patients (19 male, age (mean ± SEM) 36.5 ± 2.0 years) were identified, of which 9 patients were characterized as ileal (L1), 20 as colonic (L2) and 15 as ileocolonic (L3) according to the Montreal classification. In the total population CALPRO correlated best with pSES-CD (r=0.76, p<0,0001), followed by LEU (r=0.54, p=0.0004) and CRP (r=0.45, p=0.0026). Patients with L1 CD had a significantly lower CALPRO level than those with L2 and L3 disease even in the presence of large and/or very large ulcers (mean ± SEM: 297 ± 81µg/g vs. 1523 ± 97µg/g, p<0,0001). LEU was also significantly lower in the presence of large and/or very large ulcers in L1 CD compared to those with L2 and L3 disease (mean± SEM: 6,7 ± 0,9 G/l vs. 10,6 ± 0,8G/l, p=0.02). Similar trend was identified regarding CRP levels (mean ± SEM: 5,3 ± 2,2 mg/l vs. 39,9 ± 13,4mg/l, p=0,17, ns.).
Conclusion: Patients with ileal CD may have large or very large ulcers in the absence of markedly elevated fecal calprotectin levels. Consequently, cut-off values for ileal CD may differ from those with (ileo)colonic disease. A possible explanation may lie in less extensive ulcerated surface in the ileum, resulting in lower mucosal and systematic inflammatory load.

**Faecal calprotectin accurately predicts flares in inflammatory bowel disease patients in clinical and endoscopic remission**

*M. Severs[1], E. Mooiweer[1], H.H. Fidder[1], P.D. Siersema[1], R.J.F. Laheij[1], B. Oldenburg[1]*
*[1]Dept. of Gastroenterology and Hepatology, University Medical Center Utrecht, Utrecht, The Netherlands*

Introduction: faecal calprotectin is a marker of mucosal inflammation in patients with inflammatory bowel disease (IBD). It is currently unknown whether faecal calprotectin can predict flares of disease activity in IBD patients in complete endoscopic remission. Methods: IBD patients in clinical remission were enrolled in a colonoscopic surveillance program. Before colonoscopy faeces samples were obtained. Only patients with complete mucosal healing were included in the present study. Quantative measurement of calprotectin was performed using an enzyme-linked immunosorbent assay (R-Biopharm, Germany). Patients were followed from the date of the surveillance colonoscopy until the last outpatient clinic visit or clinical relapse, defined as hospitalization, surgery, follow-up endoscopy showing signs of inflammation or step-up in IBD medication. Calprotectin concentrations at time of the base surveillance colonoscopy were compared between patients suffering from a relapse and patients who remained in clinical remission. Receiver Operating Characteristic (ROC) curves were used to determine the best cut-off level for calprotectin. Survival analysis and log-rank testing was used to compare the relapse rate between patients with calprotectin levels over and under the cut-off value. Results: a total of 160 patients underwent a surveillance colonoscopy. Endoscopic remission was observed in 103 patients of whom 46 patients had Crohn's disease (45%), 51 patients had ulcerative colitis (50%) and 6 patients had IBD unclassified (6%). During a mean follow- up time of 8 ± 6 months, 10 patients developed a clinical relapse. Median calprotectin concentrations at base in these patients were higher than in those who had a sustained remission: (295 (IQR 113 – 502) versus 35 µg/g (IQR 20 – 89); p <0.01). The ROC curve showed that a cut-off value of 56 µg/g could identify patients who developed a relapse with 100% sensitivity, 66% specificity, a positive predictive value of 75%, a negative predictive value of 100% and an area under the curve of 0.88. The cumulative risk of developing relapse was 24% in patients with a base calprotectin level over 56 µg/g versus 0% in patients with a calprotectin level under 56 µg/g (p <0.05, log rank test).
Conclusion: In IBD patients with complete endoscopic remission, faecal calprotectin levels can accurately predict development a relapse during follow-up.

**The role of sub-clinical inflammation and TRPV1 in the development of IBS-like symptoms in ulcerative colitis in remission**

*D. Keszthelyi[1], D.M. Jonkers[1], H. Hamer[1], F. Troost[1], A.A.M. Masclee[1] [1]Division of Gastroenterology and Hepatology, Dept. of Internal Medicine, Maastricht University Medical Center, Maastricht, The Netherlands*

Background Symptoms: compatible with irritable bowel syndrome (IBS) are frequently present in patients with inflammatory bowel disease (IBD); however, the cause of this phenomenon is unclear. We hypothesize that sub-clinical inflammation may represent an important factor in sustained IBS-like pain symptoms in IBD. The pain integrator molecule transient receptor potential vanilloid 1 (TRPV1) has been shown to be upregulated following inflammation, contributing to increased peripheral nociceptive discharge and pain symptoms. Aim To assess the potential association between fecal calprotectin levels, indicative of ongoing mucosal inflammation, pain symptoms and TRPV1 transcription in 36 patients with ulcerative colitis (UC) in clinical and endoscopic remission. Methods Fecal calprotectin levels were measured using ELISA (normal <120 µg/g). TRPV1 transcription levels were measured using qPCR in sigmoid biopsies of UC patients in remission. Symptoms were assessed using 7-day symptom diaries and questionnaires. A composite pain score was calculated based on pain symptoms experienced during the 7-day period. Results IBS-type symptoms (Rome III criteria) were present in 32% (11/36) of UC patients in remission. Fecal calprotectin levels did not differ significantly between patient with or without IBS-like symptoms (124±33 µg/g vs 122±32 µg/g, p=0.9). No significant differences were found in the transcription of TRPV1 when comparing UC patients with or without complaints (normalized expression ratio 0.73±0.14 vs 1.24±0.38, p=0.14, patients without vs with IBS-like symptoms). However, in UC patients with IBS-like symptoms, fecal calprotectin levels significantly correlated with composite pain scores (r=0.80, p=0.002). Similarly, TRPV1 transcription also showed a significant correlation with composite pain score in this group (r=0.70, p=0.004). Interestingly, no correlation was found between fecal calprotectin and TRPV1 transcription.
Conclusions: A substantial number of UC patients with normal fecal calprotectin level expe- rience IBS-type symptoms. In these patients, fecal calprotecin levels and TRPV1 transcription correlated with pain symptom severity. This may reflect post-inflammatory upregulation of TRPV1, which could provide an explanation for generation of IBS-like symptoms and underlines the potential role for inflammation is developing sustained augmented pain perception.

**Assessment of the Montreal classification for IBD reveals good inter-observer agreement but poor performance on disease severity**

*L.M. Spekhorst[1*], M.C. Visschedijk[1,2*], R. Alberts[2], E.A. Festen[2], E.J. van der Wouden[3], G. Dijkstra[1], R.K. Weersma[1] on behalf of the Dutch Initiative on Crohn and Colitis, [*]Both authors contributed equally, [1]Dept. of Gastroenterology and Hepatology, University of Groningen and University Medical Centre Groningen[1], Groningen, [2]Dept. of Genetics University of Groningen and University Medical Centre Groningen, Groningen, [3]Dept. of Gastroenterology, Isala klinieken, Zwolle, The Netherlands*

Inflammatory Bowel Disease (IBD), consisting of ulcerative colitis (UC) and Crohn's disease (CD), is a chronic disease with unpredictable behavior and clinical heterogeneity. The Parelsnoer Instituut (www.parelsnoer.org) within the eight Dutch university medical centres enabled the Dutch IBD research group (Initiative on Crohn and Colitis – ICC) to develop a nation-wide biobank and bioinformatical infrastructure to collect the phenoltypical data. To ensure high-quality data, validation of the Montreal classification is mandatory for these kind of multicentre prospective data collections. Until now only limited data of the reliability of the Montreal Classification are available. The aim of this study was to validate the Montreal IBD phenotype classification system for both CD and UC within the Netherlands.20 de-identified medical records with an appropriate representtation of IBD sub phenotypes were selected. 49 observers received the 20 selected case-vignettes, instructions by e-mail and a hyperlink to fill in the on survey (https://www.enquetesmaken.com/). 30 observers completed the survey, a response rate of 61%. The 30 observers had different professions (gastroenterologist specialist in IBD, gastroenterologist in training and IBD-nurses), experience level and worked in both university and non-university hospitals. The inter-observer-agreement was calculated by percentages correct answers and Fleiss-kappa (k) using R statistical software. Kappa cut-offs: <0.4 poor, 0.41-0.6 moderate, 0.61-0.8 good, >0.8 excellent. The inter-rater agreement was excellent for diagnosis (k=0,96) , perianal disease (k=0.92) and disease location in CD (k=0.82) and good for age of onset (k=0.67), upper gastrointestinal disease (k=0.62), disease behavior in CD (k=0.79), disease extent in UC (k=0.65) and EIM (k=0.68). Disease severity in CD was scored moderate (k=0.44) and in UC poor (k=0.23). Percentages of correct answers over all Montreal items gives a good reflection of inter-observer agreement (>80%), except for disease severity (48-74%). Experience level did not affect the results.Conclusions: We found a good to excellent inter-observer agreement for all Montreal items except for disease severity in CD (moderate) and UC (poor). Uniform optimal reporting of phenotypes in patient cohorts is of utmost importance because it will ultimately allow for integration of clinical phenotypes with high-throughput –omics data and with that increase our understanding of IBD pathogenesis and it will have a clinical purpose in guiding clinicians in treatment options for specific IBD phenotypes.

## Predicting disabling disease in newly diagnosed IBD patients, results from the Delta cohort

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Background: Inflammatory Bowel disease (IBD) is very a heterogeneous and progressive disease. The evidence that earlier use of more potent immunosuppressive therapies may be the optimal approach for properly selected patients (pts) is increasing. Many studies tried to select those pts based on the presence of disabling disease, with limited success. In order to better identify this subset of pts, we aimed to determine the value of existing criteria in the prediction of disabling disease. Patients and methods: 413 IBD pts newly diagnosed in 2006 from the Delta cohort were included. All patient and disease characteristics were obtained from medical records. Disabling disease was determined according to Beaguerie et al. [1]. Univariate and multivariate logistic regression analysis' were used to assess factors associated with disabling disease. Results: When classified according to the criteria described by Beaugerie et al. 53,3% of our newly diagnosed IBD patients had disabling disease, of which 63% CD pts (220 pts, 139 CD, 74 UC, 7 IBDU). After univariate logistic regression analysis, the IBD subtype ($p < 0.0001$), using anti-TNF ($p <0.0001$, HR 57.8), using immunosuppressants, ($p < 0.0001$ HR 590.8), using steroids ($p < 0.0001$ HR 12.3), using 5-ASA ($p <0.0001$, HR 0.26), endoscopic disease severity at diagnosis ($p <0.0001$), histological disease severity at diagnosis ($p = 0.022$), higher age at diagnosis (< 40 vs. > 40, $p = 0.003$, HR 0.554) and the overall requirement of IBD surgery ($p < 0.0001$, HR 20.6) were found to be significantly associated with disabling disease. Strikingly, smoking, familial IBD, gender, familial CRC and the requirement of a resection were not associated with disabling disease. In a multivariate analysis, steroid use ($p = 0.001$, HR 4.1 CI 1.8-9.2) immunosuppressant use ($p = 0.0001$ HR 473.6 CI 61.2-3661.6), overall IBD surgery ($p = 0.001$, HR 38,4 CI 9.8-149.6) and endoscopic disease severity at diagnosis ($p = 0.005$) remained significant. Conclusion: There are some useful predictors for disabling disease, such as IBD subtype, endoscopic and histologic disease severity and age at diagnosis, which may help clinicians to determine the risk of disabling diseasein individual pts from the moment they are diagnosed. However, most predictors for disabling disease are parameters which occur in follow-up. Strikingly, the need for resection did not correlate with disabling disease according to the Beaugerie criteria, while resection is a major endpoint in IBD. For this reason, re-determination of disabling disease criteria in the near future seems called for. 1. Beaugerie L., et al., Predictors of Crohn's disease. Gastroenterology, 2006. 130(3): p. 650-6.

## IBD-Unclassified in childhood and adolescence; a complicated diagnosis

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The two most well-known types of chronic inflammatory bowel disease (IBD) are Crohn's disease (CD) and ulcerative colitis (UC). A third type of IBD is the ' unclassifiable colitis ' (IBD-unclassified or IBD-U) diagnosed in about 10% of pediatric- or adolescent onset IBD patients (PIBD) when correct classification cannot be made despite complete diagnostic work-up. IBD-U is characterized by disease activity limited to the colon but without typical features of either CD or UC. We will discuss demographic characteristics, diagnostic work-up and disease phenotype of IBD-U patients registered in the European database (EUROKIDS) of the IBD working group of ESPGHAN (European Society for Paediatric Gastroenterology, Hepatology and Nutrition) with newly diagnosed patients, aged 0-18 years. The Porto criteria, currently under revision, were agreed upon in 2005 by ESPGHAN to create uniformity in diagnostic work-up of PIBD patients. Both the original and revised criteria recommend diagnostic work-up by upper gastrointestinal endoscopy and ileocolonoscopy including histology as well as small bowel imaging in all suspected IBD patients. We defined complete diagnostic work-up as consisting of esophagogastroduodenoscopy, colonoscopy up to the cecum and visualization of the terminal ileum through endoscopy or radiology (i.e. by MR-enterography).Data were analyzed with SPSS (version 20.0). Descriptive statistics were calculated as percentages. For reasons of uniformity patients registered from May 2005 onwards were included. IBD-U was attributed to 244/3048 patients (8%) from May 2005 until April 2013. Complete diagnostic work-up was performed in 44,3% (1350/2804) of patients with CD or UC, compared to 44,7% (109/244) of IBD-U patients. 135 IBD-U patients (55,3%) had incomplete diagnostic work-up due to different causes. 3/244 patients (1,2%) had granuloma on histology, 13/244 patients (5,3%) had perianal disease.
Conclusion: In 55% of IBD-U patients diagnostic work-up is incomplete and the diagnosis IBD-U is therefore not accurate. In addition, some patients have features more consistent with Crohn's disease. When using stricter criteria, true IBD-U was seen in only 103 patients (3,4%). Accurate phenotyping in IBD patients can only be done when diagnostic work-up is complete. Following guidelines and clearer definitions for UC (including atypical phenotype), Crohn's colitis and unclassified colitis (IBD-U) will likely decrease the diagnosis IBD-U. Revised Porto guidelines are in preparation and will help classification and treatment decisions. Results from the EUROKIDS database reinforce the importance of a complete diagnostic work-up in new PIBD patients.

**Increased intestinal permeability among first-degree relatives of Crohn's patients is not associated with increased mucosal ulcerations on small bowel video capsule endoscopy**

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Introduction: First-degree relatives (FDR) of Crohn's disease (CD) patients have highest risk for developing CD. CD patients and a substantial portion of FDR have increased intestinal permeability. It is unclear whether FDR have abnormal permeability because of early, asymptomatic CD or whether this occurs without mucosal inflammation. Video capsule endoscopy (VCE) is the most sensitive means of imaging and identifying mucosal ulcerations of the small intestine suggestive of subclinical CD. The purpose of our study was to determine if abnormal small intestinal permeability in healthy FDR is associated with small bowel mucosal abnormalities detected by VCE. METHODS 342 CD patients consented to have their FDR between 10-45 years of age contacted regarding study participation. Eligible FDR underwent small bowel permeability testing as measured using the lactulose/mannitol (L/M) test based urinary excretion of these sugars. FDR with abnormal permeability were compared to FDR with normal small permeability by VCE to assess for small bowel inflammatory changes. The primary outcome was the number of mucosal ulcerations seen on VCE in each permeability group. RESULTS 234 FDR consented to participate and completed the intestinal permeability test. 40 (18%) had abnormally increased permeability. Subsequently, 60 subjects with normal and 30 subjects with abnormal permeability underwent VCE. On VCE, there was no difference in small bowel mucosal abnormalities with a mean of 2.29 (range 0-16) ulcers in the normal and 1.56 (range 0-10) ulcers in the abnormal permeability groups respectively (NS). Surprisingly, 38% of asymptomatic FDR with normal permeability and 32% of FDR with abnormal permeability testing had small bowel lesions as shown by VCE.
Conclusion: There is no apparent association between small bowel ulcerations seen on VCE between healthy, asymptomatic FDR with abnormally increased intestinal permeability and FDR with normal permeability. Thus, the increased small bowel permeability in FDR does not seem to be caused by subclinical CD, but is likely an intrinsic gut barrier defect.

**A Phase 3 Randomized, Placebo-Controlled, Double-Blind Study to Evaluate the Safety and Efficacy of Subcutaneous Golimumab Maintenance Therapy in Patients with Moderately to Severe Active Ulcerative Colitis: PURSUIT-Maintenance**

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The aim was to evaluate subcutaneous (SC) golimumab (GLM) maintenance in patients with moderately to severely active UC who responded to GLM induction. 1228 patients were enrolled from PURSUIT-IV and PURSUIT-SC induction studies. Primary analysis population consisted of patients (n=464) who responded to GLM induction, and were randomized to placebo (PBO), GLM 50mg, or GLM 100mg at base (week 0) and every 4 weeks through week 52. Non-randomized patients included 129 who were PBO induction responders who continued on PBO; and 635 who were non-responders to PBO or GLM induction who received GLM 100mg every 4 weeks. Primary endpoint was clinical response through week 54. Secondary endpoints at both weeks 30 and 54 were clinical remission, mucosal healing, and clinical remission among patients in clinical remission at week 0 of this study and clinical remission with corticosteroid discontinuation at week 54 among patients receiving corticosteroids at week 0. Safety data summarized for randomized patients; selected events of interest summarized for all treated patients. Among 464 patients in clinical response to GLM who were randomized, 28% discontinued prior to last dosing visit at week 52. 47.1% and 50.6% of GLM 50mg and GLM 100mg, respectively, were in clinical response through week 54 versus PBO (31.4%; p=0.01 and p<0.001). Clinical remission for PBO, GLM 100mg, and GLM 50mg was 15.4%, 28.6% (p=0.003), 23.5% (p=0.091), respectively; mucosal healing rates were 26.9%, 43.5% (p=0.001), 41.8% (p=0.011), respectively. More patients in both GLM groups (who were in remission at week 0) maintained clinical remission versus PBO (difference not statistically significant). Corticosteroid free remission rates were 18.4%, 22.9% and 27.8% (PBO, GLM 100mg, and GLM 50mg, respectively). Through week 54, randomized patients with >1AE were 72.7%, 73.4%, and 66.0%; SAEs were 8.4%, 14.3%, and 7.7% for the GLM 50mg, GLM 100mg, and PBO groups, respectively; a similar profile was observed with all treated patients. Among all treated patients, there were 4 active TB cases, all received GLM; 3 deaths (GLM 100mg) due to: malnutrition and sepsis, disseminated TB, and cardiac failure; Malignancy rates were 0.4%, 0.0% and 0.3% (PBO, GLM 50mg and GLM 100mg, respectively).

Conclusion: Among GLM induction responders, every 4 weeks GLM 50mg and GLM 100mg maintained clinical response through week 54; GLM 100mg every 4 weeks achieved long-term clinical remission and mucosal healing. Safety was similar to GLM experience in other labeled rheumatologic indications and with other anti-TNFs.

**Comparison of health-related quality of life and disability in patients with ulcerative colitis in remission after proctocolectomy with ileal pouch-anal anastomosis or treatment with anti-tumor necrosis factor agents**

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Patients with ulcerative colitis (UC) have an impaired health-related quality of life (HRQL) compared to the general population. Proctocolectomy with ileal pouch-anal anastomosis (IPAA) and medical management with anti-tumor necrosis factor (TNF) agents are effective options for the treatment of severe UC. The aim of the present study was to compare HRQL and disability outcomes in UC patients who are in remission with anti-TNF agents or after proctolectomy with IPAA. The study cohorts were 1) UC patients who underwent proctocolectomy with IPAA between January 2008 and December 2011 in clinical remission (surgery group) and 2) UC patients in clinical remission with infliximab or adalimumab treatment (medical group). For inclusion in the surgery group the IPAA had to be functional for at least one year. Patients were excluded in case of postoperative complications, 3 or more episodes of acute pouchitis in the last year, a relapse of pouchitis within 3 months prior to the present study, or chronic pouchitis. In the medical group, patients had to be on maintenance therapy with TNF blockers for at least one year and in clinical remission (i.e. total partial Mayo score ≤ 2 with no subscore > 1 and with a rectal bleeding score of 0 as defined by the partial Mayo score). HRQL and disability outcomes were assessed using the validated Medical Outcomes Study 36-Item Short Form (SF-36), COloRectal Functional Outcome (COREFO), Work Productivity and Activity Impairment in Ulcerative Colitis (WPAI:UC) questionnaires. Furthermore, specific questions were selected from different European Organization for Research and Treatment of Cancer (EORTC) questionnaires.A total of 60 patients were included, 30 in the surgery group (median age 42 years [22-67]; 48% female) and 30 in the medical group (median age 45 years [19-68]; 65% female). Patient characteristic were comparable between the two groups. Fifty-eight of 60 patients (97%) completed the questionnaires (29 per group). There were no significant differences in the SF-36, WPAI:UC and EORTC questions between both groups. However, the medication and stool frequency scale in the COREFO questionnaire were significantly higher in the surgery group compared to the medical group ($p=0.004$ and $p<0.001$, respectively). Median stool frequency 5-7/daytime and 1-2/nighttime versus 2-4/daytime and 0/nighttime in the surgery and medical group, respectively.
In conclusion, we did not find a significant difference in HRQL and disability outcomes between the anti-TNF and proctocolectomy with IPAA group, except for the COREFO assessment on stool frequency. Further research in this area is ongoing.

## Cancer and Mortality in Pediatric IBD-a European Multinational Survey

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Incidence of paediatric inflammatory bowel disease (IBD) has risen significantly in European countries during the past two decades. The combination of the typical severe phenotype of pediatric-onset IBD and the intensified medical treatment may be associated with increased risk of malignancy and mortality, but evidence is extremely scarce. The Porto Paediatric IBD working Group of ESPGHAN conducted a multi-national based survey of cancer and mortality in paediatric IBD. A survey among paediatric gastroenterologists of 19 European countries and Israel on cancer and/or mortality in the paediatric IBD patient population was undertaken. One representative from each country repeatedly contacted all paediatric gastroenterologists from each country for reporting retrospectively paediatric IBD patients (diagnosed before age 19 years) diagnosed with any cancer and/or mortality after diagnosis of IBD, during the period of 2006-2011.We identified 44 cases (18 cancers and/or 32 deaths). Median age at diagnosis of IBD was 10.0 year (n=26; 59% male). Type of IBD was Crohn's disease (n=19; 43%), ulcerative colitis (n= 22; 50%) and IBD unclassified (n=2; 5%). Causes of mortality were infectious (n=15; 47%), uncontrolled disease activity of IBD (eg toxic megacolon) (n=6; 19%), cancer (n=6; 19%), other non-IBD related diseases (n= 3; 9%) and unknown (n=2; 6%). The most common malignancy was hematopoetic tumors (n=11; 61%), of which 3 were hepatosplenic T cell lymphoma and 2 EBV-associated lymphomas. Medications used in the three months preceding the mortality cases included steroids (n=19, 59%), thiopurines (n=18, 56%), biologics (n=8, 25%) and calcineurin inhibitors (n=7, 22%). Combination therapy (being thiopurines and biologics) was used in five (16%). Medications used in the three months preceding the cancer cases included steroids (n=4, 22%), thiopurines (n=12, 67%), biologics (n=2, 11%) and calcineurin inhibitors (n=1, 6%). Combination therapy was used in only one patient (6%). Conclusions: cancer and mortality in paediatric IBD are rare but the cumulative rates are not insignificant. Mortality is primarily related to infections. Uncontrolled disease activity and cancer were both responsible for 19% of deaths. The lack of a control group makes it impossible to elucidate how many of the cancer cases are disease-specific but at least five lymphomas were likely treatment-associated, by virtue of their phenotype. A minority of patients had been treated with combination therapy.

**Does liver transplantation affect the risk of colorectal neoplasia in PSC-IBD patients?**

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In IBD patients, the presence of primary sclerosing cholangitis (PSC) confers an increased risk of colorectal neoplasia. Whether this risk of colorectal neoplasia is changed after liver transplantation (LT) is uncertain.The aim of this study was to compare the development of colorectal neoplasia (CRN) between patients with PSC and IBD who did undergo a liver transplantation (PSC+IBD+LT+) and patients with PSC and IBD without LT (PSC+IBD+LT-).We retrospectively compared the development of colorectal neoplasia (CRN= dysplasia or colorectal carcinoma) in our cohort of LT patients with PSC and IBD to patients with PSC and IBD without liver transplantation.
From our LT cohort (n=321, period 1992-2011), 29 patients were identified with PSC and IBD. From these, 21 had a follow-up post LT > 6 months. These patients were compared to 40 patients from our outpatient population with PSC and IBD. Furthermore, we compared the PSC+IBD+LT+ to a group of LT patients without PSC or IBD that was matched for sex, age and duration of post LT follow up (PSC-IBD-LT+). The PSC+IBD+LT- and PSC+IBD+LT+ groups were comparable with regard to age at end of follow up (resp. 51 vs. 47 yrs., p=0.2), sex (resp. 59% vs. 71% male, p=0.195), age at IBD-diagnosis (resp. 30.6 vs. 25.3 yrs., p=0.119) and duration of follow-up after diagnosis of IBD (resp. 234 vs. 211 months, p=0.5). Inclusion started at time of diagnose of IBD and ended at the diagnosis of CRN or at the date of (partial) colectomy. In the PSC+IBD+LT- group the diagnosis of Crohn's disease was more prevalent than in the PSC+IBD+LT+ group (14/40 vs. 1/21, p=0.017). Cumulative incidence of CRN was 29% in the PSC+IBD+LT+ group vs. 10% in the PSC+IBD+LT- group (p=0.063). Cumulative incidence of CRC was 9% in the PSC+IBD+LT+ group, whereas no CRC was observed in the PSC+IBD+LT- group. Time-to-dysplasia did not differ between PSC+IBD+LT- and PSC+IBD+LT+. The PSC+IBD+LT+ and PSC-IBD-LT+ groups were comparable with regard to age (resp. 51 vs. 53.9 yrs., p=0.47), sex (resp. 71,4% vs. 72.2% male, p=0.84) and duration of follow-up after LT (81.8 vs. 83.7 months, p=0.88). Inclusion started at the date of liver transplantation and ended at the diagnosis of CRN or at the date of (partial) colectomy. Cumulative incidence of CRN for the PSC+IBD+LT+ and PSC-IBD-LT+ groups did not differ (resp. 29% vs. 33%, p=0.75). Time-to-dysplasia did not differ between both groups.
In conclusion, despite a trend, the rate of development of CRN did not differ between PSC-IBD patients with or without liver transplantation and this did not differ from the general LT population. Larger studies are needed to exclude a type II error.

**Cost-effectiveness of Intestinal Transplantation (ITx) for adult patients with permanent intestinal failure (IF) depending on home parenteral nutrition (HPN)**

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Background: Home parenteral nutrition (HPN) and intestinal transplantation (ITx) are the two treatment modalities for permanent intestinal failure (IF). Both options are costly but exact costs are unclear and reimbursement for ITx is often insufficient. Aim: To calculate the costs for HPN and ITx and to model the cost-effectiveness of ITx for permanent IF in adult patients. Methods: IF treatment in adults was simulated as a discrete event model using AnyLogic University Edition modeling software (AnyLogic Company, St Petersburg, Russian Federation). Model parameters were derived from the Dutch Registry of IF and ITx (DRIFT), the Intestinal Transplant Registry, hospital records, the literature, and expert opinions. Simulated patients were enrolled at a rate of 4 per month for a total period of 10 years. Maximum simulated follow-up was 30 years. Survival was simulated as a probabilistic function based on the ITR survival data. ITx was offered in 5% of patients with less than 12 months to live. Costs were calculated according to Dutch national guidelines without discounting. The cost-effectiveness of ITx was evaluated by comparing model runs with and without ITx as a treatment option in terms of life-years and costs. The incremental cost-effectiveness ratio (ICER) was calculated as the costs per life-year gained. Results: HPN is costly, with a single sum of €9.006 for the introduction of the treatment (incl. clinical training and central venous catheter placement) followed by an average annual sum of €63.000 (incl. HPN products, HPN nurse support, ambulant follow-up and hospitalisation in case of HPN related complications). The cost of ITx are over €73.000 during the first year (incl. the transplant procedure and (clinical) follow-up), followed by average annual costs of €13.000 (incl. immunosuppression, rehospitalisation and ambulant follow-up). Preliminary results show that average survival is 16.6 yrs. for HPN and 17.5 yrs. for ITx. The ICER is approximately €10.000 per life-year gained.
Conclusion: Average costs of HPN exceed those of ITx within two years after start of treatment. When restricted to HPN patients with a short life expectancy, ITx is likely to improve survival. Our simulation model indicated that the costs per life year gained for Itx compared to HPN were relatively low. This indicates that Itx may be a cost-effective treatment for IF adult patients with a poor prognosis.

**FUll Spectrum Endoscopy vs. traditional forward-viewing colonoscopy: final results of a randomized, multicenter tandem study - the FUSE study**

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Introduction: Traditional forward-viewing (TFV) colonoscopy is associated with a significant miss rate for adenomas (up to 31.4%) and colorectal cancer (CRC) due to inadequate visualization behind colonic folds and flexures. Recently, Full Spectrum Endoscopy (Fuse™) colonoscopy (EndoChoice, Alpharetta, GA, USA) was introduced which allows 330 degree viewing while maintaining standard colonoscope features.
Aims & Methods: To determine additional adenoma detection rates comparing Fuse colonoscopy with TFV colonoscopy. In a multicenter, international study, patients were randomly assigned to undergo tandem colonoscopy starting with either TFV or Fuse colonoscopy. Primary endpoint was the number of additional polyps and adenomas detected by Fuse (per lesion analysis). Secondary endpoints included adenoma miss rates, cecal intubation, withdrawal and total procedure times, and adverse events (AE).
Results: From 1/2012 – 3/2013, 197 subjects were enrolled. Of these, 185 subjects (54.6% female, mean age 55.8 ± 9.7 years) completed tandem colonoscopies. Indications for colonoscopy were CRC screening n=103 (55.7%), polyp surveillance n=36 (19.5%), and diagnostic work-up n=46 (24.8%). In 88 subjects undergoing TFV first, 50 polyps including 28 adenomas were detected while Fuse yielded 39 additional polyps including 20 adenomas, an increase in polyps and adenomas of 78.0% and 71.4%, resp. In 97 subjects undergoing Fuse first, 102 polyps including 61 adenomas were detected while TFV yielded 11 additional polyps including 5 adenomas, an increase in polyps and adenomas of 10.8% and 8.2%, resp. (Fuse vs TFV $p<0.01$). The adenoma miss rate with Fuse was 5/66 (7.6%) and with TFV 20/48 (41.7%) ($p<0.01$). Median times to cecum for TFV and Fuse were 5.1 and 4.8 min (p=NS), withdrawal times 5.6 and 6.2 min ($P<0.01$) and procedure times 12.2 and 14.5 min ($p<0.01$). One patient was hospitalized for colitis, while 6 AEs were seen (vomiting, diarrhea, cystitis, gastroenteritis, minor bleeding and colitis).
Conclusions: The incremental adenomas found by Fuse after TFV was significantly higher (71.4%) compared to TFV after Fuse (8.2%), while the adenoma miss rate for TFV colonoscopy (41.7%) was significantly higher compared to Fuse (7.6%). These results suggest that Fuse colonoscopy is an important advancement in imaging technology and likely will improve the efficacy of CRC screening.

**Characterizing and redefining clinical subtypes of inflammatory bowel disease using genotypes and phenotypes from 47,000 patients**

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To date, large-scale genetic studies in inflammatory bowel disease (IBD) have concentrated on the broad clinical diagnoses of Crohn's disease (CD) and ulcerative colitis (UC). However, it is clear that these conditions are clinically heterogenous and encompass a wide range of subtypes, each with its own pattern of disease behaviour, location and outcome. Whether these subtypes of IBD are distinct diseases with different aetiologies and/or parts of a continuum remains open to debate. Recent progress in characterizing the genetic architecture of IBD, including the identification of 163 IBD-associated loci, affords a unique opportunity to address important clinical questions through the application of genetic risk algorithms. The IIBDGC (a multi-site international consortium) cohort is the largest IBD bioresource generated to date, comprising data from over 47,000 patients. Clinical and demographic information on over 26,700 CD and 21,000 UC cases including gender, age at diagnosis, disease location and behaviour, duration of follow-up, surgical history and smoking status were collected according to agreed criteria. We conducted genotype-phenotype analyses across >150.000 genetic variants genotyped using the Illumina Immunochip platform. We used both established (within cases logistic regression analyses) and novel statistical methods for analyses of multinomial phenotypes. We confirmed genome-wide significant associations ($p<10\text{-}8$) between the NOD2 and MHC loci and multiple CD phenotypes. We identified independent signals within the MHC loci, showing a strong association with extensive UC or colectomy in UC. Moreover, our analyses implicated multiple additional variants (LRRK2, NCF4, IL23R) in clinically relevant sub-types. Using the 163 validated IBD loci we constructed a genetic risk score which showed a significant association between both CD and UC risk scores and CD disease location and behaviour. This association remained highly significant ($p<10^{-20}$) after removing the HLA and NOD2 signals, confirming a role for many IBD risk loci in CD sub-phenotypes. Furthermore, we used risk scores to show that colonic CD is genetically intermediate between ileal CD and UC.

In conclusion, our data demonstrate significant genetic influence on IBD clinical heterogeneity. They support the hypothesis that UC, colonic CD and ileal CD could be considered as part of a continuous spectrum. These findings will enhance our understanding of the underlying pathogenesis of the subtypes within IBD, and will likely facilitate a molecular classification of IBD subtypes – a major step on the pathway to personalized medicine.

**Naam van het geneesmiddel:**
**Pentasa® Kwalitatieve en kwantitatieve samenstelling:** Pentasa tablet met verlengde afgifte bevat 500 mg of 1 g mesalazine, granulaat met verlengde afgifte bevat 1 of 2 g mesalazine, suspensie voor rectaal gebruik bevat 1 g mesalazine per 100 ml, zetpil bevat 1 g mesalazine. **Therapeutische indicaties:** Oraal: ter behandeling van lichte tot matige vormen van colitis ulcerosa en de ziekte van Crohn, zowel in de acute fase als ter voorkoming van recidieven hiervan. Suspensie voor rectaal gebruik: proctitis, proctosigmoiditis en linkszijdige colitis. Zetpil: proctitis. **Contra-indicaties:** Overgevoeligheid voor mesalazine of overige bestanddelen van het product, of voor salicylzuurderivaten. Ernstige lever- en/of nierfunctiestoornissen. **Bijzondere waarschuwingen en voorzorgen bij gebruik:** Voorzichtig bij patiënten met bekende overgevoeligheid voor sulfasalazine en met een verminderde leverfunctie. Bij verminderde nierfunctie niet aanbevolen. De nierfunctie regelmatig controleren met name in het begin van de behandeling. Bij cardiale overgevoeligheidsreacties en ernstige bloedbeeldafwijkingen de behandeling staken. **Bijwerkingen:** Na rectale toediening kunnen lokale reacties, zoals pruritus, rectaal ongemak en aandrang optreden. Verder komt vaak voor: hoofdpijn, diarree, buikpijn, misselijkheid, braken, huiduitslag inclusief urticaria. Zelden tot zeer zelden: myo- en pericarditis, pancreatitis, bloedbeeldafwijkingen allergische longreacties, hepatotoxiciteit, lupus erythematosus-achtige reacties, abnormale nierfunctie. **Registratiehouder:** Ferring B.V., Postbus 184, 2130 AD, Hoofddorp. **Registratienummers:** Tabletten onder RVG 14797 (500 mg) en RVG 105712 (1 g); Granulaat onder RVG 18706 (1 g) en RVG 31379 (2 g), Suspensie voor rectaal gebruik onder RVG 11782, zetpil onder RVG 15064. **Afleverstatus:** UR. **Datum tekst:** augustus 2010

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**Ursodeoxycholic acid counteracts celecoxib in reduction of duodenal polyps in patients with familial adenomatous polyposis: a multicentre, randomized controlled trial**

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Due to prophylactic colectomy, mortality in patients with familial adenomatous polyposis (FAP) has changed, with duodenal cancer currently being the main cause of death. Although celecoxib reduces duodenal polyp density in patients with FAP, its long-term use may increase risk of cardiovascular events and alternatives need to be explored. Preclinical studies suggest that the combination of celecoxib with ursodeoxycholic acid (UDCA) is a potentially effective strategy. We performed a randomized, double-blind, placebo-controlled trial to investigate the effect of celecoxib and UDCA co-treatment on duodenal adenomatosis in patients with FAP. Patients with FAP received celecoxib (400mg twice daily) and UDCA (1000-2000mg daily, n=19) or celecoxib and placebo (n=18) orally for 6 months. Primary outcome was drug efficacy, assessed by comparing duodenal polyp density at pre- and post-intervention by blinded review of endoscopic recordings. As secondary outcomes, cell proliferation, apoptosis, and COX-2 levels in normal duodenal mucosa were assessed by immunohistochemistry or real-time quantitative polymerase chain reaction (qPCR). In intention-to-treat analysis, decreased polyp density was observed after celecoxib/placebo treatment (P=0.029), whereas increased polyp density was observed after celecoxib/UDCA treatment (P=0.014). The difference in change in duodenal polyp density was statistically significant between the groups (P=0.011). No changes in secondary outcomes were observed. Thirty patients (81%) reported one or more adverse events, 16 patients (84%, Common Toxicity Criteria for Adverse Events version 3.0 (CTCAE) grade 1-3) treated with celecoxib/UDCA and 14 patients (78%, CTCAE grade 1-2) treated with celecoxib/placebo. Nine patients (24%) discontinued intervention prematurely, 5 patients (26%) treated with celecoxib/UDCA and 4 patients (22%) treated with celecoxib/placebo. In conclusion, celecoxib reduces duodenal polyp density in patients with FAP, and unexpectedly, UDCA co-treatment counteracts this effect. The benefit of long term use of celecoxib for duodenal cancer prevention needs to be weighed against the (risk of) adverse events.

**Introduction of new high volume circular staplers results in increase in resected tissue for the treatment of haemorrhoidal disease.**

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Introduction: Haemorrhoidal disease is one of the most frequent benign anorectal diseases. When symptoms are not resolved by conservative methods, rubber band ligation is usually the next step in the treatment of haemorrhoids. In the long term, the result of rubber band ligation is often unsatisfactory. Among others, haemorrhoidectomy and stapled anopexy are alternative methods. Stapled anopexy results in higher patient satisfaction but also results in higher recurrence rates. With new high volume stapling devices, recurrence rates of stapled anopexy might improve as a result of increase in resected tissue. Aim: Comparison of the weight of resected tissue with traditional stapling devices and with new high volume staplers.
Materials and methods: From November 2011 until March 2013 we collected and determined the weight of the resected tissue from 20 patients treated with a traditional stapling device and from 23 patients treated with a high volume stapling device. Results: The average age in the group treated with traditional staplers was 48,8 years and 51,9 years in the group treated with high volume staplers. The percentage male was 49% and 65% respectively. In both age and gender there was no significant difference. The average weight of the resected tissue in patients treated with traditional staplers was 6,5 (4,9 – 7,5)grams and with high volume staplers 10,3 (8,7 – 11,3)grams, a statistical significant difference ($p<0,05$).
Conclusion: With the introduction of high volume staplers for treating haemorrhoidal disease we observed a statistically significant increase in resected tissue as compared to traditional staplers. Further investigation is needed to determine if this also results in lower recurrence rates of haemorrhoidal disease.

**Long-term evaluation of intraperitoneal mesh placement, experiences with three new meshes**

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At least one in ten patients undergoing mid laparotomy will develop an incisional hernia. One third of these patients will develop symptoms due to these hernias and will require hernia repair. Laparoscopic repair of these hernias with intraperitoneal placement of a mesh is a popular method of repair. This approach however is associated with an increased risk of adhesion formation and associated complications. Development of meshes with anti-adhesive properties is thus very important for future hernia surgery. In this study we investigate the properties of three new anti-adhesive meshes. The Omyra® (cPTFE) mesh, Physiomesh® (polypropylene/monocryl) and the Hi-Tex Endo-IP® (polyester/polyurethane) mesh were investigated for anti-adhesive properties. Results of these meshes were compared with a polypropylene (parietene®) mesh. 80 Whistar rats underwent mid laparotomy surgery and were randomized in one of the four groups (one for each mesh). A mesh was sutured intraperitoneally to the abdominal wall and the abdomen was closed. After 7 and 90 days the rats were sacrificed and adhesion scores were obtained. Both the Hi-Tex Endo-IP and the Physiomesh showed significantly less adhesions when compared to the other groups ($p<0,0001$). This difference was seen both after 7 days and after 90 days. Omyra mesh showed comparable percentages with the control group, which had approximately 93% coverage with adhesions after both 7 and 90 days. Incorporation into the abdominal wall was insufficient in all meshes. Shrinkage was only seen for Physiomesh after 90 days, with a loss in cranio-caudal mesh-length of 16% (7-30%, $P<0,05$).
In conclusion both the polyurethane and the monocryl coating on the Hi-Tex Endo-IP mesh and Physiomesh are effective in reducing intraperitoneal adhesions, and lead to a significant and long-term reduction in adhesion formation. The use of cPTFE for adhesion prevention has no advantage when compared to a polypropylene mesh in percentage of adhesion coverage.

**Short-term results of prophylactic mesh placement during formation of an end-colostomy for prevention of parastomal hernia; The Dutch PREVENT-trial**

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A parastomal hernia (PSH) is an incisional hernia related to an enterostomy and is the most frequent complication after stoma formation; approximately 50% of all patients with a stoma develop a symptomatic PSH over time. Symptoms may range from mild abdominal pain and poor fitting appliance, to life-threatening obstruction and strangulation. Sooner or later, most of the patients with a symptomatic parastomal hernia will need surgical treatment. The treatment of a parastomal hernia is notoriously difficult. The use of mesh resulted in a considerable reduction of the recurrence rate and an acceptable rate of mesh infections, but still recurrences up to 20 % are published. Due to these poor results surgeons focus more and more on prevention. Two small single center trials suggested a decrease in incidence of PSH's by retromuscular placement of a mesh at the time of stoma formation. We conducted a large multicenter randomized controlled trial to determine if a retromuscular mesh at the stoma site is safe and feasible in preventing a parastomal hernia. One hundred and fifty patients undergoing an open procedure and elective formation of an end-colostomy were randomized between 2010 and 2012. Augmentation of the abdominal wall with a retromuscular lightweight polypropylene mesh (treatment group) is compared to the traditional formation of a colostomy (control group). The incidence of a PSH, complications, cost-effectiveness and quality of life were measured.At the time of writing all patients are included, and the 3-month follow up data of 134 patients were ready for analysis of which 67 received a mesh. The mean operation time was 20 minutes longer in the treatment group (179 vs 159 min, P= 0,08). Thirteen patients required a re-intervention, of which 6 in the mesh group (P = 1,00). Main reason was an infection of the perineal wound in six patients, of which one in the mesh group. There were 37 post-operative wound infections of which the majority were infections of the perineum, 4 peristomal infections occurred of which one in the mesh group, no infection of the mesh occurred. Six patients had clinical symptoms of a parastomal hernia at 3 months follow-up. Chronic pain related to the stoma was measured by using the von Korff score and health status was measured using the EQ-5D questionnaire. In both surveys there was no significant difference between the mesh and the non-mesh group.
Conclusions: Although the implantation of a mesh increased the operating time with 20 minutes, it did not increase complications such as; infection, stoma related problems or chronic pain. Therefore, we can state that prophylactic mesh placement is safe and feasible.

**Intraperitoneal mesh for incisional hernia prevention after stoma reversal: a pilot study**

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Incisional hernias in old stoma wounds occur in one of three former stoma patients and pose a significant clinical problem. Though parastomal hernias have already been prevented by prophylactic mesh placement, no trials are yet available on incisional hernia prevention after stoma reversal. The objective of this study was to explore the safety and feasibility of placing an intraperitoneal mesh at the time of temporary stoma creation to prevent incisional herniation after stoma reversal. A prospective pilot trial involving ten consecutive patients undergoing temporary stoma formation in 2010 was undertaken at an university tertiary care hospital. Patient underwent a low anterior resection with deviating double loop stoma for rectal cancer. A parastomal mesh (Parietex Composite Parastomal Mesh) was placed intraperitoneally at the time of stoma formation. At stoma reversal, the mesh was first visualized laparoscopically and adhesions to the mesh were scored. After reversal, the mesh defect was closed with non- or slowly absorbable sutures. Both at stoma creation and reversal, antibiotics were administered for five days. Main outcome measures were mesh infection, erosion and fistulation; infection, prolabation, retraction, stricture of the stoma and parastomal herniation. Incisional herniation was assessed at a median follow-up of two year after stoma reversal using ultrasonography. Ten patients with a median age of 66 years underwent stoma reversal after a median of 6 months. No infections occurred after mesh placement. Laparoscopy could be performed in seven patients which all showed adhesions covering a median of 25% of the mesh surface. In three patients bowel was involved, one of whom required a laparotomy for bowel mobilization. Except for one superficial wound infection after stoma reversal, no infectious complications were observed. After a median follow-up of 26 months no incisional herniations were demonstrated.
Conclusions: Prophylactic mesh placement in temporary stoma formation seems safe and feasible and prevents incisional herniation after stoma reversal. Avoiding intraperitoneal mesh placement could reduce adhesion related morbidity. Further study in a larger comparative trial is necessary. Registered at Clinicaltrials.gov, NCT00907842.

**A cut-off for C-Reactive Protein in early diagnosis of postoperative complications after major abdominal surgery**

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Despite improvements in medical care following major abdominal surgery, postoperative complications are still frequent. Early diagnosis of complications may contribute to less morbidity and mortality. Here we evaluate the use of CRP levels in early assessment of major postoperative complications and aim to set a cut-off for CRP. The medical records of 399 consecutive patients undergoing major abdominal surgery, between January 2009 and January 2011, were retrospectively reviewed. Major abdominal surgery involved Upper gastrointestinal, Hepato-Pancreatico-Biliary and Colorectal resections with primary anastomosis and/or ostomy. The clinical parameters applied included operative data, complications as classified by Clavien-Dindo, interventions due to complications and mortality at 30 days postoperatively. CRP measurements were documented. Eighty-three patients (20.8%) out of 399 patients suffered major complications, confirmed by CT-scan findings or reoperation. CRP levels were significantly higher in major complicated cases from the second postoperative day onwards ($p<0.001$). By means of receiver-operator characteristic (ROC) curves an optimal cut-off for CRP of 145 mg/L was calculated on the third postoperative day as potential marker for major complications, having a sensitivity of 81.0%, a specificity of 50,8% and a negative predictive value of 92.6%. Importantly no significant differences in CRP levels were observed for gender, age and organ group. Patients operated on in an acute setting had significant higher CRP on POD 1, however from POD 2 onwards no statistically significant differences were seen (all $p > 0.05$).

Conclusion: Postoperative CRP levels are significantly increased in major complications. In patients with CRP levels above the calculated cut-off of 145 mg/L on the third post-operative day, a major complication should be excluded by means of clinical observation and computed tomography scan (CT-scan) of the abdomen. Achieving CRP levels below threshold may allow for a safer early discharge, rendering its possible use in Fast-Track surgery.

**An early oral feeding strategy after pancreatoduodenectomy enhances recovery without increasing morbidity**

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Pancreatoduodenectomy is associated with a high incidence of delayed gastric emptying. Data on the optimal routine feeding strategy after pancreatoduodenectomy (nasojejunal versus oral feeding) are lacking. The aim of this study was to evaluate whether the introduction of an early oral feeding strategy with on demand nasojejunal tube (NJT) feeding after pancreatoduodenectomy improved outcomes as compared to routine NJT feeding. An observational cohort study was performed in 102 consecutive patients undergoing pancreatoduodenectomy. In period 1 (June 2010-September 2011, n=51) the routine postoperative feeding strategy was NJT feeding (historical controls). This changed to early oral feeding with on demand NJT feeding in period 2 (January-December 2012, n=51; consecutive prospective cohort). The introduction of the early oral feeding strategy was monitored prospectively and included resumption of oral intake on the day of surgery. Analysis was by intention-to-treat. Primary outcome was the time to resumption of adequate oral intake. Groups were comparable for base characteristics. In period 1, 50 of 51 (98%) patients received NJT feeding versus 27 of 51 (53%) patients in period 2. Reasons for NJT feeding in period 2 were preoperative malnutrition (n=7) and DGE (n=20).The time to resumption of adequate oral intake significantly decreased in period 2 (12 vs. 9 days, P=0.01) as well as hospital stay (18 vs. 13 days, P=0.01). This was especially seen in patients with an uncomplicated postoperative course (time to resumption of adequate oral intake: 11 vs. 6 days, P=<0.01, and hospital stay: 15 vs. 9 days, P=<0.01 respectively), whereas no differences were seen in patients who developed complications, DGE or pancreatic fistula. Overall, there were no differences in the incidence of Clavien-Dindo≥3 complications (47% vs. 45%, P=0.84), delayed gastric emptying (31% vs. 35%, P=0.67), pancreatic fistula (12% vs. 12%, P=0.99), postoperative haemorrhage (12% vs. 10%, P=0.75) and mortality (6% vs. 2%, P=0.62) between the groups.
Conclusions: The introduction of an early oral feeding strategy, with on demand NJT feeding, reduced the time to resumption of adequate oral intake and length of hospital stay after pancreatoduodenectomy, without negative impact on postoperative morbidity.

**Systematic review of the literature on the use of sealants in pancreatic surgery**

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A pancreatic fistula is a potentially life threatening complication of pancreatic surgery. Local sealants are used successfully in many surgical fields for hemostasis and sealing of anastomoses. The aim of this systematic review is to evaluate the role of sealants in pancreatic surgery in terms of preventing pancreatic fistula. We performed a systematic search of the literature from January 2005 to December 2012. Inclusion criteria were studies on the use of local sealants in pancreatic surgery that reported mortality and the rate of pancreatic fistula (primary outcome). Animal studies, studies in non-English language, studies that use liquid or not topical sealants and studies not using the International Study Group for Pancreatic Surgery (ISGPS) classification for postoperative pancreatic fistula (POPF) were excluded. ISGPS Grade B and C fistula were considered clinically relevant. Seven studies were included: one randomized controlled trial, two prospective and four retrospective observational cohort studies. Distal pancreatectomy was performed in 436 patients (sealants n=258, controls n=178) and 121 patients underwent pancreatoduodenectomy (sealants n=94, controls n=27). Following distal pancreatectomy, 108 patients (42%) treated with sealants developed POPF versus 93 patients (53%) in the control group (p=0.03). Of these 22 (9%) versus 22 (12%) were clinically relevant (p=0.19). Following pancreatoduodenectomy, 9 patients (10%) treated with sealants versus 3 patients (11%) in the control group developed POPF (p=0.81), of which 3 (3%) versus 1 (3%) were clinically relevant (p=0.89). There were no major differences in time to drain removal, hospital stay, morbidity and mortality. The current data do not support the routine use of sealants in pancreatic surgery, because there was no effect on clinically relevant fistula. Larger well-designed studies are needed to determine the efficacy of local sealants in preventing pancreatic fistula after different types of pancreatic resection, especially in pancreatoduodenectomy.

**Improvement of the learning curve of cytoreduction and HIPEC in the Netherlands**

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Introduction: The combination of cytoreduction (CRS) and hyperthermic intraperitoneal chemotherapy (HIPEC) has become the preferred treatment for many peritoneal surface malignancies. Experience with this procedure is needed to achieve a macroscopic complete resection with a low morbidity. In the Netherlands, new HIPEC centres are mentored by surgeons from experienced HIPEC centres to set up the treatment safely. In this study learning curves were analyzed of a pioneer institution and three institutions that started recently with CRS and HIPEC. Methods: The first consecutive 100 CRS and HIPEC procedures of four institutions in the Netherlands were included, when available. Indications were peritoneal carcinomatosis (PC) from colorectal carcinoma and pseudomyxoma peritonei (PMP). Patient, tumour and treatment characteristics were retrospectively obtained. Operation characteristics, morbidity and completeness of cytoreduction were the main outcome parameters for the learning curves. The learning curves of the pioneer institution were compared to the learning curves of the three later institutions together. Learning curves were determined by a regression model with the rank of the operation as a covariate. Results: Three-hundred seventy-two cases were included in the four institutions. In total 167 procedures were performed for PC from colorectal carcinoma and 105 for PMP. The number of abdominal regions affected (0-7) was larger in the procedures of the pioneer hospital than in the other hospitals (mean abdominal region count 4.3 vs 3.2, $p<0.001$). Grade III-V morbidity rates were 64% in the pioneer centre and 32% in the later centres. A macroscopic radical resection was reached in 66% of the cases in the pioneer centre and in 86% of the cases in the later centres. The rank of the operation (OR 1.02, 95%CI 1.011-1.03), treatment in the new centres (OR 2.50, 95%CI 1.33-4.9) and number of abdominal regions affected (OR 0.60, 95%CI 0.50-0.71) were predictors for a complete macroscopic resection in a multivariate logistic regression model.
Conclusions: Recently started HIPEC centres in the Netherlands showed improved learning curves compared to the pioneer institution with a better starting point for all main outcome parameters and a significant learning curve in the first 100 patients regarding complete cytoreduction, which is an indicator for survival. Patient selection was an important independent factor for this learning curve.

**Patterns of recurrence after R0 resection of gallbladder cancer: Analysis of patients undergoing lymph node dissection of the hepatoduodenal ligament without routine extrahepatic bile duct resection.**

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Objectives: The routine use of extrahepatic bile duct resection along with lymph node dissection of the hepatoduodenal ligament (LnHDL) in patients with gallbladder cancer is controversial. The aim of this study was to analyse patterns of recurrence in patients who underwent radical resection of gallbladder cancer without routine extrahepatic bile duct resection. Methods: Analysis of 58 patients who had undergone explorative laparotomy for gallbladder carcinoma between 2000 – 2012 at a single centre. Patients with resectable disease and no tumour infiltration beyond the cystic duct underwent cholecystictomy in combination with excision of the gallbladder fossa (segm4/5); LnHDL for tumors stage T1b and higher; and partial liver or duodenal resection when indicated. Extrahepatic bile duct resection was only used in case of tumor infiltration beyond the cystic duct. Results: Thirty-six patients (56%) underwent resection at laparotomy. Twenty-six patients (45%) underwent R0 resection with LnHDL, but no extrahepatic bile duct resection (tumor stage T1b in 5 patients; T2 in 17; T3 in 3; and T4 in 1). The median number of lymph nodes harvested from the hepatoduodenal ligament in these patients was 3 (range, 0 – 11). Eight patients developed recurrent disease after a median of 9 months (range, 2 – 25): Isolated disease at the hepatic resection margin in 2 patients, isolated distant disease in 4 patients, and concurrent regional and distant disease in 2 patients. Eighteen patients remained disease-free at median follow-up 25 months (range, 4 – 127).
Conclusions: The majority of patients develop distant metastatic disease as initial pattern of recurrence after R0 resection of gallbladder carcinoma. No patients developed isolated recurrent disease in the hepatoduodenal ligament, suggesting that extrahepatic bile duct resection has no additional value over lymph node dissection alone of the hepatoduodenal ligament.

**One year outcome of a randomized trial comparing minimally invasive versus open oesophagectomy for cancer: Quality of life, survival and late complications.**

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Oesophagusresectie bij patiënten met een oesophaguscarcinoom gaat gepaard met een hoge morbiditeit, met name pulmonale infecties. Om deze complicaties te verminderen is wereldwijd de minimaal invasieve methode geïmplementeerd. De TIME-trial heeft de minimaal invasieve oesophagusresectie middels thoracoscopie in buikligging in combinatie met laparoscopie vergeleken met de conventionele methode middels thoracotomie en laparotomie. Hieruit is gebleken dat er post-operatief minder pulmonale infecties optreden na minimaal invasieve oesophagusresecties en er na 6 weken een betere kwaliteit van leven is ten opzichte van de conventionele methode. Follow-up na 1 jaar zal een belangrijke bijdrage leveren aan de resultaten van deze trial.Alle 115 geincludeerde patiënten in de TIME trial zijn geanalyseerd 1 jaar post-operatief betreft overleving, kwaliteit van leven en late complicaties.Overleving en ziektevrije overleving na 1 jaar zijn 72% resp. 65% zonder een significant verschil tussen beide groepen. Kwaliteit van leven is na 1 jaar is nog steeds significant beter na minimaal invasieve oesophagusresectie voor algehele gezondheid (C30: 79 (10; 76-83) vs 67 (21; 60-75) p .004), fysieke activiteit (SF36: 50 (6; 48-53) vs 45 (9; 42-48) p .003) en pijnscore (OES18: 6 (9; 2-8) p .001 vs 16 (16; 10-22). Het aantal en soort late complicaties is gelijk in beide groepen.
Conclusie: 1 jaar na oesophagusresectie voor oesophaguscarcinoom is er geen verschil in overleving, ziektevrije overleving of late complicaties tussen minimaal invasieve oesophagusresectie en de conventionele open methode. Echter, na 1 jaar is er persisterend een significant betere kwaliteit van leven voor patiënten na minimaal invasieve oesophagusresectie dan na open oesophagusresectie.

**Minimally invasive esophagectomy: preliminary results after introduction of an intrathoracic anastomosis.**

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Study goal: To analyze and describe the preliminary results after transition from a cervical to an intrathoracic anastomosis after minimally invasive esophagectomy (MIE). Methods: From January 2011 until August 2012, all operable patients were planned to undergo MIE with creation of an intrathoracic anastomosis. Patient characteristics, anastomosis related complications, morbidity and mortality were prospectively registered and were analyzed retrospectively. Results: Forty-five patients underwent MIE with intrathoracic stapled end-to-side anastomosis. Major changes in operative technique were made two times due to non satisfactory results, dividing the patients into three groups with different anastomotic techniques. One patient died in group 1. The anastomotic leakage rate decreased from 44% in group 1 to 0% in groups 2 and 3 (p=0.007). The pulmonary complication rate decreased from 67% in group 1 to 44% in group 2 (NS) and 22% in group 3 (p=0.04) and the overall complication rate decreased from 89% in group 1 to 78% in group 2 (NS) and 33% in group 3 (p=0.01). The median ICU stay decreased from 9 days in group 1, to 7 days in group 2 (NS) and 2 days in group 3 (p<0.001) and the median hospital stay decreased from 17 days in group 1 to 14 days in group 2 (NS) and 8 days in group 3 (p<0.001). During a median follow up of 11 months, there were no stenoses, no dilatations and no patients with recurrent laryngeal nerve trauma.

Conclusions: The introduction of the intrathoracic anastomosis after MIE was initially associated with considerable morbidity. Results improved after changes in operative technique were made, but a learning curve may be partially responsible for the improved outcome. In this series of 45 patients undergoing minimally invasive esophagectomy with intrathoracic anastomosis, no stenoses were observed and no dilatations were performed. To evaluate whether there is a significant difference in functional outcome between cervical and intrathoracic anastomoses a randomized controlled trial is warranted.

**Laparoscopic versus Open Total Gastrectomy in Patients with Gastric Cancer**

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Laparoscopic total gastrectomy may improve patient outcome, but has mainly been analyzed in Asian series with early gastric cancer. We analyzed the results of a Western European series of consecutive patients with locally advanced gastric cancer. The aim of this study was to compare laparoscopic total gastrectomy versus open total gastrectomy with respect to morbidity, mortality, oncologic outcome, and functional recovery.From 2001-2013 a total of 175 gastric resections were performed at the University Medical Center Utrecht. Of these, 54 consecutive patients with gastric cancer underwent laparoscopic total gastrectomy or open total gastrectomy were included for analysis. Data were retrospectively analyzed in an intention to treat model. Results are presented as median (range).A total of 24 (44%) patients underwent open total gastrectomy, versus 30 (56%) laparoscopic total gastrectomies. Conversion from laparoscopic total gastrectomy to open total gastrectomy occurred in 8 (27%) patients. Reasons for conversion were tumor ingrowths in surrounding structures (5), arterial bleeding (1), venous bleeding (1), and insufficient exposure (1). The base and oncologic characteristics did not significantly differ between both groups. The median duration of open total gastrectomy was 4:00 (2:42-6:27) hrs, whereas the duration of the laparoscopic procedure was 4:57 (2:41-7:40) hrs (p=0.003). Blood loss for open total gastrectomy was 613 (100-3000) ml, compared with 265 (30-2700) ml for laparoscopic total gastrectomy (p=0.008). Postoperative anastomotic leakage occurred in 11 (46%) patients that underwent the open procedure, compared to 5 (17%) patients that received laparoscopic total gastrectomy (p=0.020). Postoperative admission was 25 (7-188) days in the open group, compared with 12 (7-53) days in the laparoscopic group (p=0.003). A radical resection was achieved in 22 (92%) patients in the open group versus 28 (93%) patients in the laparoscopic group (p=0.816). The lymph node yield was 16 (3-33) in the open group versus 19 (2-53) in the laparoscopic group (p=0.0.376). The 30-day mortality was 4.2% for the open group, whereas this was 3.3% for the laparoscopic group (p=0.087).
In conclusion, intraoperative blood loss, morbidity, and functional recovery were significantly better for laparoscopic total gastrectomy compared with open total gastrectomy, at the cost of a longer operative time.

# Vrijheid

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**Khat-related liver disease: a disorder with autoimmune features and unfavorable prognosis**

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Khat is a commonly used recreational drug in parts of East Africa and the Arabian Peninsula. Previous case reports suggest that chewing khat leaves may induce chronic liver disease. This study aimed to define clinical characteristics, response to treatment and prognosis of khat-related liver disease (KRLD). Data on clinical characteristics, laboratory and histological findings, and clinical course of KRLD were collected and updated until March 2013. A total of 13 patients (11 males; median age 33 years) with KRLD were identified, and followed during a median period of 1 year (range 24 days-15 years). All patients were diagnosed in the Netherlands; 10 patients originated from Somalia, 2 from Yemen and 1 from Ethiopia. The main presenting symptoms were jaundice (n=13) and abdominal pain (n=8). Two patients presented with hepatic encephalopathy. Laboratory studies at initial presentation showed median bilirubin levels of 348 umol/L, AF 189 U/l and ALAT 960 U/l. IgG levels were elevated in 9 patients; 6 patients tested positive for ANA and 9 for smooth muscle antibodies. Six patients were anti-HBc positive, however, in none of the patients included in this series active hepatitis B or C was present. Liver biopsies were obtained in 11 patients and showed chronic active hepatitis in all cases, with histological features of auto-immune hepatitis in 5. Nine patients were treated with immunosuppressive medication (steroids +/- azathioprine). Despite treatment, flares of hepatitis during follow-up were observed in 5 of these patients; unfortunately, the possible influence of incompliance to medication and khat use could not be evaluated. During follow-up 4 patients died from liver-related causes after a median period of 1 year: 1 from acute liver failure and esophageal variceal bleeding, 1 after liver transplantation for acute liver failure, and 2 from end-stage liver disease. Three patients were lost to follow-up, illustrating difficulties with patient management in this particular immigrant population.
Conclusions: Khat use should be considered as a cause of liver injury in appropriate populations. Khat induces cholestatic hepatitis, with in the majority of patients features compatible with auto-immune hepatitis. In this thus far largest series, the overall success of immunosuppressive treatment was disappointing. KRLD may run a severe course and result in death from both acute and chronic liver failure.

## Validation of alka phosphatase and bilirubin values as a surrogate endpoint in primary biliary cirrhosis – an international, collaborative study

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The determination of a simple, inexpensive and reliable surrogate endpoint for the long-term prognosis in primary biliary cirrhosis (PBC) is highly desirable. This study evaluated the utility of serum alka phosphatase (ALP) and bilirubin. The Global PBC Study Group comprises the largest international PBC collaborative consortium ever created and currently comprises 15 North-American and European Liver Centres. Uniform data (until December 2012) on the clinical characteristics, liver biochemistry and long-term outcomes from individual patients were assembled and assessed against death and liver transplantation (LTX). Patients were stratified by center and adjusted for gender, calendar time, age and ursodeoxycholic acid (UDCA) treatment for Cox-regression analysis. Analyses were conducted at entry and after 1 and 2 years on UDCA treatment or follow up (non-UDCA patients) in different subgroups. Results: 3895 PBC patients (91% female, 87% AMA+, mean age at diagnosis: 51.5 ±12.0 years), of which 2621 patients with available ALP values after 1 year, were included: The majority (87.2%) received UDCA for at least 1 yr. The mean follow up period was 7.4 (±5.6) years. Outcomes developed in 22%: 564 (14%) patients died (hepatic causes: 332, non-hepatic: 232), 329 (8%) had liver transplants. The 5-, 10- and 15-yr LTX-free-survival was 89%, 77% and 66% respectively. Bilirubin was highly predictive of outcomes, at 1 yr HR= 4.3 (3.1-6.0). There was a log-linear association of ALP with LTX-free-survival (HR at entry: 1.3 (1.0-1.6), at 1 yr: 1.8 (1.5-2.1), at 2 yrs 2.0 (1.7-2.4)). Higher ALP values were associated with a worse prognosis. ALP values ≥1.67xULN at entry and 1 and 2 years were associated with worse outcome (HR respectively: 1.9 (1.6-2.4), 2.3 (1.9-2.7), 2.6 (2.2-3.2), all p-values $>1.0*10^{-6}$). Similar results were found for a grid of cut off points (1.5xULN, 2.0xULN and 3.0xULN). ALP≥1.67xULN was an independent prognostic marker in cases with both normal (HR 1.6 (1.3-2.1); $p=5.4*10^{-5}$) and abnormal bilirubin (1.6 (1.1-2.2), $p=7.0*10^{-3}$). Comparable results were found in the following subgroups: non-treated patients (n=207), treated patients (n=2374), patients <55 yrs at diagnosis (n=1612), patients ≥55 yrs at diagnosis (n=1005), females (n=2410), males (n=194), patients diagnosed <1990 (n=652), patients diagnosed ≥1990 (1868). Conclusion: This analysis of the largest PBC patient database created clearly shows that bilirubin and ALP levels are correlated with LTX-free survival in both UDCA treated and untreated PBC patients and provides strong evidence that these common clinical assessments make highly valid surrogate PBC endpoints.

## Effect of thrombocytopenia on treatment tolerability and outcome in chronic hepatitis C patients with advanced hepatic fibrosis receiving (peg)interferon-based antiviral treatment

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Introduction: Patients with chronic hepatitis C virus (HCV) infection and advanced fibrosis will likely remain dependent on (peg)interferon (IFN) containing treatment regimens to achieve optimal sustained virological response (SVR) rates. However, IFN-therapy is associated with thrombocytopenia (TCP), which may lead to dose reductions and early discontinuation, in particular in patients with advanced fibrosis or cirrhosis and TCP at baseline. Methods: We assessed the occurrence of IFN-induced TCP, IFN dose reductions, SVR and bleeding complications in all consecutive chronic HCV patients with biopsy-proven advanced hepatic fibrosis (Ishak 4-6) who initiated IFN-based therapy between 1990 and 2003 in 5 large hepatology units in Europe and Canada. Results: In total, 860 interferon-based treatments were administered to 546 patients; median age was 48 (IQR 42-56) years, 376 (69%) were males, and 400 (73%) presented with cirrhosis. Base platelets (PLT in 10^9/L) were ≥150 in 395 (46%) and <150 in 377 (44%) treatments; TCP was moderate (PLT 75-150) in 324 (86%) and severe (PLT<75) in 53 (14%). TCP-induced IFN dose reductions occurred in 15 (28%) with severe TCP, in 46 (12%) with moderate TCP and in 3 (1%) with normal PLT (p<0.001); IFN was discontinued due to TCP in 8 (15%) with severe TCP, 8 (2%) with moderate TCP and 1 (<1%) with normal PLT (p<0.001). Overall, 22% of treatments with an IFN dose reduction and 6% of treatments that were discontinued due to TCP resulted in SVR, and 17% of treatments in patients with severe base TCP, 19% with moderate TCP, and 29% with normal PLT resulted in SVR. Bleeding complications occurred in 8 treatments (15%) among patients with severe TCP, 30 (9%) with moderate TCP and 15 (4%) with normal PLT (p<0.001). Bleeding episodes concerned epistaxis, gingival bleeds and haematuria in 48%, 19% and 15%, respectively). Two bleeding complications required hospitalizations, none were fatal. PLT<50 at previous visit were associated with bleeding: the risk of bleeding was 1.2% if PLT were >50, 6.6% if PLT were 25-50, and 14% if PLT were <25 at previous visit. In multivariate analysis, adjusted for age and base PLT, cirrhosis (OR 3.0, 95%CI 1.4-6.7, p=0.005), female gender (OR 1.6, 95%CI 1.1-2.4, p=0.024) and PLT<50 at the previous visit (OR 5.3, 95%CI 3.4-8.1, p<0.001) were associated with bleeding. Conclusion: Patients with chronic HCV, advanced fibrosis and base TCP commonly experienced dose reductions and early discontinuation of IFN-based therapy, leading to lower SVR rates. On-treatment platelet counts <50 were associated with a 5-fold increased risk of bleeding complications.

**Update on the histopathological key-features of autoimmune hepatitis**

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Liver biopsy is part of the standard diagnostic work-up of autoimmune hepatitis (AIH). The 1999 and 2008 diagnostic AIH criteria describe interface hepatitis, plasmocellular dominated infiltrates, rosettes and emperipolesis as typical histological features. In contrast, histological biliary changes are regarded as an atypical finding. The aim of the present study was to ascertain and evaluate whether these features are indeed typical for AIH. We performed a detailed histopathological evaluation of clinically well-defined AIH cases and compared these with chronic active viral hepatitis (CAVH) patients. Pretreatment liver biopsies of AIH patients (IAIHG score ≥10) (n=70) and CAVH patients [hepatitis B (n=21) or C (n=41) ≥ 6 months] seen in our tertiary referral center were re-evaluated. The biopsies were systematically reviewed for inflammation, fibrosis (Scheuer score) and semi-quantitatively scored for the 1999 and 2008 diagnostic AIH criteria by one expert hepatopathologist (E.B.) who was blinded to clinical patient data. We used univariate and multivariate regression analysis to determine which histological features were the best independent predictors of AIH. Compared to liver biopsies of patients with CAVH, liver biopsies of AIH patients showed higher inflammation scores in portal (2.6±1.2 versus 1.8±1.1, p=0.001) and lobular (2.4±1.5 versus 1.7±1.1, p=0.001) areas, but stages of fibrosis were similar (1.8±1.3 versus. 1.5±1.3, p=0.6). Autoimmune hepatitis liver biopsies more often showed interface hepatitis (89% versus 63%, p=0.001), plasmocellular dominated infiltrates (49% versus 27%, p=0.01), rosettes (38% versus 21 %, p<0.07) and emperipolesis (79% versus 50%, p<0.001). Biliary changes and destructive cholangitis were found in 69% and 29% of AIH patients respectively. We devised a multivariate logistic regression on 52 AIH and 56 CAVH patients with all four typical features available. This revealed that emperipolesis (p<0.01) and rosettes (p=0.03) were the best independent predicting variables for AIH.
Conclusion: Emperipolesis and rosettes are the best histological predictors for AIH in chronic active hepatitis. Although destructive cholangitis is regarded as an atypical feature, this study shows that it may be present in over one-fourth of clinically well-defined AIH patients.

## Defining optimal laboratory response criteria in UDCA treated Primary Biliary Cirrhosis. Results of an international multicenter long-term follow-up study

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Background: Several biochemical criteria have been proposed to either assess the therapeutic response and long-term prognosis in ursodeoxycholic acid (UDCA)-treated primary biliary cirrhosis (PBC) patients to identify patients at greatest need for additional treatment. This study compared the prognostic utility of these criteria in a large international cohort of patients. Methods: The Global PBC Study Group is an on-going project comprising 15 North-American and European Liver Centres. Clinical characteristics, liver biochemistry and long-term outcomes were collected from individual patient data updated until December 2012. Treatment response was evaluated according to the Barcelona (normal ALP or >40% decrease), Paris I&II ((ALP≤3xULN,AST≤2xULN,normal bili) and (ALP≤1.5xULN,AST≤1.5xULN,normal bili)) and Rotterdam (Normalisation of abnormal bili and/or albumin) criteria after 1 yr of UDCA treatment and according to the Toronto (ALP<1.67xULN) criteria after 2 yrs. Death and liver transplantation (LTX) were used as clinical endpoints. The area-under-the-receiver-operating-curve for survival analysis (C-statistics) was used to determine model performance. Results: The database comprises 3895 PBC patients of which 2924 UDCA-treated patients with available lab measurements; mean age of 52.3 (±12.2) yrs, female: 91%, AMA+: 88%. Median follow up time was 7 (IQR 3-11) yrs.LTX-free survival was significantly better for patients responding to treatment as assessed by all of the models. Rotterdam (sensitivity: 83%, positive predictive value (PPV): 72%, c-statistics: 0.74 (0.71-0.78)) and Paris I (sensitivity: 71%, PPV: 75%, c-statistics: 0.76 (0.74-0.78)) criteria were the most powerful predictors, hazard ratio (HR) respectively: 3.92 (3.17-4.85) and 4.25 (3.53-5.11) for non-responders vs responders. According to Rotterdam and Paris I criteria 10-yrs survival was 84.1% and 88.1% for responders and 42.7% and 50.1% for non-responders. Cox regression analysis showed Barcelona, Paris I, Rotterdam and Toronto criteria were independently associated with LTX-free survival (c-statistics: 0.78 (0.74-0.81)). 38% of patients responded according to all criteria (10-yrs survival: 96.7%, sensitivity: 88.6%), while 10.4% did not respond according to any criteria (10-yrs survival: 58.0%, HR=7.7 (5.5-10.7)). Conclusions: This analysis of a large pooled UDCA-treated PBC cohort confirms the prognostic value of previously proposed response criteria. Paris I and Rotterdam were the most powerful predictors. Four of the five criteria contribute independently in a combined analysis of prognostic significance, suggesting that the optimal response criteria await to be defined.

**A new HBsAg/anti-HBs immune complex assay predicts HBeAg loss in chronic hepatitis B patients**

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Background and aim: We studied whether HBsAg/anti-HBs immune complex levels in chronic hepatitis B (CHB) patients receiving anti-viral therapy could be used as a response marker at base (BL), or early during treatment to predict treatment outcome. Methods: A prototype array-based assay served (IMPACT - Immunological Multi- Parameter Chip Technology, Roche Diagnostics) to determine HBsAg, anti-HBs and complex levels. We tested a panel of serum samples of 40 HBeAg-positive and 44 HBeAg negative patients who received pegylated interferon and adefovir for 48 weeks and were followed subsequently for 2 years. Results: HBsAg loss occurred in 4 of 40 HBeAg positive and 7 of 44 HBeAg negative patients. Sixteen of 40 HBeAg positive patients lost HBeAg and 13 of them formed anti-HBe. At BL complexes were present in 83 (99%) patients, whereas free anti-HBs levels were only detectable in 5 patients. Complex levels at BL and WK 12 were higher in HBeAg positive patients with HBeAg loss, compared to patients who retained HBeAg (p=0.0046 and p=0.026 respectively). ROC analysis for HBeAg loss in HBeAg positive patients at BL and WK 12 showed AUC 0.77 (p=0.004) and AUC 0.73 (p=0.026) for complex levels and AUC 0.57 (non significant) and AUC 0.61 (non significant) for HBsAg levels. We saw no correlation in either HBeAg-positive or -negative patients between complex levels and HBsAg loss. Nor did we find any correlation between complex and HBsAg or anti-HBs levels. Discussion: We demonstrated for the first time that before and during treatment HBsAg/anti-HBs immune complex levels can predict HBeAg loss in HBeAg positive CHB patients treated with peg-interferon and adefovir. Complexes were present in almost all patients at BL and were higher in patients that lost HBeAg.
In conclusion, determining HBsAg/anti-HBs immune complex levels before and early during treatment could select CHB patients with an optimal chance to achieve HBeAg loss.

## The risk for hepatocellular carcinoma among patients with chronic hepatitis C virus infection and advanced hepatic fibrosis following sustained virological response

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Although strongly reduced, the risk for hepatocellular carcinoma (HCC) is not eradicated in patients with hepatitis C virus (HCV)-induced advanced fibrosis who attained sustained virological response (SVR). Current AASLD guidelines consider HCC surveillance as cost-effective if the annual risk exceeds 1.5%, although this might be lower for patients with SVR. We assessed the HCC risk among patients with HCV-induced advanced fibrosis and SVR. Data from previously reported Western cohort studies including patients with chronic HCV infection and advanced fibrosis or cirrhosis who attained SVR were pooled for meta-analyses on the individual patient level. Cumulative HCC rates were assessed with Kaplan Meier analyses and differences between subgroups were compared with the Log Rank test. Included were 1001 patients with SVR from 10 previously reported cohorts. Median age was 52.7 (IQR 45.1-59.7) years, 676 (68%) were male and 843 (84%) had cirrhosis. Median follow-up was 5.7 (IQR 2.9-8.0) years; 50 patients developed HCC. Median age at the time of HCC was 65.3 (IQR 56.5-68.6) years. The cumulative 8-year HCC rate was 8.5% (95%CI 5.8-11.2) among patients with cirrhosis and 1.8 (95%CI 0.0-4.3) among those with advanced fibrosis (p=0.064). Gender had no significant effect (p=0.474). Among cirrhotic patients, the cumulative 8-year HCC rate was 2.6% (95%CI 0.0-5.5) for patients <45 years, 9.3% (95%CI 5.4-13.2) for patients from 45-60 years, and 12.2% (95%CI 5.4-19.1) for patients >60 years of age at start of therapy (p=0.006; Figure). In conclusion, patients with HCV-induced cirrhosis and SVR showed an annual HCC risk of approximately 1%. The annual HCC risk was higher among older patients. Our results suggest that the cost-effectiveness of HCC surveillance among cirrhotic patients with SVR will improve as the population with chronic HCV infection is aging.

**No increased risk of hepatocellular carcinoma in cirrhosis due to Wilson's disease during long term follow up**

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There are virtually no published data on the risk of hepatocellular carcinoma (HCC) in patients with Wilson's disease (WD). Here we report an estimate of HCC risk in a well-defined cohort with unequivocally proven WD with long-term follow-up (FU) and relate HCC risk to efficacy of decoppering treatment and severity of liver disease. End of FU was defined as liver transplantation, death or last available hospital visit. Eighty-one patients were followed in two university hospitals during a median FU of 17 years (range 0.1-51). Total years of FU was 1622. Presentation was asymptomatic, exclusively hepatic, neurologic or combined in 4, 40, 11 and 26 cases, respectively. Mean age at diagnosis was 17 years (range 1-43). Kayser-Fleischer rings were present in 51 (63%) patients, ceruloplasmin levels below lower range of normal in 63 (78%) patients and 24 hour-urinary copper excretion >100 ug in 54 (67%) patients. Median ceruloplasmin level was 7.0 mg/dL (range 1-32), and median 24-hour-urinary copper excretion 347 ug (range 43-2130). Of the 66 patients with hepatic or combined presentation, 17 exhibited initial decompensated cirrhosis, 23 compensated cirrhosis and 26 less severe disease. At the end of FU, 18 were found to have decompensated cirrhosis, 21 compensated cirrhosis and 29 less severe disease. Nine patients had undergone liver transplantation. Zinc, pencillamine or trientine (alone, sequentially or combined) was prescribed in 74, 49 and six patients, respectively. At the end of FU, efficacy of decoppering was excellent in 25 patients (serum free copper <0.10 ug/dL and 24-hour-urinary copper excretion <100 ug), moderate in 28 patients (serum free copper <0.10 ug/dL or 24-hour-urinary copper excretion <100 ug), poor in 17 patients (serum free copper >0.10 ug/dL and 24-hour-urinary copper excretion >100 ug) and unknown in 11 patients. At the end of FU, four patients had died due to decompensated liver disease, two due to transplant-related problems and seven due to non-hepatic causes. Only one patient with compensated cirrhosis developed HCC 51 years after the diagnosis of WD, despite excellent decoppering. Estimated HCC incidence in all patients and cirrhotics was 6.2 in 10,000 patient years (95% CI 0.3-30.4) and 1.5 in 1000 patient years (95 CI 0.1-7.5), respectively. In conclusion, even in case of advanced cirrhosis, HCC risk is extremely low in Wilson's disease, and regular surveillance appears not to be indicated. The reason for this remains unclear, but could suggest that excess hepatic copper is a protective factor against HCC development.

**Patients with overt hepatic encephalopathy have increased risk of mortality awaiting liver transplantation**

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Introduction: Hepatic encephalopathy (HE) is a severe complication of liver cirrhosis. HE is not accounted for in the MELD score, which is widely being used for organ allocation. Aim of this study was to assess the impact of HE on survival of patients awaiting liver transplantation. Methods: Retrospective analysis of consecutive adult patients listed for liver transplantation between 2007 and 2011. Clinical data were retrieved from patient records. MELD and MELD-Na score were calculated. Survival analysis was performed using Kaplan Meier and Cox proportional hazard regression analysis with death as event, censored for liver transplantation or last visit. Log-rank analysis was performed to exclude competing risk of transplantation. Univariate analysis was performed for presence of HE, MELD score, MELD-Na score, age, ascites, prior SBP or variceal hemorrhage and hepatocellular carcinoma. Parameters with P<0.10 were included in multivariate analysis. Results: 168 Patients were included; 25/51 patients with HE (49%) and 64/117 (54%) patients without HE underwent liver transplantation after a mean of 7.0 ± 7.8 (HE) vs. 9.7 ± 7.8 months (no HE) (P=0.158). HE patients had a higher MELD score at listing than patients without HE (20 ± 9 vs. 12 ± 5, P<0.001). The chance to receive a liver transplantation showed a trend towards earlier OLT in patients with HE (P=0.063). The presence of HE was independently associated with increased mortality before transplantation (HR 3.702 (95% CI 1.496-9.162), P=0.005), also after adjusting for MELD and MELD-Na score in multivariate analysis. MELD (HR 1.095 (95% CI 1.031-1.163), P=0.003) and MELD-Na score (HR 1.124 (95% CI 1.051-1.202) P=0.004) were also independent predictors of mortality, whereas prior SBP and ascites were not. More severe HE was associated with a higher mortality risk (grade 2: HR 4.973, P<0.001; grade 3-4: HR 28.413, P<0.001). Mortality was not increased in patients with HE grade 1 (HR 1.094).
Conclusions: Hepatic encephalopathy is an independent risk factor for mortality in patients awaiting liver transplantation. Objective biomarkers for assessment of HE are needed as HE patients might require higher priority for transplantation.

**Magnetic Resonance Imaging after neoadjuvant chemoradiaton therapy is a suitable device for evaluation of tumour response**

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Magnetic Resonance Imaging (MRI) after neoadjuvant chemoradiation therapy (CRT) in rectal carcioma shows great, sometimes even complete, remission of the tumour. Based on this remission the planned operation could in some cases be changed. A less invasive, e.g. TEM procedure, or even 'wait and see' policy could be appropriated. Aim of this study is to analyse the accuracy of the MRI after CRT with regards to tumour response. In 2011 to 2012 30 patients were treated with neoadjuvant CRT and were subsequently evaluated using MRI. From these patients data concerning T-stage, N-stage and CRM was recorded, derived from interpretations of preoperative MRI images and definitive pathology results. The sensitivity of MRI for classifying a stage $T_3/T_4$ tumour after CRT was 89.5% in our population, the positive predictive value (PPV) was 70.1%. The sensitivity for identifying a CRM < 5mm was 90.0% with a negative predictive value (NPV) of 87.5%. In detecting malignant lymph nodes the sensitivity was 75.0% with a NPV of 80%.In 4 patients we observed morphological presence of tumour, but on diffusion weighted imaging (DWI) we found no or very little tumour activity. The pathology results for these patients showed a complete remission of the carcinoma. Our analysis showed that the MRI after chemoradiation therapy is an accurate device to determine local tumour evolvement, distance to the mesorectal fascia and the presence of malignant lymph nodes. With regards to the high sensitivity for detecting T3/4 tumours, small resection margins and presence of malignant lymph nodes the MRI after CRT is an important device in the perioperative diagnostic process. And therefore plays an important role in determining a treatment policy. The MRI after CRT is a suitable device to evaluate the tumour response. Based on its results a less invasive treatment for the rectal carcinoma or even a 'wait and see' policy could be appropriate.

**Evaluation of the HER2 amplification status in esophageal adenocarcinoma by conventional and automated FISH, a tissue microarray study**

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Background: HER2/CEP17 gene amplification is fairly frequent in esophageal adenocarcinoma (EAC) and has prognostic significance. In this, manual fluorescence in situ hybridization (FISH) HER2/CEP17 testing method is often used, however, it is a time consuming method and reliable to subjectivity. Automation of FISH might increase the throughput and accuracy of HER2/CEP17 testing. Aim: To evaluate the agreement between automated and conventional FISH for HER2 amplification, as well as its prognostic significance, in esophageal adenocarcinoma (EAC). Material and Methods: 154 esophageal adenocarcinomas were included in a tissue micro array (TMA). HER2/CEP17 gene amplification was assessed by automated FISH and was compared with conventional FISH, in which the conventional HER2/CEP17 threshold of ≥1.8 was considered as HER2 amplified. Both methods automated and conventional FISH were compared with a reference test; silver-enhanced in situ-hybridization (SISH). Results: 46.8% of patient showed HER2 amplified tumors by automated FISH (ratio ≥1.8) compared with 18.1% by conventional FISH. A high automated HER2/CEP17 ratio (≥1.8) was significantly associated with worse survival (HR 1.731; 95% CI 1.075-2.786; p=.024). However, agreement between automated and conventional FISH was only 72.2% and 71.4% between automated FISH and SISH, compared with 94.6% for conventional FISH/SISH. Therefore, thresholds for HER2/CEP17 amplification were sequentially raised from HER2/CEP17 ratio 1.8 till 5.0 and compared with conventional HER2 testing methods. A HER2/CEP17 ratio threshold of ≥3.6 had similar prognostic significance as conventional FISH (HR 1.880; 95% CI 1.060-3.332; p=.031 versus HR 1.828; 95% CI 1.102-3.033; p=.020), yielded comparable amplification rates as conventional FISH (14.3% versus 18.1%) and comparable agreement to SISH.
Conclusion: Automation of HER2 FISH analysis in esophageal adenocarcinoma has not been performed before. Automated HER2 is feasible, but it seems that the HER2/CEP17 threshold should be adjusted to ≥3.6 to arrive at best comparability with other methods and prognostic value.

**Recent trends in multidisciplinary treatment of oesophageal and gastric cancer in The Netherlands**

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Objectives: In recent years, evidence for multidisciplinary treatment of oesophageal, oesophagogastric junction (OGJ) and gastric cancer has grown. The objective of this population-based study was to investigate changes in treatment strategies for oesophageal, OGJ and gastric cancer in The Netherlands during the last decade. Methods: Data on treatment of M0 oesophageal, OGJ and gastric cancer patients were obtained from the Netherlands Cancer Registry. Factors associated with the administration of (neo-)adjuvant therapy were adjusted for age, year of diagnosis, clinical tumour stage, geographic region and hospital type. Results: Between 2000 and 2011, a total of 13,041 patients underwent surgical resection for M0 oesophageal (n=5,039), OGJ (n=1,959) or gastric (n=6,043) cancer. The percentage of patients who received neo-adjuvant and/or adjuvant therapy increased in oesophageal cancer patients from 23% in 2000 to 91% in 2011, in OGJ cancer patients from 6% to 87%, and in gastric cancer patients from 1% to 50%. In oesophageal cancer patients, neo-adjuvant chemoradiotherapy (CRT) was most frequently administered (83% of patients in 2011). In OGJ cancer patients, neo-adjuvant CRT was administered to 8% of patients in 2008 increasing to 46% of patients in 2011. In gastric cancer patients, the use of neo-adjuvant chemotherapy (CT) with or without adjuvant CT increased from 3% in 2005 to 41% in 2011. Adjuvant CRT was administered to 4% of gastric cancer patients in 2005, slightly increasing to 7% in 2011. Oesophageal cancer patients who were treated in academic hospitals were more likely to receive (neo-)adjuvant therapy than those treated in non-academic hospitals (p=0.028). In the group of gastric cancer patients, a similar trend was seen, but the effect of hospital type did not reach statistical significance (p=0.12). Oesophageal, OGJ and gastric cancer patients who were treated with (neo-)adjuvant therapy had a lower risk of death than those who did not receive (neo-)adjuvant therapy ($p<0.001$ for all groups).
Conclusions: In The Netherlands, the use of multidisciplinary treatment in oesophagogastric cancer has increased during the past decade. In oesophageal and OGJ cancer patients, neo-adjuvant therapy has become standard practice. In gastric cancer treatment, however, there is room for improvement as 50% of patients were not treated with (neo-)adjuvant therapy.

**Increasing incidence of Barrett's esophagus and esophageal adenocarcinoma in the general population**

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Barrett's esophagus (BE) is an established risk factor for the development of esophageal adenocarcinoma (EAC). Several studies have reported an increasing incidence of BE, but estimates vary substantially. There are limited data on the incidence of EAC among patients with BE in a population setting. Our study aimed to determine trends in age- and sex-stratified incidence of BE in the general population and of EAC among patients with BE. Data were retrieved from two primary care databases: Integrated Primary Care Information (Netherlands (NL)) and The Health Improvement Network (United Kingdom (UK)) from January 1st 1995 to December 31st 2012. BE and EAC cases were identified using disease-specific READ codes (UK) and free text search with manual validation (NL). Analyses using standardized software provided age-and sex-specific incidence rates (IR) for both BE and EAC. The study population of 1,239,523 (NL) and 6,707,493 (UK) subjects, contributed to, respectively, 3,304,379 person-years (PYs) and 56,294,380 PYs. In NL we identified 1,458 incident BE cases, from which we subsequently identified 48 incident EAC cases, and in the UK 11,616 incident BE and in the general population in total 1,606 incident EAC cases. IR of BE increased linearly with age: IR was 25.9/100,000 PYs (NL) and 13.5/100,000 PYs (UK) for patients aged 40-44 years, increasing to 105.9/100,000 PYs (NL) and 79.5/100,000 PYs (UK) for 70-74 years, after which IRs remained stable. In both NL and UK the IR of BE was 2-3 times higher for males than females across all age groups. IR for BE doubled in NL from 1995 to 2002, whereas a seven-fold increase in UK from 1995 to 2003 was seen. In NL and UK IR remained thereafter fairly stable up to 2012. Similar patterns were observed for males and females. In the NL, 3.3% of BE cases were diagnosed with EAC at least one year after BE diagnosis, whereas in the UK, only 0.4%. In the UK IR of EAC among BE patients increased from 9.9/100,000 PYs for those aged 40-44 years to 58.7/100,000 PYs for those aged 75-79 years. This increase was especially seen for males >65 years. In conclusion, the incidence rate of BE in the NL and the UK has increased substantially in both males and females from 1995 to 2003, but has remained stable thereafter. Around 1 to 3% of patients with BE are diagnosed with EAC at least one year after diagnosis of BE. The incidences of both BE and EAC increase with advancing age, particularly in males aged >65 years. These findings may help tailor endoscopic surveillance strategies among patients with BE.

**Predictive factors for enteral nutrition in patients receiving neoadjuvant chemo-radiotherapy for locally advanced oesophageal carcinoma.**

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Dysphagia and weight loss are the two major symptoms of oesophageal cancer. Neo-adjuvant treatment with chemoradiotherapy (CRT) for locally advanced oesophageal cancer could further aggravate these symptoms and potentially jeopardize nutritional status. As poor nutritional status is associated with an increased risk for peroperative morbidity and mortality, early nutritional support is warranted. The aim of this study is to identify predictive factors for starting enteral nutrition in these patients. Data were retrospectively collected from medical records of all consecutive patients who were treated with the same course of neoadjuvant CRT for locally advanced oesophageal cancer in our hospital between April 2009 and October 2012. Univariate and multivariate logistic regression analysis were performed to determine significant associations between patient parameters and the overall use of enteral nutrition as well as the use of enteral nutrition after the start of CRT ('reactive enteral nutrition'). Tested parameters were age, gender, ASA-score, dysphagia, pre-treatment weight loss of >10%, smoking, alcohol use, tumour histology, tumour location, cTNM stage, tumour stricture diameter of <10mm. Only parameters with a p-value of <0.1 in the univariate analysis were used in the multivariate model. A total of 255 patients (mean age 63 ± 8.9, 193 males [76%], 197 adenocarcinoma [77%], 57 squamous cell carcinoma [22%]) were included, of which 76 (29.8%) received enteral nutrition. For the overall use of enteral nutrition, univariate analysis showed significant associations ($p<0.1$) for dysphagia, squamous cell carcino-ma, tumour length and a tumour stricture diameter of <10mm. After multivariate analysis, a tumour stricture diameter of <10mm appeared to be the only significant predictor (OR 4.96 [95% CI 2.49-9.87]) for the overall use of enteral nutrition. Cigarette smoking was the only parameter significantly associated with the start of 'reactive enteral nutrition' in univariate analysis (OR 1.93 [95% CI 1.02-3.648]). Therefore no multivariate analysis was performed for 'reactive enteral nutrition'.
Conclusion: This study demonstrates that a tumour stricture diameter of <10mm is the only objective predictor for the for the need of enteral nutrition in patients with locally advanced oesophageal cancer during neoadjuvant CRT. This predictor may be helpful in avoiding a delay in the start of enteral nutrition in high risk patients.

**Cost Effectiveness Analysis of colonoscopy versus CT-colonography screening for colorectal cancer with attendance and costs from the Dutch COCOS trial**

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Earlier cost effectiveness analyses comparing colonoscopy with CT-colonography showed that the results were highly sensitive to assumptions about costs of and attendance with both tests. However, previously these assumptions could not be based on observed costs and attendance. Recently, data from the COCOS trial comparing attendance and costs of CT-colonography and colonoscopy in a dedicated screening setting became available, allowing us to perform a more representative analysis of the cost effectiveness of CT-colonography versus colonoscopy screening. The Dutch COCOS-trial compared CTC and colonoscopy screening in a screening naïve population. Observed attendance and screening costs were used in the MISCAN-colon micro simulation model to estimate lifetime costs and quality adjusted life years gained (QALY's) of strategies with either colonoscopy or CTC. The screening strategies differed with respect to age range and interval and CTC was modeled with different cut-offs. In addition, we explored both full attendance and attendance as observed in the COCOS-trial. All cost-effective CTC strategies had a cut-off of 6mm. Colonoscopy screening every 10 years from 50-70 years, had a higher mortality reduction and more QALY's gained than the same strategy with CTC with a cut-off of 6 mm (137 vs. 103) and lower total costs (€107,000 vs. €156,000). With full attendance, colonoscopy screening dominated screening with CTC. With observed attendance colonoscopy was more cost-effective in the screening strategies with 1 or 2 tests in a lifetime, whereas CTC dominated colonoscopy with more intensive screening strategies. The first CTC strategy on the cost-efficiency frontier had an acceptable ICER of € 5111. From an individual's perspective, colonoscopy is preferred over CTC. From a population perspective, depending on whether the issue of extra colonic findings is resolved, CTC is preferred.

**Impact of Variation in Screening Colonoscopy Quality on the Prevention of Colorectal Cancer Deaths. A Modeling Study**

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Colonoscopy can reduce colorectal cancer (CRC) mortality through the detection of treatable early cancers or precursor adenomas. In clinical practice, however, there is large variation across endoscopists in the quality of colonoscopy. We used a micro-simulation model to assess the impact of colonoscopy performance variation across endoscopists on (projected) CRC mortality outcomes, and thus the potential benefits of quality interventions. Colonoscopy quality is defined in terms of adenoma detection rate (ADR), i.e. the percentage of patients with adenomas (or adenocarcinomas) detected. ADR variation across endoscopists was estimated using data from a community-based healthcare program in Northern California of 57,588 patients (136 gastroenterologists) during 1998–2010; these data suggest that ADR varies from 16% to 38% for a roughly 62-year old, average-risk cohort (10th–90th percentile, median 25%). In our model we assumed that the variation in ADR is explained entirely by physician performance differences in screen test sensitivity for adenomas, and that variation in sensitivity for small adenomas (0-5mm) was the main driver of differences in ADR. Sensitivity for medium adenomas (6-9mm) and sensitivity for large adenomas (+10mm) varied less. This resulted in the following three levels of colonoscopy performance: minimal (sensitivity 16% for small, 32% for medium and 48% for large adenomas), median (sensitivity 29%, 58%, 87%), and optimal screen performance (sensitivity 98% for all). We evaluated the impact of quality differences for a screening strategy with colonoscopy at ages 50, 60 and 70 and surveillance in accordance to the US Multi-Society Task Force guidelines. The modeled lifetime risk of CRC death for a 50-year old average-risk US cohort was 2.58% without screening. For minimal, median and optimal screen performance, the risk decreased to 1.15%, 0.78% and 0.36% respectively. This is a 70% difference in mortality between minimal and optimal performance. The difference between minimal and optimal performance in the number of lifeyears with CRC was 50%. Whereas higher colonoscopy quality is associated with more frequent surveillance, the overall number of colonoscopies per lifeyear gained decreased from 22 to 17 with increasing quality, and costs per lifeyear gained decreased from US $15,000 to about zero.

Conclusion: Quality of screening colonoscopy is strongly related to CRC deaths prevented. The risk of CRC death may be up to 70% lower with optimal than with minimal exam quality.

## Bowel preparation and hospital are important factors influencing quality of colonoscopy as measured by cecum intubation and adenoma detection

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Population based colorectal cancer (CRC) screening can effectively prevent CRC-related mortality. As a nationwide screening program will be introduced in the Netherlands in 2013, measuring quality of colonoscopy is increasingly important. Cecal intubation and adenoma detection rate (ADR) are quality indicators that have been shown to affect the efficacy of colonoscopic screening. We aimed to compare the quality of colonoscopy between hospitals in the Netherlands and to determine to what extent quality is affected by the endoscopist, casemix and bowel preparation. We prospectively registered data on all colonoscopies performed between November 2012 and January 2013 in two academic and five general hospitals in the Netherlands. Questionnaires regarding demographics, colonoscopy indications and procedure were filled out by the colonoscopists. Adequate bowel preparation was defined as a score of ≥6 on the Boston bowel preparation scale (BBPS). Factors possibly affecting cecal intubation and ADR were assessed in univariable analysis. If a significant tendency was found ($p<0.10$), factors were included in a multivariable logistic regression analysis. A total of 3,615 patients underwent colonoscopy during the study period, with data available for 3,469 patients (55% female; mean age 57±16 years; median ASA-score 1, range 1-4). Mean proportion of procedures performed in adequately prepared colons was 89%. Mean cecal intubation rate was 94%, ranging from 89% to 99%, and was significantly different between hospitals ($p<0.001$). One or more adenomas were detected in 30% of cases and the ADR varied between hospitals, ranging from 22-37% ($p<0.001$). In multivariable analysis, factors related to cecal intubation rate were hospital and adequate bowel preparation. Although hospital and a BBPS ≥6 correlated significantly, hospital remained an independent predictor. ADR was related to hospital, older age and male gender of patients, indication for colonoscopy (ranging from 49% for surveillance to 28% for abdominal complaints or anemia) and adequate bowel preparation. Gastroenterologists, fellows and nurse endoscopists performed equally well. In cases with adequate versus inadequate bowel preparation, cecal intubation rates were 97% vs. 73% and ADR was 31% vs. 22%, respectively.

Conclusion: This prospective colonoscopy cohort shows adequate overall cecal intubation and adenoma detection rates. There was however a difference in both cecal intubation and adenoma detection between hospitals, which was still present after correction for casemix. This study confirms the importance of performing colonoscopy in an adequately prepared colon.

**"Pico-Bello-Klean study": Effectiveness and patient tolerability of bowel preparation agents Picoprep® and Kleanprep® before colonoscopy. A single- blinded randomized trial.**

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Adequate bowel preparation is an important condition for an effective colonoscopy. Polyethylene glycol solution (Kleanprep®) and sodium picosulphate solution (Picoprep®) are bowel cleansing agents both registered and available for this purpose. Reliable conclusions in the comparison of effectiveness between these agents can not be made based on previous research, due to the heterogeneity in study designs and subjective outcome assessments. This single-blinded randomized trial aimed to compare the bowel cleansing agents Kleanprep® and Picoprep®, primarily assessing effectiveness by degree of colon cleansing and secondarily determining patient tolerability. All patients referred for an outpatient colonoscopy received either Kleanprep® (n=88) or Picoprep® (n=85). Randomization was stratified by two age groups: 18-64 and 65-80 years. Both Picoprep® and Kleanprep® were administered in a split-dose regimen, while fluid intake was monitored and registered. A blinded assessment of the degree of colon cleansing was made by the endoscopists using the Boston Bowel Preparation Score. Patient tolerability was measured with a patient questionnaire. An intention-to-treat-analysis was performed. There was no difference in level of bowel cleansing according to the Boston Bowel Preparation Score considering treatment arms. The overall cleansing score between Kleanprep® and Picoprep® was not significantly different (p-value=0,182). Reviewing segment scores, there were also no significant differences between Kleanprep® and Picoprep® (right colon p=0,051, transverse colon p=0,563 and left colon p=0,352). The minimum warranted level of cleansing (BBPS ≥ 6) is achieved with a percentage > 90% by both agents. Patients using Picoprep® scored significantly better on the aspects convenience and flavour of the preparation agent, compared to patients using Kleanprep® (p<0,001). Side effects like nausea, vomiting, headache and bloating were significantly less experienced by patients using Picoprep®. Side effects like abdominal pain and dizziness were not significantly different between treatment arms. The present study did not demonstrate a difference in effectiveness of bowel cleansing between Kleanprep® and Picoprep®. Both showed to be adequate bowel preparation agents, ensuring a good visibility of the colon during colonoscopy. Picoprep® was significantly better tolerated than Kleanprep®.

**Towards instant lesion detection by ultrasensitive near-infrared fluorescence endoscopy using clinical applicable molecular targeted fluorescent antibodies.**

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Colonoscopy is considered to be the most sensitive tool for detection of colorectal neoplasms, including small and flat lesions. Nevertheless, detection of such lesions is still incomplete, giving rise to interval cancers, particularly in patients with Lynch syndrome and other hereditary disorders. To improve adenoma detection rates, wide field molecular targeted endoscopy guided by near-infrared (NIR) fluorescent labeled tracers could be promising, since it can serve as a red flag technique for instant lesion detection. In the current study we validated a novel red flag endoscopy platform using clinical applicable anti-VEGF-A and anti-EGFR NIR fluorescent tracers in human CRC mouse models. Since our aim is rapid clinical translation of this approach, we subsequently screened the expression of VEGF-A and EGFR in (pre)malignant lesions of Lynch patients. The modular endoscopy platform consists of an adapted commercial fiber endoscope and a miniaturized fluorescence fiber endoscope. To validate the system in vivo bevacizumab-IRDye800CW (anti-VEGF-A) and cetuximab-IRDye800CW (anti -EGFR) where intravenously injected in mice with subcutaneous (s.c.) and intraperitoneal (i.p.) HCT116luc and HT29luc2 tumors. Subsequently, Vascular endothelial growth factor A (VEGF-A) and epidermal growth factor receptor (EGFR) expression was determined by immunohistochemical staining in 62 adenomas with high grade dysplasia (HGD), 34 carcinomas (CA) and adjacent normal colon crypts of Lynch patients. The fiber based fluorescence endoscopy platform demonstrated excellent real time wide field visualization of the s.c. and sub-millimeter i.p. tumors. There was clear tumor delineation and low fluorescent signal of surrounding tissue resulting in high tumor to background ratios. Immunohistochemical staining showed VEGF-A expression in 95% of adenomas with HGD (n=62) and 100% of the carcinoma samples (n=35), higher compared to normal tissue (resp. $P<0.05$ and $P<0.001$). EGFR positivity was seen in 74% for HGD (n=65) and 84% for CA (n=34), significantly higher compared to adjacent normal colon crypts (resp. $P<0.001$ and $P<0.05$). The fiber based fluorescence endoscopic imaging platform promises high sensitivity and provides dynamic, real-time wide field in vivo images at video-rate providing the endoscopist a red flag technique for lesion detection. VEGF-A and EGFR showed to be attractive targets in Lynch patients based on their expression patterns.
In conclusion, our approach of molecular targeted fluorescence endoscopy is of interest for clinical validation in high risk patients, like patients with Lynch syndrome.

**Endoscopic follow-up intervals of indefinite for dysplasia in Barrett's esophagus should be similar to those recommended for low-grade dysplasia: a Dutch nation-wide cohort study**

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Introduction and aim: Histological assessment of Barrett's esophagus (BE) is the only diagnostic tool for stratification of the progression to esophageal adenocarcinoma (EAC). The histological diagnosis indefinite for dysplasia(IND) in BE is used when the decision regarding non-dysplastic or dysplastic cannot be made. Due to this uncertainty combined with the unknown risk of progression of IND to low-grade dysplasia (LGD), high-grade dysplasia (HGD) or EAC, follow-up includes repeat endoscopy with biopsies. The aim of the present study was to assess the neoplastic progression rate of IND in a nationwide cohort of patients with IND in BE in the Netherlands. Methods: Patients with a first diagnosis of IND in BE were selected between 2002-2011 using PALGA, a nationwide registry of histopathology diagnoses in the Netherlands. Exclusion criteria were gastric type BE or intestinal with dysplasia prior to or simultaneously with initial IND diagnosis. Patients were followed during surveillance until treatment for HGD, detection of EAC or the last pathology report in the database. Results: In total, 1258 patients met the in- and exclusion criteria of whom 842(67%) had endoscopic follow-up. Of these, 70% were male, 17.6% were diagnosed in a university center and in 7%, the diagnosis was based on histological revision. Patients who had endoscopic follow-up were significantly younger than those without. Patients were followed-up for a total of 2585 person-years (mean 3.01, SD 2.6), during which 189 (22%) patients progressed to LGD (138), HGD(21) or EAC(30) (incidence 7.3(95% CI 6.3-8.4)), while the incidence from IND to HGD/EAC was 2.0(95% CI 1.5-2.6) per 100 person years. After excluding cases with HGD/EAC within 1 year after IND diagnosis (n=16), the incidence rates were 6.7(95% CI 5.8-7.8) and 1.4(95% CI 1.0-1.9), respectively. Older age was an independent risk factor for neoplastic progression (HR 1.36, 95%CI 1.2-1.6) in contrast to gender, university setting and histological revision.
Conclusion: In this large cohort of patients with BE, the incidence rate of HGD/EAC following a diagnosis of IND was 1.4 per 100 person-years. This is not largely different from reported incidence rates of LGD to HGD/EAC in the literature and suggests that surveillance intervals in patients with IND should not be different from those in patients with LGD.

**High proximal migration rate of a partially covered big cup duodenal stent (Hanaro DPC-stent) in patients with malignant gastric outlet obstruction.**

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Enteral stent placement has emerged as a safe and effective palliative treatment option for patients with malignant gastric outlet obstruction (GOO). However, long term efficacy of conventional duodenal stents is hampered by stent dysfunction. The most frequently observed causes of dysfunction are tumour ingrowth in uncovered stents and stent migration in covered stents. We hypothesized that a newly designed partially covered big-cup enteral stent (Hanaro, M.I. Tech, Seoul, Korea) would refute these problems. The objective of the covered part of the stent (length 7 cm, diameter 2 cm) is to withstand tumour ingrowth while the proximal uncovered big cup (length 2 cm, diameter 4 cm) should prevent distal migration by anchoring the stent at the pylorus. This study was designed as a prospective two-center cohort study aiming to evaluate safety and efficacy of the Hanaro DPC stent in 40 patients with incurable malignant gastric outlet obstruct-tion. Stent placement was performed through-the-scope under endo-fluoroscopic guidance. The primary outcome was stent patency, defined as time between stent placement and re-obstruction caused by an endoscopically proven stent dysfunction (e.g. tumour ingrowth, stent migration). Secondary outcomes included technical success, clinical success (improvement of GOO-symptoms one week after stent placement) and complications. Follow-up continued until death or stent-dysfunction requiring a second stent, whichever came first. Six patients (4 pancreatic cancer, 1 cholangiocarcinoma, 1 gastric cancer) were included (4 males, median age 63 [range 47-83], median follow-up 49 days [range 2-228]). Three patients were treated with chemotherapy after stent placement. Technical success rate was 100%. Clinical success was achieved in 4/6 patients (67%). Clinical failure in 2 patients was caused by proximal stent migration after 2 and 4 days respectively and another proximal stent migration occurred in a third patient, 29 days following stent placement. These 3 patients were treated with endo-scopic removal of the Hanaro DPC stent and placement of a conventional uncovered stent. Other complications included biliary obstruction 45 days after duodenal stent placement (n=1) and obstructive symptoms most likely caused by a motility disorder (n=1). The high number of proximal migrations occurring after a relatively short time interval after stent placement made us deciding to stop the study prematurely. One patient is still alive with a functional stent after 228 days of follow-up. The Hanaro DPC-stent is associated with a high proximal migration rate in patients with malignant GOO and can therefore not be recommended in this clinical setting.

**Functional outcome following successful endoscopic reconstitution of patients with radiation-induced complete esophageal obstruction**

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Combined anterograde - retrograde (CARD) endoscopic recanalization is safe and effective in restoring an esophageal lumen in patients with radiation-induced complete esophageal obstruction. In the few small case-series subsequent removal of a gastrostomy feeding tube is feasible in approximately 50%. To investigate the long-term functional outcome and factors predictive of failure of clinical success in patients with radiation-induced complete esophageal obstruction after successful endoscopic lumen recanalization a retrospective chart review was performed in a tertiary center. In 35 patients treated from August 2001 to February 2013 (median age 65 years, 23 males) recanalization was technically successful. Mean follow-up was 1.8 years. Procedural-related adverse events occurred in four patients (11.2%); three were perforations, all managed conservatively. The mean number of total dilations, including the recanalization procedure was 4.9. A mean esophageal dilation of 16mm was achieved. Only 6 patients (19%) were dysphagia-free after the final treatment, 2 patients had dysphagia to solids, 3 to semi-solids, 6 to liquids and 13 (42%) had complete dysphagia. Of 11 patients that had some ability to swallow the feeding tube could be removed in 7, though 6 were dilation-dependent. Only 4 (11%) patients were treatment free and 20 (57%) patients remained with gastrostomy feeding tubes. Head and neck cancer surgery was predictive of clinical success ($p = 0.05$). A trend towards clinical success was seen when the duration between radiation therapy and onset of dysphagia was longer (9.5 months vs. 1.2 months, $p = 0.07$).
The conclusion of this study is that the ability to swallow after successful endoscopic recanalization of radiation-induced complete esophageal obstruction is low. A predictive factor for clinical success is a history of surgery for head and neck cancer.

**Endoscopic versus bedside electromagnetic-guided placement of nasoenteral feeding tubes in surgical patients**

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Gastroparesis is a frequent problem in surgical patients and may lead to malnutrition, which has a negative impact on clinical outcomes. Therefore, nasoenteral tube feeding is often required in these patients. Endoscopic feeding tube placement by gastro-enterologists requires pre-procedural fasting and is relatively labour-intensive and cumbersome for patients, whereas bedside electromagnetic (EM) guided placement using the Cortrak® Enteral Access System by nurses might offer several advantages such as less patient discomfort and reduced costs. However, data on the feasibility of EM-guided tube placement in surgical patients are lacking. The aim of this study was to compare the success rate of EM-guided to endoscopic placement of nasoenteral feeding tubes in surgical patients. A retrospective cohort study was performed in all patients admitted to two gastrointestinal surgical wards of a tertiary referral center between January 1st 2010 and July 1st 2012. All 267 adult patients who required post-pyloric enteral nutrition and received a nasoenteral feeding tube, either by EM-guided or endoscopic placement, were screened. Excluded were patients of whom no data on tube placement were available (n=18). Patients were categorized based on the primary tube placement method, so analysis was by intention-to-treat. Primary endpoint was the success rate of primary tube placement.249 patients were included, of which 90 patients underwent EM-guided and 159 patients underwent endoscopic placement. Both groups were comparable for base characteristics. Primary tube placement was successful in 74 patients (82%) in the EM-guided group as compared to 140 patients (88%) in the endoscopic group (P=0.20). Dislodgement of the primary placed tube occurred in 20 patients (22%) in the EM-guided group and 54 patients (34%) in the endoscopic group (P=0.051), and blockage in 4 (4%) and 5 patients (3%), respectively (P=0.60). No other tube or placement related complications occurred. Replacement was required in 31% and 42% of patients, respectively (P=0.14). Mean length of tube stay was comparable between both groups (7 ± 9 vs. 6 ± 8 days, P=0.48). There was no difference reported in the presence of pain (10% vs. 6%, P=0.20) or discomfort (19% vs. 18%, P=0.80) related to the tube.

Conclusion: Bedside EM-guided placement of nasoenteral feeding tubes by nurses was found to be equally successful and safe as compared to endoscopic placement by gastroenterologists. Future studies should focus on the magnitude of the potential benefits of EM-guided placement, such as reduced patient discomfort and costs.

**The fishing line method: a simplified, non-traumatic technique facilitating Percutaneous Endoscopic Jejunostomy**

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The reported 15-20% failure rate of percutaneous endoscopic jejunostomy (PEJ) is significantly higher than that of percutaneous endoscopic gastrostomy (PEG). This is related to the required depth of insertion and the small caliber, motility and unfixed position of the jejunum. These factors may necessitate multiple punctures and thereby increase the risk of complications. We developed a modified technique minimizing some of the technical difficulties encountered with PEJ. We evaluated a prospective series of all successive PEJ procedures performed from September 2010 until March 2013. Antibiotic prophylaxis consisted of 1.2 g Augmentin® iv. Olympus® single balloon enteroscopes (SBE) or gastroscopes were used. At the site of maximal transillumination and finger indentation, after local skin anesthesia, safe track technique and making a stab incision, a 5 cm long 21 Gauge needle (Kendall Monoject®) was used for percutaneous jejunal access. A 0.4 mm nylon (fishing) was introduced through this needle into the lumen, picked up with a biopsy forceps and pulled out of the mouth. A conventional PEG catheter (Freka ® 15 Fr) was attached to the and pulled into position. Tube feeding was allowed after 4 h. PEJ was attempted in 37 patients (22 males; med. age 61 yr; range 17-85) requiring prolonged enteral feeding, using SBE (n= 29) GIF-Q (n=7) and GIF XP (n=1) endoscopes. Indications were previous (subtotal) esophageal, gastric or Whipple resection (n=15; 41%), gastric dysmotility (n=15; 41% ), Duodopa treatment in Parkinson's disease (n=4; 10%) and others (3; 8%). All but two procedures (general anesthesia) were performed under conscious sedation using fentanyl and midazolam. Fluoroscopy was not employed in any case. The procedure was successful in 34/37 (92%) patients and failed in three due to absence of transillumination. In 2 obese patients (BMI 32&39) longer needles (Spirocan® 20 G) were used. The duration of the procedure averaged 30 minutes (range 10-105). One patient developed fever and was successfully treated with antibiotics. In one case a 1.9 mmol/L hemoglobin drop occurred, possibly due to mesenterial hematoma. A neurological 72-yr old patient in poor medical condition died after 5 days In another case the catheter was removed after 36 days due to persistent pain at the site of insertion. Other procedural complications were not encountered.

Conclusion: These results suggest that PEJ with the one-step fishing technique is a relatively safe procedure with a high success rate. Once jejunal transillumination was obtained PEJ was invariably technically successful. This method may be superior to other reported techniques since only a single puncture with an ultrathin needle is required.

**Clinical heterogeneity in polycystic liver disease families**

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Polycystic liver disease (PCLD) is a late-onset genetic disorder caused by PRKCSH or SEC63 gene mutations. Patients are characterized by multiple fluid-filled cysts spread through-out the liver. Diagnosis is set by clinical and radiological examination including taking family history according to the clinical Reynolds criteria for PCLD. In this cross-sectional study we analyzed a subpopulation of polycystic liver disease patients without a known genetic background which represents the majority of our PCLD cohort. Aim of this study was to identify families without a PRKCSH or SEC63 mutation for clinical evaluation of the phenotype in members. We studied a Dutch polycystic liver disease cohort by genetic and clinical analysis. Mutation analysis in the index patient was performed by Sanger sequencing. We assessed family history in a selected study population without a PRKCSH or SEC63 gene mutation. Index patients with a positive or a negative family history with members that came from at least two generations were included in this study. Screening family members was conducted by a standardized abdominal ultrasound examination of both liver and kidneys combined with historical radiological data. All participants provided informed consent. The study population consisted of 447 patients with a polycystic liver referred for molecular diagnosis of PCLD from 2005-2012. In 26% of the cases PCLD was confirmed (20% PRKCSH and 6% SEC63 mutations). We selected 38 index patients with members from at least two generations. A positive family history was present in 7 families (18%) and confirmed by clinical analyzes. Active screening of related individuals was accessible in 16 out of 31 families with a negative family history. In these families index patients had more than 20 hepatic cysts and had treatment for symptomatic PCLD. Hepatic cystogenesis was present in 2 generations (range: 4 – over 20 cysts), comprising 32 nonaffected and 38 affected individuals uniform to the Reynolds criteria. In general, affected members were asymptomatic or ignorant for hepatic (and renal) cystogenesis and presented a mild phenotype. Our results under the clinical heterogeneity in PCLD families present in both cases, when family history was positive or negative. Assessment of family history is frequently false negative or at first inadequate determined, but essential for diagnosis and (future) genetic counseling.

**Lanreotide halts polycystic liver and kidney growth in patients with autosomal dominant polycystic kidney disease: Results from the RESOLVE trial**

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A large subset of patients with autosomal dominant polycystic kidney disease (ADPKD) suffers from a polycystic liver. The somatostatin analogue lanreotide has proven to reduce polycystic liver volume in one trial. However, patients with isolated polycystic liver disease (PCLD) were also included in this study. Therefore, the aim of this study was to assess the efficacy of lanreotide treatment in ADPKD patients with symptomatic polycystic liver disease.This open-label clinical trial evaluated the effect of 6 months of lanreotide 120 mg subcutaneously every 4 weeks lanreotide in ADPKD patients with symptomatic polycystic liver disease. Exclusion criteria were eGFR (MDRD) < 30 ml/min/1.73m2, use of oral contraceptives or estrogen supplementation and patients with PCLD. The primary outcome was absolute change in liver volume determined by computerized tomography-volumetry. Secondary outcomes were changes in total kidney volume and symptom relief. The severity of symptoms was measured with a standardized, 7-points scale gastro-intestinal symptoms questionnaire, and were dichotomized for absence (0 - 1) or presence (2 - 6). All outcomes were analyzed on an intention-to-treat basis.We assigned 43 ADPKD patients with polycystic liver disease (84% female, mean age 51 years) to treatment with lanreotide. Median liver and kidney volumes were significantly decreased from 4859 ml to 4595 ml (-3.2%, p <0.001) and from 1023 ml to 1012 ml (-1.6%, p = 0.006) respectively. Larger reductions in liver volumes were associated with larger reductions in kidney volumes (p = 0.015). Treatment with lanreotide resulted in significant relief of postprandial fullness (p = 0.003), shortness of breath (p = 0.012) and abdominal distension (p < 0.001). Patients previously treated with somatostatin analogues had similar reductions in liver volumes as previously untreated patients (-2.4% versus -3.4%, p = 0.52).
Conclusions: Lanreotide reduces polycystic liver and kidney volumes and decreases gastro-intestinal symptoms in ADPKD patients with polycystic livers. Previous treatment with somatostatin analogues does not impair efficacy.

**A novel baseline prediction model based on hbsag levels predicts the probability of response to peginterferon alfa in hbeag-positive chronic hepatitis b**

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Background & Aims: A limited number of HBeAg-positive patients responds to peginterferon alfa (PEG-IFN). Methods: A total of 822 HBeAg-positive patients treated with PEG-IFN ± lamivudine for one year in 3 global randomized trials (Pegasys Phase 3, Neptune, and HBV 99-01) were enrolled. Response was defined as HBeAg loss with HBV DNA <2,000 IU/mL at 6 months post-treatment, and predictors considered were: HBV genotype, HBsAg levels, base ALT and HBV DNA levels, patient age and sex, and previous IFN exposure. Results: Patients were infected with HBV genotype A/B/C/D in 14/25/48/14%, and were male in 76%. Response was achieved in 186 (22.6%) of patients. In univariate analysis, female sex, higher age, lower HBV DNA and HBsAg levels and HBV genotype were associated with response (all p<0.01). In multivariate analysis, only HBsAg (OR: 0.61, 95% CI: 0.44 – 0.84, p=0.003), ALT (OR 1.39, 95% CI: 1.08 – 1.79, p=0.01), HBV genotype (P<0.001) and female sex (OR 1.96, 95% CI: 1.33 - 2.88, p=0.001) remained associated with response. Both the full model based on all analysed variables and a reduced model based solely on HBV genotype, HBsAg levels, ALT and patient sex accurately predicted probability of response to PEG-IFN therapy (table). Using these models, 47% of patients could be classified as subtoptimal candidates for PEG-IFN therapy, defined as a low predicted probability of response (<20%). This group comprised 10% of all patients with HBV genotype A, 29% of all genotype B patients and 52% and 100% of all patients with HBV genotypes C and D, respectively. Conversely, a subset of 26% was identified with excellent probabilities of response (~40%), comprising 65/34/18/0% of all patients with HBV genotypes A/B/C/D, respectively.

Conclusions: A prediction-model based on readily available base factors can predict an individual patient's probability of response to PEG-IFN alfa therapy. These models can help identify patients with very low and very high chances of response and are a powerful tool for patient counselling.

**Adequate virological response in chronic hepatitis B patients during entecavir therapy despite frequent suboptimal adherence: a prospective multicenter study with electronic adherence monitoring**

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Treatment failure to nucleos(t)ide analogues (NUC) in chronic hepatitis B (CHB) patients could occur due to limited antiviral potency, viral resistance or patient non-adherence. However, real-life prospective data on treatment adherence in CHB patients are scarce. We aimed to study adherence rates during entecavir (ETV) treatment using real-time medication monitoring and to relate adherence to HBV DNA levels. We provided 100 consecutive CHB patients in 2 academic hospitals with a medication dispenser that monitors ETV intake in real time (Sensemedic, Evalan, Amsterdam, the Netherlands). During 16 weeks of treatment, adherence data were directly transferred to a central server. Poor adherence was defined as <80% pill intake during the study period. At both base and 16-week follow-up visits, quantitative serum HBV DNA (Cobas Taqman, Roche, Almere, the Netherlands: lower limit of detection 20 IU/mL) was performed. At start of the study, 64% of patients were HBe-negative, 67% were treated ≥ 1 year with ETV and 76% were HBV DNA undetectable. 29% was (PEG-)interferon-experienced, and 27% NUC-experienced. Adherence over 16 weeks averaged 85±17%. Percentages of patients with ≥70%, ≥80%, ≥90% and ≥95% adherence were 81%, 70%, 52% and 43%, respectively. The longest interruption between two consecutive ETV doses was a median of 3 days (range 1-53). Patients with poor adherence were significantly younger (40 vs. 47 years, p=0.01), while no other predictors of poor adherence were identified. 82 patients had HBV DNA ≤20 IU/mL after 16 weeks, whereas in 18 patients HBV DNA levels >20 IU/mL were measured. No virological breakthrough occurred. Patients with HBV DNA >20 IU/mL were younger (37 vs. 47 years, p=0.001), more frequently treated <1 year (75% vs. 28%, p<0.001), more frequently HBeAg positive (72% vs. 28%, p=0.002), NUC-naive (89 vs. 69%, p=0.11), and had lower mean adherence (83% vs. 91% (p=0.19). In multivariate analysis, duration of ETV treatment (adjusted OR 18.8 (4.1-87.0, p<0.001) and negative HBe-status (adjusted OR 11.9 (2.6-53.6), p=0.001) predicted HBV DNA negativity, whereas adherence was not a significant predictor (adjusted OR 1.02 (0.98-1.07), p=0.34). Adherence tended to be lower in the 7 patients with HBV DNA >200 IU/mL compared to the 11 patients with HBV DNA 20-200 IU/mL (71 vs. 95%, p=0.10). Conclusions: Overall 70% of our CHB patients exhibited good adherence to ETV therapy, with younger patients being more prone to poor adherence. Even in case of poor adherence, virological responses seem to be generally excellent and poor adherence was not an independent predictor of virological response.

## Prediction of Hepatocellular Carcinoma in Entecavir Treated Patients: Results from 744 Chronic hepatitis B Patients in a European Multicenter Study

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The goal of HBV treatment is to reduce disease progression to (decompensated) cirrhosis, HCC and death. Entecavir (ETV) inhibits HBV replication and reduces HCC. Recently, CU-HCC, GAG-HCC, and REACH-B HCC-risk scores showed to predict HCC in Asian ETV treated patients. The aim of this study was to investigate risk factors for development of HCC under ETV treatment. We studied all HBV monoinfected patients treated with ETV monotherapy from 11 European referral centers. Patients with HCC at base or within the first 3 months of FU were excluded. A total of 744 patients treated with ETV were included (mean age 44±14 years; 77% male; 42% Caucasian/29% Asian/20% Black; 31% HBeAg+; HBV DNA 5.3±2.2log IU/ml; ALT 2.9xULN; 77%NA naive and 82%IFN naive; 164 patients (22%) had cirrhosis (by ultrasound or histology) at baseline. During a median FU of 167 (IQR 82-213) weeks, 14 patients were diagnosed with HCC of whom 9 (64%) had cirrhosis at baseline. Median time to development of HCC was 125 (IQR 59-188) weeks. The 5-year cumulative incidence rate of HCC was 4.4% (95% CI 1.7%–7.1%). Cumulative probability of HCC was higher in cirrhotic patients (p<0.001), older patients(p<0.001) and patients with lower platelet counts (p=0.02). Occurrence of HCC was not influenced by sex, HBeAg status, previous NA or IFN, base ALT, HBV DNA, or MELD score (p>0.11). All but one patient who developed HCC achieved virological response (VR) within 18 months of therapy. Early VR appeared protective for HCC development (HR0.63,95%CI0.15-2.63,p=0.52). At baseline, higher CU-HCC (p=0.0007, c-stat 0.78) and GAG-HCC (p<0.001, c-stat 0.83), but not REACH-B (p=0.955, c-stat 0.66) scores were associated with HCC. GAG-score was best in predicting HCC development. Cut-off values of 5 for the CU-HCC score (p=0.018,c-stat 0.71) and 101 for the GAG-HCC score (p=0.006, c-stat 0.71) were predictive for HCC development. Hazard ratios of GAG-HCC score for development of HCC were less discriminative in Caucasians compared to Asians and Black (c-stat=0.72, 0.89 & 0.95 respectively).

Conclusion: Cumulative incidence of HCC in ETV treated patients is low and early VR may be protective for HCC. Base CU-HCC and GAG-HCC, but not REACH-B scores predicted HCC in our population. Risk-scores were less discriminative in Caucasians, thus new risk-scores for this population are warranted.

**Gene variants in the interferon gamma receptor 2 gene are associated with liver stiffness in the general population: Results of a population-based study**

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Increasing evidence suggests that genetic factors play a role in the development of liver fibrosis. An association between several single nucleotide polymorphisms (SNPs) and the extent of hepatic fibrosis in patients with viral hepatitis or non-alcoholic fatty liver disease (NAFLD) has been described. Aim of the current study was to investigate the association between these SNPs and liver stiffness measurements (LSM) in a population-based cohort of healthy participants. This study was part of a large population-based cohort study of subjects aged 55 years or older. Liver fibrosis was noninvasively assessed with transient elastography. Abdominal ultrasound was performed to diagnose NAFLD. Six SNPs in or near the PNPLA3, IL28B and interferon gamma receptor 2 gene (IFNGR2), known for their association with fibrosis in risk populations, were studied. Genotyping was performed with the Infinium HumanHap 550K chip (Illumina). All SNPs were in Hardy-Weinberg equilibrium. Linear regression models were used to assess associations, adjusting for age, sex, steatosis, ALT, type of elastography probe, HOMA-IR, spleen size, presence of viral hepatitis and alcohol intake, using additive genetic models. In 1037 participants (age 74.1±5.6 years; 50.7% males) reliable LSM and genetic data were obtained. Median LSM was 5.1 kPa (IQR 4.2-6.4). NAFLD was detected in 331 participants (31.9%). Two SNPs in the IFNGR2 gene, rs9976971 and rs2284553, were associated with LSM in the total cohort (p=0.018 and 0.011 respectively). This relationship remained significant in a multivariable model (p=0.043 and 0.010 respectively). A third polymorphism in the IFNGR2 gene, rs9808753, showed a trend towards significance in a multivariable model (p=0.08). In participants with NAFLD all three IFNGR2 SNPs were significantly associated with LSM (p=0.046; 0.044 and 0.003 respectively). In a multivariable model this relationship remained significant for rs9808753 (p=0.010). rs738409, rs12980275 and rs8099917, in the PNPLA3 and near the IL28B gene, were not associated with LSM in the total cohort, nor in participants with NAFLD (all p-values >0.17).

Conclusions: Two IFNGR2 SNPs were associated with liver stiffness in this large population based cohort. In a subgroup of participants with NAFLD all three tested IFNGR2 variants showed an association with LSM. PNPLA3 and IL28B variants were not related to liver stiffness in the total cohort, nor in participants with NAFLD. These results suggest that IFNGR2 variants could not only play a role in liver fibrogenesis in risk populations, but in the general population as well.

**Liver stiffness measurement by transient elastography for the management of chronic hepatitis B patients**

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Introduction: Limited evidence supports liver stiffness measurement (LSM) to monitor liver fibrosis in chronic hepatitis B (CHB) longitudinally. We aimed to investigate changes of LSM over time and the applicability to monitor liver fibrosis in patients with longitudinal LSMs and liver biopsies, and to develop optimal cut-offs to grade liver fibrosis. Methods: We retrospectively studied CHB patients with paired liver biopsy and LSM between 2005 and 2013. Histologic progression was any increase in METAVIR score during follow-up. AUROCs and net reclassification index (NRI) were used to compare non-stratified cut-offs (≥F2 - 7.2 kPa; ≥F3 - 8.1; F4 - 11.0) with ALT-stratified cut-offs (ALT ≤1 upper limit of normal [ULN]: ≥F2 - 6.0 kPa; ≥F3 - 9.0; F4 - 12.0. ALT >1 ULN: ≥F2 - 7.5 kPa; ≥F3 - 12.0; F4 - 13.4). Results: We analyzed 301 paired liver biopsies and LSMs. We used the maximum sum of sensitivity and specificity to calculate the cut-offs (in kPa): 7.1 for ≥F2, 8.8 for ≥F3, and 11.9 for F4. We observed higher LSMs in patients with ALT >1 ULN compared to ALT ≤1 ULN within the METAVIR group F1 (p=0.009), F2 (p=0.005), and F3 (p=0.009). AUROCs were comparable for non-stratified and ALT-stratified cut-offs in any METAVIR score (all p>0.20). The NRIs for ALT-stratified cut-offs were -0.03, -0.06, and -0.18 for ≥F2, ≥F3, and F4, respectively. 124 patients had a follow-up LSM with a mean follow-up of 3.6 years. Treated patients had decreasing LSMs per year (p<0.001); non-treated had no change in LSM (p=0.841). LSM decrease was greater in treated than non-treated patients: -1.4 vs. -0.1 kPa/year, p=0.017. Among patients with normal ALT (25/124) at both base and follow-up LSM decreased over time from 7.0 to 5.6 kPa (p=0.012). Among these patients, we observed LSM dec in those with antiviral therapy (7.3 vs. 5.6 kPa, p=0.042), but not in those without (6.4 vs. 5.5 kPa, p=0.15). 28 patients had a follow-up paired LSM and liver biopsy. Five (18%) had histologic progression. Patients without progression had decreasing LSMs (p<0.001); the LSM remained stable in patients with progression (p=0.367). LSM change was different between patients with and without progression (0.5 vs. -1.4 kPa/year, p=0.019). Patients with decreasing LSMs had different METAVIR score changes than those with increasing LSMs (-0.35 vs. 0.25, p=0.045).
Conclusions: We propose new LSM cut-offs to grade fibrosis in CHB patients. ALT-stratified cut-offs did not improve the diagnostic performance. LSM decreased in treated patients over time. Fibrosis progression demonstrated stable LSMs at follow-up. LSM may be a useful instrument to monitor liver fibrosis during follow-up.

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**Dynamic changes in IP10 level during interferon therapy: association with IL28B genotype and early viral kinetics**

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Lower IP10 levels before and during Interferon(IFN)/Ribavirin(RBV)-based therapy are associated with Rapid Viral Response (RVR), Sustained Viral Response (SVR), and IL28B genotype. Our aim was to evaluate whether IP10 levels before and during IFN/RBV-based treatment were related to response, HCV viral kinetics and IL28B genotype. From 2002 to 2005, a cohort of difficult-to-treat chronic hepatitis C patients (n=85, naïve genotype 1 and 4 patients, and non-responders to previous therapy of any HCV genotype) were treated for 6 weeks with high-dose IFN (6-18MU three times a week) combined with RBV, followed by 24 or 48 weeks of pegIFN and RBV. IP10 levels (Quantikine human CXCL10/IP-10 immunoassay, R&D Systems) and HCV RNA (VERSANT HCV, Siemens Diagnostics) were retrospectively measured at base (BL), Day 1 (D1), Week 1, 2, 4, and 6, End of Treatment and End of Follow-up (24 Weeks after EOT). IL28B gene polymorphisms of SNP rs12979860 were determined (in-house assay based on high-resolution melting analysis) and SVR and non-SVR were established. Of 85 patients 36 (42%) achieved SVR. Seventeen of 36 patients with SVR (47%) and 9 of 49 patients with non-SVR (18%) had IL28B genotype CC (47%) and 19 of 26 SVR-patients (53%) and 40 of 49 non-SVR patients (82%) had IL28B non-CC genotypes (p=0.008). IP10 levels increased almost 10-fold from base to D1 (mean log2.56 pg/mL to log3.48 pg/mL), and returned gradually to base levels between Week 4 and 6 of treatment. Mean logIP10 values in SVR patients were in general lower at all time points, but this was not statistically significant. A ROC curve showed that an HCV RNA dec at D1 of ≥2.28log discriminated best between SVR and non-SVR (OR 8.24, CI +/-1.04). Patients with IL28B CC genotype and D1 HCV RNA dec ≥2.28log had significantly lower base IP10 levels and a significantly higher increase of IP10 levels from base to D1 than patients with IL28B non-CC genotypes (base mean log IP10 2.45 pg/mL vs 2.61 pg/mL, p=0.019; mean log increase 1.07 pg/mL vs 0.89 pg/mL, p=0.015) and D1 HCV RNA dec <2.28log (base mean log IP10 2.45 pg/mL vs 2.62 pg/mL, p=0.016; mean log increase 1.09 pg/mL vs 0.88 pg/mL, p=0.047). Conclusions IP10 levels markedly rise at D1 after start of high-dose IFN (followed by PegIFN/RBV) therapy, but IP10 levels before or during therapy do not predict SVR. IP10 levels are lower at base and show a significantly higher increase in patients with IL28B CC genotype and D1 HCV RNA dec of ≥2.28log. Our findings suggest that IP10 levels are most dependent on early viral kinetics of HCV RNA and IL28B genotype.

**Comparison of the overall survival between patients with HCV-induced advanced hepatic fibrosis and the general population**

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Sustained virological response (SVR) is the primary efficacy measure for the treatment of chronic hepatitis C virus (HCV) infection, but randomized controlled trials showing a clinical benefit of antiviral therapy and validating SVR as surrogate endpoint are lacking. We compared the overall survival of patients with HCV-induced advanced fibrosis, with and without SVR, to that of the general population. Survival was assessed in an international cohort of consecutive patients with chronic HCV infection and advanced fibrosis (Ishak score 4-6) who started interferon-based therapy between 1990 and 2003. Per virological response group, the observed survival among patients was compared to the expected survival from matched age-, gender- and calendar time-specific death rates of the general Dutch population using the life table method and Wilcoxon (Gehan) test. In total, 530 patients were followed for a median of 8.4 (IQR 6.4-11.4) years. Median age at base was 48 (IQR 42-56) years and 369 (70%) patients were male. SVR was attained by 192 (36%) patients. Cox regression analysis showed SVR (included as time-dependent variable) was independently associated with reduced mortality (adjusted HR 0.24, 95%CI 0.14-0.49, p<0.001). The cumulative 10-year survival was 74.0% (95%CI 71.6-79.8) among patients without SVR, which was significantly lower compared to the age- and gender-matched general population (p<0.001). Patients with SVR showed a cumulative 10-year survival of 91.1% (95%CI 85.5-96.7), which did not differ significantly from the standardized general population (p=0.571).
In conclusion, despite established advanced fibrosis or cirrhosis, patients with chronic HCV infection who attained SVR show a comparable survival to that of a general population. This further supports SVR is a relevant surrogate endpoint of anti-HCV therapy.

**National registration of children with intestinal failure**

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Intestinal failure is characterised by inadequate absorption of food to maintain function and integrity of the body. Causes of intestinal failure are classified as anatomical (short bowel syndrome) or functional (motility disorder or enteropathy). Children with intestinal failure are dependent on total parenteral nutrition (TPN) to survive, which can be provided at home (HPN). Intestinal transplantation (ITx) is an alternative treatment for patients with intestinal failure and failure of HPN, due to for example parenteral nutrition-associated liver disease (PNALD) or loss of vascular access. Both therapies, however, are associated with frequent complications and cause substantial morbidity and mortality. To date, no exact information on children with intestinal failure on HPN or after ITx in the Netherlands is available. The Dutch working group for Intestinal failure developed the Dutch Registry of Intestinal failure and Intestinal Transplantation (DRIFT), in order to obtain a registration of all children with intestinal failure on HPN or after ITx in the Netherlands. DRIFT is a web-based database. Demographic and clinical data of all patients were registered on January 1, 2013. HPN is provided by the three tertiary HPN Centres for children, located in Amsterdam, Nijmegen and Rotterdam. In total, 37 children (23 boys and 14 girls) with intestinal failure were receiving HPN in the Netherlands on January 1, 2013. The underlying disease was motility disorder (n = 17, 46%), short bowel syndrome (n = 14, 38%) or enteropathy (n = 6, 16%). TPN had been started within one month after birth in 22 children. The mean age of the other 15 children at the start date of TPN was 3.49 years (SD ± 3.82, range 0.13 – 11.90). The mean duration of TPN was 3.79 years (SD ± 2.84, range 0.35 – 11.62). The mean duration of TPN for motility disorder was 4.21 years (SD ± 2.93, range 0.35 – 11.97), for short bowel syndrome 2.99 years (SD ± 2.62, range 0.36 – 9.46) and for enteropathy 4.45 years (SD ± 3.40, range 1.55 – 8.88). Since 2001, 5 children (4 boys and 1 girl) have had ITx in the Netherlands. 3 children received an isolated small bowel transplant and 2 patients a combined intestinal, colon, pancreas and liver transplant. The underlying disease was enteropathy (n = 3), short bowel syndrome (n = 1) and motility disorder (n = 1). On January 1, 2013, 4 children were alive (80%) after ITx. 2 children (40%) had explantation of the transplant because of rejection and were again dependent on HPN. An accurate registration of children with intestinal failure on HPN and after ITx in the Netherlands is available. ITx was performed in 5 children in a period of 12 years.

**Incidental colonic focal FDG uptake on PET-CT: can the maximum standardized uptake value ($SUV_{max}$) guide us in the timing of colonoscopy?**

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In patients undergoing $^{18}$F-deoxyglucose (FDG) PET-CT, incidental colonic focal lesions can be indicative of inflammatory sites, premalignant or malignant lesions. The maximum standardized uptake value ($SUV_{max}$) of these incidental colonic lesions, representing the intensity of FDG uptake, might be helpful in differentiating between malignant and benign lesions, and might thereby be helpful to determine the urgency of colonoscopy. The aim of our study, therefore, was to assess the incidence and underlying pathology of incidentally detected PET-positive lesions in the colon on FDG PET-CT in a large cohort of patients, and to determine the yield of the use of the $SUV_{max}$ in the discrimination between benign and malignant colonic pathology. Electronic records of all patients who had undergone FDG PET-CT from January 2010 to March 2013 in our hospital, were retrospectively reviewed. Main indications for FDG PET-CT were: characterization of an indeterminate mass on radiologic imaging, suspicion or staging of a malignancy, suspicion of inflammatory disease, or interstitial lung disease. In patients with incidental focal FDG uptake in the large bowel data regarding the subsequent colonoscopy were retrieved, if performed within 120 days. The final diagnosis was defined using colonoscopy findings, combined with additional histopathologic assessment of the lesion, if applicable.Of the 7318 patients analyzed, 360 patients (4.9%) had 406 foci of unexpected colonic FDG uptake. In 243 of these 406 lesions (59,9%), follow-up data on colonoscopy were available. Final diagnoses were: adenocarcinoma in 25 (14.6%), adenoma in 90 (37.1%), and benign / inflammatory in 128 (52.7%). The median [IQR] $SUV_{max}$ was significantly higher for adenocarcinoma (16.6 [12.0-20.8]) compared to adenoma (8.8 [6.7-11.4]; $p<0.001$) and benign lesions (8.2 [5.9-10.1]; $P<0.0001$). The receiver operating characteristic (ROC) curve of $SUV_{max}$ for malignant versus non-malignant lesions, had an area under the curve of 0.868 (SD ± 0.038), the optimal cutoff point being 11.4 (sensitivity 80%, specificity 82%, positive predictive value 24%, negative predictive value 97%).Conclusion: In this hitherto largest series published on incidental colonic focal FDG uptake in patients undergoing PET/CT, malignant lesions have significantly higher $SUV_{max}$ values compared to all other types of lesions. However, the $SUV_{max}$ cannot distinguish between benign lesions and adenomas. From these results one can conclude that all incidental hotspots in the colon should be further evaluated and hotspots with a $SUV_{max} \geq 11.4$ should be evaluated at short notice.

**The response to multiple rapid swallows during high-resolution manometry predicts oesophageal emptying in achalasia patients**

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The timed barium oesophagography makes it possible to measure oesophageal emptying in achalasia patients, which is considered to be a relevant parameter in the management of these patients. However, it exposes patients to ionizing radiation. It has been suggested that the incorporation of multiple rapid swallows (MRS) during high-resolution manometry (HRM) may serve as an additional oesophageal function test. The aim of our study was to investigate whether the response to MRS can predict oesophageal emptying in achalasia patients. 18 treated and 10 untreated patients (14 males; mean age 45.4 ± 2.7) with achalasia underwent HRM in supine position. After 10 regular wet swallows MRS was performed by rapidly drinking 200 ml of water with a straw. All patients subsequently underwent a timed barium oesophagography with radiographs taken at 0, 1, 2 and 5 minutes after drinking 200 ml of barium in upright position. The response to MRS was evaluated by measuring the oesophageal body pressurization during the last 5 seconds of the MRS. Achalasia type I was observed in 12 patients (42.9%), achalasia type II in another 12 patients (42.9%) and 4 patients were classified as achalasia type III (13.4%). The IRP during regular wet swallows was 17.2 mmHg (9.7- 28.3) (median (IQR)) and base LOS pressure was 14.5 mmHg (8.5-26.7). The barium height at 5 minutes was 2.4 cm (0-5.7). The median oesophageal body pressurization during MRS was 22.5 mmHg (11.8-32.5). Oesophageal body pressurization was correlated with oesophageal emptying on timed barium oesophagography at all time points (T0: r=0.495; P <.01, T1: r=0.541; P <.01, T2: r=0.543; P <.01, T5: r=0.681; P <.01) and also with the IRP during regular wet swallows (r=0.784; P <.01). A weak correlation between the oesophageal body pressurization and the maximum width of the oesophagus during timed barium oesophagography was found (r=0.389; P <.05). Oesophageal body pressurization was significantly higher in type II achalasia compared to subtype I (28.5 (16.8-40.3) vs 15.5 (11-20.8) mmHg, P <.05) and higher in the untreated patients compared to the treated patients (34 (25-50) vs 15.5 (10.8-24.3) mmHg, P <.05). Of the treated patients, 5 were asymptomatic. The oesophageal body pressurization of these patients was substantially lower (14 (9-15.5) mmHg) compared to untreated patients (34 (25-50) mmHg) and symptomatic treated patients (20 (11-25) mmHg).

Conclusions: The response to MRS correlates very well with oesophageal emptying as measured with a timed barium oesophagography and provides additional information to regular HRM. We propose to add this simple and inexpensive test to each HRM procedure in achalasia patients.

**Feasibility of FISH on sponge brushes (Cytosponge) of Barrett patients**

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Background and Aims: Current management strategies for patients with Barrett's oesophagus include frequent endoscopic surveillance with multiple biopsies, but these procedures have limitations. In earlier studies we developed a novel assay in which DNA FISH is applied to brush cytology material for efficient detection and risk stratification of Barrett's esophagus patients. The "Cytosponge" developed by Dr. R. Fitzgerald's group is applied in the Barrett's Esophagus Screening Trial (BEST) in the UK that can be used to obtain oesophageal brush specimens without performing endoscopy. The cytosponge potentially provides an excellent cytological/paraffin embedded source of material to perform DNA fluorescence in situ hybridisation (FISH), which could be applied for the assessment of molecular markers. The aim of this study was to test the feasibility of DNA FISH on cytosponge material. Formalin fixed/paraffin tissue slides with Cytosponge material of 10 patients of the BEST2 trial were included in this study and FISH was conducted as previously described (Rygiel et al, Cancer 2005) using FISH probes cep7 and cep17, Her-2 (neu/c-erB2), p53, p16, 20q and c-myc. FISH hybridization signals were scored for quality (poor, moderate, good, very good, excellent), enumeration of the number of recognizable Barrett cells and enumeration of FISH signals by two independent experienced investigators. In these ten cases the overall quality of signals was scored as good. In all cases at least 95 of evaluable Barrett cells could be recognized and scored for FISH hybridization signals. There was good concordance between the outcomes of the two independent investigators. FISH results of both investigators are depicted in tables. The most frequent aberration that we found was p16 loss, other abnormalities were aneuploidy, p53 loss and Her-2 amplification.
Conclusion: In this study it was shown that FISH on cytosponge material is highly feasible with good to very good quality of FISH signals, sufficient recognizable Barrett cells for enumeration of FISH signals, and robust inter-observer scoring results.

**Long-term taurolidine lock therapy is more effective in preventing catheter related bloodstream infections in adult home parenteral nutrition patients than heparin: a follow-up of 212 patients**

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Home parenteral nutrition (HPN) patients are at risk for developing catheter-related bloodstream infections (CRBSI). In a previous prospective open-label randomized controlled trial in 30 HPN patients presenting with CRBSI we showed that catheter locking with 2% taurolidine (TauroSept®) dramatically (90%) reduced re-infections compared with low-dose (150 U/ml) heparin. Our complete HPN population therefore switched to taurolidine in 2008. Aim of the present retrospective study was to compare taurolidine with heparin catheter lock therapy for their efficacy regarding the prevention of CRBSI in HPN patients. Data of positive peripheral blood cultures, which were related to the patients venous access, were retrospectively collected from 212 patients that received HPN between January 2000 and November 2011, comprising 175 and 761 central venous catheter (CVC) access years during catheter lock therapy with taurolidine and heparin, respectively. Thirty-two peripheral positive blood cultures were found in 194 taurolidine locked CVCs of 86 patients in total, while 276 peripheral positive blood cultures were detected in 699 heparin locked CVCs of 187 patients in total. Therefore, bloodstream infection incidence rates of CVC were 0.5/year and 0.99/year for taurolidine and heparin, respectively. Since 66 taurolidine locked CVCs are still in situ, the number of bloodstream infections per catheter will probably decrease even more.
In conclusion, long-term use of the lock solution taurolidine is more effective in preventing CRBSI in HPN patients than heparin.

**Microbiocidal effects of various taurolidine containing catheter lock-solutions**

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We have recently shown that use of a catheter lock solution containing taurolidine dramatically decreased catheter related bloodstream infections in patients on home parenteral nutrition (HPN) when compared to heparin. Several taurolidine containing solutions are commercially available, some in combination with citrate or heparin. Aim of this study was to investigate the effect of these different lock solutions on growth and biofilm formation of Gram negative, Gram positive and fungal pathogens (Escherichias coli (E. coli), Staphylococcus aureus (S. aureus) and Candida glabrata (C. glabrata), respectively). To this end, clinical isolates obtained during CRBSI episodes of HPN patients were grown in the presence of 10x, 20x, 33x and 100x diluted lock solutions (2%taurolidine, 1.3%taurolidine-citrate, 1.3%taurolidine-citrate-heparin and heparin) or PBS (control) in LB-medium and SLM medium for bacteria and yeasts, respectively. Crystal violet was used for biofilm staining. Biofilm formation and growth of clinical isolates was determined by optical density measurement at 595 and 660 nm, respectively. Preliminary results show that 10x diluted solutions of all taurolidine containing lock solutions completely prevented growth of E. coli, S. aureus and C. glabrata over a three day experiment. Growth of S. aureus and E. coli was detected about 10 hours earlier in 33x diluted 1.3% taurolidine-citrate and 1.3% taurolidine -citrate-heparin compared with 2%taurolidine lock solution, while heparin did not inhibit growth of clinical isolates compared to PBS. Effects of lock solutions on biofilm formation were in with the effects on microbial growth.
In conclusion, taurolidine containing lock solutions have a potent microbiocidal effect on fungal, Gram positive and Gram negative pathogens. While 2%taurolidine appears to be the most potent in this respect, the relevance of this finding for clinical practice remains to be established.

**Dysphagia and gastro-intestinal problems in adults carrying the mitochondrial DNA m.3243A>G mutation**

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The m.3243A>G is the most prevalent pathogenic mutation causing mitochondrial disease (MD) in adult patients and may lead to a variety of complaints. Previous research has shown that dysphagia and gastro-intestinal problems occur frequently but the exact frequency and severity of these symptoms have not been determined. We hypothesize, based on these sign and symptoms, that adult MD patients with dysphagia and/or gastro intestinal problems have an increased risk for malnutrition. The adult population of our referral centre for MD comprises 130 patients with the m.3243A>G mutation. 114 questionnaires on dysphagia and gastro intestinal problems were sent to these patients of which 93 were returned (response rate 82%, 29 men and 63 women). The severity of the MD was classified according to the Newcastle Mitochondrial Disease Scale (NMDAS). Our results show that both length, weight and BMI of these patients were lower than the national average ( $p<0.05$). In the four weeks previous to answering the questionnaire, 79 patients (86%) suffered from at least one gastrointestinal symptom, mainly flatulence, hard stools or bloating. Both frequency and severity of symptoms were significantly increased compared with the reference data of healthy Dutch adults. The severity of their gastrointestinal symptoms correlated with a decreased BMI (Spearman c.c. -0,238 p= 0,028). Fourthy-eight percent of the patients reported at least one problem with chewing or swallowing. In most patients dysphagia was mild and patients were able to adapt their eating pattern sufficiently. Only in those with severe dysphagia (n = 6) BMI was lowered. Solid foods seem to cause more problems than liquids. Patients with a higher severity score by the NMDAS had a lower BMI (Pearson c.c. -0,152 p= 0,013 ). We conclude that gastro-intestinal problems and dysphagia are common in patients with the m.3243A> G mutation. The severity of the gastro intestinal problems as well as the overall disease severity as scored by the NMDAS is associated with a decreased BMI and the development of malnutrition. Although highly prevalent, swallowing difficulties do not cause serious disabilities.

**Statins and the risk of colorectal cancer in relation to K-ras mutations and SMAD4 expression.**

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Long-term use of statins is associated with a reduced risk of colorectal cancer (CRC) but their mechanism of action is not well understood. While they are generally believed to act on K-ras, we have previously proposed that they act via influencing the BMP pathway with a critical role for the central pathway element SMAD4. A powerful method to investigate pharmacological mechanism of action is molecular pathological epidemiology. This has recently been used to show that Aspirin acts on PIK3CA mutant CRCs. We used essentially identical methodology to investigate the mechanism of action of Statins in CRC. Cohorts of statin users and controls were identified using two registries unique to the Netherlands, the Dutch National Pathology Registry (PALGA), containing all diagnosed CRC in the Netherlands and the PHARMO drug record linkage system, enabling the long-term follow-up of drug exposure and events of patients. Users of statins between 2000 and 2008 (minimum usage 6 months) and no prior CRC, chemotherapy or radiotherapy were selected. To control for risk factors for ischaemic heart disease, which broadly overlap with CRC risk, both statin users and controls were selected from among β blocker users. The specimens of those that developed colorectal cancer were traced. SMAD4 expression was analysed by immunohistochemistry and the mutation status of K-ras and BRAF assessed from paraffin-embedded CRC specimens. We compared the effects of statin use on the relative risk of CRC in relation to the expression of SMAD4 and the mutation status of K-ras and BRAF. We identified 69,272 statin users and 94,753 controls who developed 957 and 1,384 CRCs respectively. Overall, Statin use was associated with a multivariate relative risk of CRC of 0.87 (95% confidence interval [CI], 0.75 to 1,01). Tumours from 325 statin users and 297 controls were retrieved and analyzed. Statin use conferred a significant reduction in the risk of colorectal cancers that expressed SMAD4 (relative risk, 0.66; 95% CI 0.53 to 0.82), whereas statin use had no influence on tumors with weak or absent expression of SMAD4 (relative risk, 1.02; 95% CI 0.87 to 1.20). There was no relationship between the mutation status of K-ras and BRAF and reduction in CRC risk due to statin therapy.
Conclusions: Statin use reduces the risk of colorectal cancers that express SMAD4 but not the risk of colorectal cancers with weak or absent expression of SMAD4 or with K-ras or BRAF mutations.

**A novel mouse model to study prevention strategies for intestinal cancer in Lynch Syndrome***

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Lynch syndrome (LS), a non-polyposis form of hereditary colorectal cancer (HNPCC), is caused by inherited defects in DNA mismatch repair (MMR) genes. The majority of LS patients carry a germ mutation in one allele of the MMR genes MSH2 or MLH1. Spontaneous loss of the wild-type allele causes fully MMR-defective cells to arise amidst an excess of MMR-proficient cells, as was recently demonstrated in the healthy intestine of LS patients. Such cells are highly prone to accumulate oncogenic mutations leading to tumor development, in particular in the gastrointestinal tract and endometrium. The risk for tumor development is determined by the size of the MMR-defective cell pool that accumulates in an individual over time. This size may be related to the rate of loss of the wild-type allele but also be influenced by the interplay between MMR deficiency and environmental factors. E.g., defects in MMR render cells resistant to the toxic effects of methylating agents. Therefore, a diet containing methylating compounds may confer a growth advantage to MMR-defective cells, promoting these cells to colonize the intestine and to become oncogenically transformed. Conversely, compounds that are specifically toxic to MMR-defective cells may be used to eliminate MMR-defective cells from the intestine, prohibiting tumor development. To study whether external/dietary factors modulate cancer risk in LS patients, we have generated and validated a novel mouse model in which MMR-deficient intestinal crypts arise amidst an excess of wild-type crypts, exactly mimicking the situation in LS patients. These mice spontaneously develop MSH2-deficient intestinal tumors around 18 months of age. Furthermore, we found high-dose exposure to a methylating agent, temozolomide, to enlarge the size of the MSH2-deficient compartment and to strongly accelerate intestinal tumor development, validating our mouse model and demonstrating the impact of an environmental factor. We will exploit our model to investigate whether life-long exposure to a low dose of temozolomide also promotes tumor development and whether certain diets can be identified that have a similar effect. Furthermore, we will test whether a compound that shows toxicity towards Msh2-deficient cells in vitro can be exploited in prophylactic therapy to reduce tumor risk in Msh2 mutation carriers. These experiments will reveal whether preventive measures can be taken to effectively reduce cancer risk in LS patients obviating the need for repeated colonoscopy.

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**Laparoscopic gastrostomy is safer than percutaneous endoscopic gastrostomy in children: results of a systemic review and meta-analysis**

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A gastrostomy is frequently performed in children who require long-term enteral tube feeding. Nowadays gastrostomy placement is a minimally invasive procedure via either percutaneous endoscopic gastrostomy (PEG) or laparoscopic assisted gastrostomy (LAG) are widely used. However, no consensus exists on which type of approach is best practice in pediatric patients. The aim of this study was to determine if either PEG or LAG is the most effective and safe procedure in pediatric patients requiring a gastrostomy. We performed a systematic review and meta-analysis according to the guidelines in the PRISMA-statement. PubMed, EMBASE, and the Cochrane Library were searched to identify eligible articles. Results were pooled in meta-analyses and expressed as risk ratios (RR). In total, five original studies, comparing 550 PEG to 483 LAG placements in children, were identified. All studies had retrospective study designs. The completion rate (PEG 98% vs. LAG 100%) was similar. No studies reported data comparing the efficacy of feeding via the gastrostomy or its effect on developing gastroesophageal reflux (GER). Complications, such as intraperitoneal leakage and non-closure of the gastrostomy after removal of the catheter were as frequently encountered after both PEG and LAG. However, PEG was associated with significantly more adjacent bowel injuries (RR=5.55; p=0.05) and early tube dislodgements (RR=7.44; p=0.02). Moreover, the overall rate of all complications that require reintervention under general anesthesia (RR=2.79; p<0.001) was significantly higher after PEG. The risk of developing minor complications was similar after both procedures. This systematic review and meta-analysis demonstrates that the success rate in terms of completion rate was similar in PEG and LAG; however, LAG was associated with significantly less serious adverse events and a lower rate of all reinterventions that require general anesthesia. Therefore, we conclude that LAG is the safest approach and should be the first choice in children requiring gastrostomy placement.

**Efficacy and adverse events of Laparoscopic Gastrostomy placements in children: Results of a large cohort study**

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The placement of a gastrostomy tube is an established treatment to provide enteral tube feeding. Available data on long-term outcomes of a laparoscopic gastrostomy (LAG) with regard to the efficacy and adverse events, such as gastroesophageal reflux (GER) are limited. Furthermore, some studies advocate the routine use of preoperative 24-hour pH monitoring to predict postoperative GER symptoms; however, the true predictive value is unclear. Therefore, the aim of this study was to evaluate long-term efficacy and adverse events after LAG. A retrospective observational cohort study was performed including all 300 patients that underwent LAG between 2004 and 2011. The median age at the time of operation was 2.66 years (IQR 1.28 – 7.44) and the majority of patients (75.0%) were neurologically impaired. Endpoints for efficacy were successful feeding and weight-for-length and length-for-age z-scores and endpoints to evaluate adverse events were complications, reinterventions and GER symptoms. After a median follow-up of 2.63 years (IQR 1.07 – 4.77), feeding through the gastrostomy was successful in 255 patients (95.9%). Weight-for-length z-scores had significantly increased after operation (-0,98SDS to -0,26SDS) compared to preoperative measures ($p<0.0005$). Length-for-age z-score remained similar ($p=0.695$). There was no procedure related mortality. Major complications, such as stomach wall dehiscence and intraoperative bleeding were seen in 6 patients (2.0%). Minor complications, mainly hypergranulation, leakage, wound infection and early dislodgement of the catheter were seen in 221 patients (74.0%). A total number of 48 reinterventions was needed to treat complications. In 28.2% of patients with preoperative GER, reflux symptoms dissolved after operation. However, de novo postoperative GER symptoms were present in 34.2%. Preoperative 24-hour pH monitoring was successfully performed in 180 patients (60%). The sensitivity and specificity of preoperative pH monitoring in predicting postoperative reflux symptoms were respectively 17.5% and 76.9%.

In conclusion, LAG placement in children leads to successful feeding in 96% of patients and is associated with a low risk of developing serious adverse events. Our study does show a very high rate of minor complications. Contrary to the results of previous studies, the incidence of GER symptoms does not increase after LAG placement. Preoperative 24-hour pH monitoring is not a reliable tool to accurately predict postoperative GER symptoms, since a large percentage of patients with postoperative GER symptoms do not have pathological reflux before LAG placement and therefore it should not be routinely performed.

**Is there a relation between preoperative abnormalities at esophagogastroduodenoscopy and postoperative complications after laparoscopic gastric bypass.**

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Background and study aims: Laparoscopic Roux-en-Y gastric bypass (LRYGB) is one of the most popular weight loss procedures for morbid obesity worldwide. In several high volume centres standard preoperative esophagogastroduodenscopy (EGD) is performed. The role of this screening tool is under debate, however it can be hypothesized that preoperative lesions found at screening could lead to postoperative early (leakage or bleeding) and/or late (stenosis, marginal ulceration (MU)) complications. Aim was to assess the role of preoperative abnormalities on postoperative complications. Methods: Patients undergoing RYGB from December 2007 till august 2012 were screened by EGD. Results of EGD, patient characteristics (i.e. comorbidities and medication) and postoperative course were scored and entered in a consecutive database. EGD results were classified according to the outcome but also to their treatment consequence. Minimal follow up was 9 months. Results: A consecutive series of 661 patients (526 (79.5%) female, median age 44.2 years, average BMI 45.6) underwent preoperative EGD followed by laparoscopic Roux en Y gastric bypass (LRYGB). In 338 patients no abnormalities was found. Some patients had more abnormalities. 23.6 % suffered from gastritis; 15.6 % had esophagitis; 0.8 % had an ulcer and 0.9% had Barrett's esophagus at screening. 26.6% (of 416 patients) were infected with H. Pylori and received eradication therapy. A total of 162 complications (24.5%) occurred, 82 (50.6%) were short term. Complications ranged from unexplained pain and dysphagia to anastomotic leakage and death (2 patients). None of the EGD lesions, in total or separate, had a significant relation with complications, long or short term.
Conclusion: There is no relation between preoperative screening by means of EGD and post-operative complications. Preoperative infection with H. Pylori does not increase the risk for post-operative complications. The value of preoperative EGD is therefore questionable.

**Is laparoscopic cholecystectomy á froid necessary after conservative therapy of acute cholecystitis?**

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The recommended therapy of acute cholecystitis is laparoscopic cholecystectomy within days. However, not all patients have cholecystectomy during the acute stage because of late presentation, mild improving symptoms, co-morbidities and logistic reasons. Generally, these patients are supposed to have a delayed cholecystectomy after a period of 6 weeks of recovery. However, evidence for this routine is lacking. We aimed to assess whether definitive conservative therapy of acute cholecystitis in patients who are symptom-free 6 weeks after the acute episode, is safe. Furthermore, we tried to identify factors associated with failure of conservative treatment. Between 2004 and 2010, all consecutive patients who had definitive conservative therapy for acute calculous cholecystitis were selected for analysis. Six weeks after the acute episode, definitive conservative was installed for various reasons. Follow-up data were obtained from patient records and general practitioners. Patients received questionnaires regarding to recurrence of gallstone-related disease and laparoscopic cholecystectomy. Forty-three patients were enrolled. The median follow-up was 21 months after the decision of conservative therapy. In most patients (34; 79%), acute cholecystectomy had not been performed because of spontaneous improvement of symptoms at the time of presentation. Absence of symptoms was for 26 patients (60%) the reason for choosing definitive conservative therapy. After a median follow-up of 12 months, 17 patients (40%) were free of symptoms and 26 (60%) had recurrent symptoms of gallstone-related disease. Fifteen of these 26 patients with recurrent symptoms (58%) had laparoscopic cholecystectomy after a median interval of 13 months. At the end of follow-up, 28 patients (65%) did not have had cholecystectomy. Pancreatitis (2), cholangitis (2), cholecystitis (2) and choledocholithiasis (2) were serious presentations of recurrent gallstone disease. We could not find predictive factors for gallstone-related disease recurrence or delayed cholecystectomy.
Conclusion: After a median follow-up of 20 months after definitive conservative therapy of acute cholecystitis, 40% of the patients did not have recurrent symptoms. One-third of the patients needed cholecystectomy. Unfortunately, no subgroup of patients at low risk for recurrent disease after conservative therapy of acute cholecystitis could be identified.

**Pattern of recurrence following complete cytoreductive surgery and hyperthermic intraperitoneal chemotherapy in patients with peritoneal carcinomatosis of colorectal cancer**

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Cytoreductive surgery (CRS) combined with hyperthermic intraperitoneal chemotherapy (HIPEC) has an established role in the multidisciplinary treatment of metastasized colorectal cancer. Long term survival is achieved in up to 40% of the patients. Many patients suffer from recurrence after CRS+HIPEC. The aim of the study was describe the recurrence pattern following CRS+HIPEC, including anatomical location, treatment and outcome.A prospective database of all patients treated with CRS+HIPEC between April 2005 and March 2013 was retrospectively analyzed with special interest in the following parameters: disease recurrence and location, interval between HIPEC and recurrence, treatment, and survival. Survival and the prognostic value of several clinical and histopathological parameters were calculated using Kaplan-Meier method and Cox Regression.139 patients with peritoneal carcinomatosis were treated with complete CRS (CC 0-1) and HIPEC. After a median follow-up of 21.4 months, 74 patients (53%) had reported recurrence. The median interval between HIPEC and recurrence was 12.4 months (range 3-54). 33 patients (45%) developed isolated peritoneal recurrence, 20 patients (27%) isolated distant metastases and 21 patients (28%) peritoneal recurrence combined with distant metastases. Of these patients 26 were treated surgically with curative intent. Pulmonary metastasectomy was performed in 7/10 patients with isolated pulmonary recurrence, partial liver resection in 5/9 patients with isolated liver recurrence, repeat cytoreductive surgery with or without HIPEC in 14/33 patients with isolated peritoneal recurrence, and in one patient with distant and peritoneal recurrence a pulmonary metastasectomy and a repeat CRS+HIPEC procedure was performed. The overall survival was significantly longer in patients with resection of recurrence vs. no resection with a median overall survival of 11 months vs. 43 months after diagnosis of disease recurrence (P=0.006). A lower initial N-stage was significantly related to a improved survival following disease recurrence (P=0.03). Other clinical and histological parameters were not significantly related to survival.
Conclusions: Disease recurrence after cytoreductive surgery and HIPEC is common. Resectability is the most important predictive variable for survival after recurrence. An aggressive surgical approach may be beneficial in a selected patients and result in long-term survival.

**Treatment of ovarian metastases of colorectal carcinoma in the era of hyperthermic intraperitoneal chemotherapy**

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Introduction: Patients with ovarian metastases of colorectal carcinoma have a high risk of developing peritoneal metastases in the course of the disease. The current gold standard in treatment of peritoneal metastases consists of cytoreductive surgery (CRS) in combination with hyperthermic intraperitoneal chemotherapy (HIPEC). This study evaluated outcome of patients with ovarian metastases of colorectal carcinoma who were treated with CRS and HIPEC. Methods: From the local institute's cancer registry, all female patients with a history of colorectal carcinoma were identified. Patients with ovarian metastases suspected on radiological review or proven by pathological findings were included. Patient, tumour and treatment characteristics were retrospectively obtained. Survival analysis was performed for the patient group that underwent CRS and HIPEC and compared to a control group of women who underwent CRS and HIPEC with only extra-ovarian peritoneal metastases. Results: In the period 2000-2012, 125 women were treated for ovarian metastases of colorectal carcinoma in our institute. Seventy-eight patients underwent curative oophorectomy with CRS and HIPEC, 43 patients underwent (mostly palliative) oophorectomy only and 2 patients received palliative chemotherapy only. Of the 78 patients undergoing CRS and HIPEC, 57 patients had synchronous peritoneal metastases (73%), 18 had isolated ovarian metastases (23%) and 3 had systemic metastases with complete radiological response following neo-adjuvant chemotherapy (4%). Median overall survival was 40 months (95% confidence interval (CI)25.7-54.3) in the ovarian metastases group and 64 months (95%CI 33.4-94.6) in the control group (p=0.151). Median progression free survival was 19 months (95%CI 11.7-26.3) in the ovarian metastases group and 17 months (95%CI 10.8-23.2) in the control group (n=52) (p=0.688). Primary failure sites were distributed equally between patients with and without ovarian metastases, with intraperitoneal recurrences occurring in 52% and 58% respectively (p=0.182).
Conclusion: Outcome of CRS and HIPEC for colorectal carcinoma does not differ among women with ovarian metastases when compared to women with only extra-ovarian peritoneal metastases. Moreover, patterns of recurrence were not influenced by the presence of ovarian metastases. These data confirm the role of CRS and HIPEC in patients with ovarian metastases of colorectal origin treated with curative intent.

**Colorectal surgery in octogenarians: age as the most relevant risk factor**

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Patients at increased age form a vulnerable yet growing subset. Given the special considerations involved in treating the diseased elderly, it is of interest to analyze how age and other factors relate to outcome. In this study we aim to identify parameters in elderly patients that may influence survival after surgery for colorectal cancer (CRC). Between 2008 and 2011 348 patients aged 70 years and older underwent a colectomy for primary CRC in our hospital. We collected data on oncological status, pre-existent comorbidities and postoperative parameters. To determine differences between age groups we divided our population by decade into two subgroups, 'younger elderly' and 'octogenarians'. Patients' median age was 77 (range 70-94) and median duration of follow up was 23 months. We observed a total mortality of 109 patients (31.3%). Thirty-day mortality was 5.7 % and mortality after one year was 17.2%. Emergency versus elective surgery and higher ASA class did not predict a diminished survival. Incomplete tumor removal, increased cancer stage, and occurrence of postoperative complications had significant negative effect on overall survival. Multivariate analysis showed that age per adjusted life year is a strong independent predictor of survival after CRC surgery in octogenarians (HR 1.17, 95-CI 1.06-1.28, P<0.001).
Conclusions: The importance of age per annum in determining risk factors to a diminished survival exceeds the importance of comorbidity. Therefore age should get a more important role in risk stratification and decision making in octogenarians with colorectal carcinoma. In patients younger than 80 at the time of surgery, age per se does not necessarily have to be taken into account. The known decision making parameters and prognostic factors should be weighed in all patients up to 80 years of age.

**Preoperative characteristics of patients with presumed pancreatic cancer but ultimately benign disease: a multicenter series of 344 pancreatoduodenectomies**

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Differentiation between malignant and benign pancreatic tumours can be difficult. Consequently, a proportion of patients undergoing pancreatoduodenectomy for suspected malignancy will ultimately have benign disease. The aim of this study was to identify these patients and to compare their preoperative clinical and imaging characteristics with those of patients who underwent pancreatoduodenectomy for confirmed (pre)malignant disease. We performed a multicenter retrospective cohort study in 1629 consecutive patients undergoing pancreatoduodenectomy for suspected malignancy between January 2003 and July 2010 in 11 high volume hospitals in The Netherlands. Excluded were patients with a history of chronic pancreatitis, pancreatic cancer, suspected duodenal carcinoma or without available preoperative digital CT scan. Preoperative clinical and imaging (CT, EUS and ERCP) characteristics were compared between patients with ultimately benign and malignant disease in a 1:3 ratio. The cases with confirmed malignant disease were randomly selected from the entire cohort. A multivariable logistic regression prediction model was constructed to predict benign disease. 107 patients (6.7%) were ultimately diagnosed with benign disease. 86 fulfilled the inclusion criteria and were compared to 258 patients with (pre)malignant disease. Patients with benign disease presented less frequently with jaundice (60% vs. 80%, P<0.001), pancreatic mass (54% vs. 70%, P=0.03), double duct sign on CT (27% vs. 52%, P=0.008) or on EUS (22% vs. 51%, P=0.02), but more often with pain (56% vs. 38%, P=0.004). In a prediction model using these clinical and CT parameters, only 27% of patients with benign disease were correctly predicted and 6% of patients with malignant disease were missed.

Conclusions: Nearly 7% of patients undergoing pancreatoduodenectomy for suspected malignancy were ultimately diagnosed with benign disease. Although some preoperative clinical and imaging signs might indicate the absence of malignancy, their discriminatory value is not sufficient for clinical use. Despite improvements in diagnostic imaging, a low percentage of unexpected benign pathology after pancreatoduodenectomy seems yet inevitable.

**Adjuvant chemoradiotherapy improves survival after a microscopically irradical (R1) gastric cancer resection.**

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A microscopically irradical (R1) resection is a known unfavourable prognostic factor after gastric cancer surgery. Currently, there are no clear guidelines how to manage patients who underwent an R1 gastric cancer resection. Adjuvant chemoradiotherapy (CRT) has been proposed, but evidence for any substantial benefit is very limited. In this study, overall survival of patients with non-metastatic gastric cancer who had undergone an R1 resection with and without adjuvant CRT was evaluated. Patients who had undergone an R1 resection for non-metastatic gastric cancer between 2002 and 2011 were included. We compared a cohort of patients from the population-based Netherlands Cancer Registry who did not receive adjuvant CRT (no-CRT group) with a group of patients who had been treated with adjuvant chemoradiotherapy (CRT group) at our institute. CRT consisted of radiotherapy (45 Gy/25 fractions) combined with concurrent cisplatin and/or 5FU based chemotherapy. Independent prognostic factors for overall survival were identified using multivariable Cox regression analyses. A series of 409 gastric cancer patients who had undergone an R1 resection was studied, including 369 patients who did not receive adjuvant CRT and 40 patients who were treated with adjuvant CRT. Median follow-up was 11 months in the no-CRT group and 18 months in the CRT group, respectively. In the no-CRT group, median age was higher (70 versus 57 years, $p < 0.001$) and the percentage of patients with diffuse type tumours according to Laurén was lower (43% versus 80%, $p < 0.001$). Tumour location was also significantly different between the two groups ($p = 0.005$). There were no significant differences in pathological T- and N-stage. Three-year overall survival was 19% in the no-CRT group, compared to 40% in the CRT group. There was a significant difference in median overall survival between the no-CRT and CRT group (13 versus 24 months, $p = 0.003$). In a multivariate analysis, adjuvant CRT was an independent prognostic factor for improved overall survival (HR 0.556, $p = 0.004$). Other factors that affected prognosis significantly were tumour location ($p = 0.047$), pathological T-stage ($p < 0.001$) and pathological N-stage ($p < 0.001$).
Conclusions: In this study, adjuvant chemoradiotherapy after a microscopically irradical (R1) resection for non-metastatic gastric cancer was associated with a significant survival benefit.

**Treatment and outcome for young patients with esophageal cancer in the Netherlands**

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The incidence of esophageal cancer is rising among all age groups. Hence, esophageal cancer is increasingly recognized in younger patients. In young patients probably diagnosis is often delayed, tumors are more aggressive and survival is worse. We compared clinicopathological characteristics, treatment and subsequently survival of patients aged ≤50 years with patients aged >50 years diagnosed with esophageal cancer.From the nationwide Netherlands Cancer Registry we identified all patients diagnosed with esophageal cancer between January 2000 and January 2011 (n=18,118). Patients with mesenchyme tumors (n=618) and patients aged ≥75 years (n=4,169) were excluded. Proportions were compared using the $\chi 2$ test for categorical variables. Relative survival was calculated as the ratio of the observed rates in cancer patients to the expected rates in the general population. Eleven percent of the patients (n= 1,466) were aged ≤50 years and adenocarcinoma was the most common tumor type in both age groups (73.6%). Grade of tumor differentiation was comparable between both age groups (p=0.460), as well as T-stage (p=0.058). Younger patients presented more often with tumor positive lymph nodes (70.1 vs. 66.4 %, p=0.010) and distant metastasis (50.5 vs. 44.7 %, p<0.001) but had surgery with or without neoadjuvant therapy more often as compared to older patients: 40.6 vs. 37.9 %, p= 0.047. There was no significant difference in the 5-year relative survival between patients aged ≤50 years and patients aged >50 years: 18.1% vs. 17.2%, NS. A subgroup analysis among patients diagnosed with adenocarcinoma revealed similar results.
Conclusions: A considerable proportion (11%) of the patients diagnosed with esophageal cancer were aged ≤50 years. Approximately 80% of the tumors were histologically classified as adenocarcinomas. Younger patients presented with advanced disease stage more often, but received a more aggressive treatment. This resulted in a comparable relative survival rate with the general population of esophageal cancer patients. It is reasonable to consider comprehensive treatment options for younger patients, with regard to their good conditions, and expected good tolerance to treatment.

**Induction chemotherapy followed by surgery for primarily incurable oesophageal carcinoma**

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In patients with advanced oesophageal carcinoma that are not eligible for a curative multimodal treatment, induction chemotherapy can be applied with the aim to downstage the tumour. After response evaluation, an oesophagectomy can be performed in selected cases. The aim of this study was to evaluate the clinical outcome of these patients. All patients with primarily incurable loco regional oesophageal or gastroesophageal junction cancers who are treated with induction chemotherapy between January 2005 and December 2012 were identified from a prospectively collected database. The indication, assessment of radiological response with CT scanning and plan of treatment were determined at multidisciplinary team meetings. Clinical outcome was analysed for all patients who received induction chemotherapy. Survival was calculated from the date of diagnosis until last date of follow up or death using Kaplan Meier method. Univariate analyses were performed to identify prognostic factors for survival. A total of 127 patients received induction chemotherapy mainly for loco regional advanced disease (n=82) determined by T- and/or N-staging and involvement of lymph nodes outside the planned radiation field (n=33). Carboplatin-paclitaxel (78,0%) and epirubicin-carboplatin-capecitibine (12,6%) were the commonly used regimes. After response evaluation, surgery was withheld in 38 patients because of progressive disease (n=18), stable disease or partial response but still irresectable (n=10), severe co morbidity (n=2) or other reasons (n=8). Median overall survival of this group was 13 months (95% CI: 11.3-14.7). Thirteen patients had an irresectable tumour or distant metastatic disease at explorative surgery. Seventy-six patients underwent oesophagectomy, with a median survival of 20 months (95% CI: 9.9-30.1) and a 5-year survival of 27%. Tumour free resection margins (R0) were achieved in 50 (66%) patients and the median survival in this group was 39 months (95% CI: 11.4-66.6), with a 5-year survival of 37%. In univariate analyses tumour resection margins ($p<0.001$, HR=3.865) influence survival in this selected group of patients.

Conclusion: After induction chemotherapy for primarily incurable oesophageal cancer, oesophagectomy was feasible in the majority of patients (60%). Patients who had tumour free resection margins had the most favourable prognosis, with a 5-year survival of 37%.

**Which health-related quality of life outcomes should be discussed during the initial follow-up consultation after surgery for esophageal cancer? Preliminary findings of a Delphi survey**

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Clinicians need to systematically inform patients about the course of important outcomes. The aim of this study is to identify which outcomes are deemed important by patients and health-care professionals (HCPs; surgeons, nurses, and dieticians) to address in the initial follow-up consultation. To identify these outcomes, we will use a two-round Delphi survey. The initial list for round one contained 49 outcomes (29 HRQL) which were identified by systematic reviews, interviews, and audiotapes of consultations. We invited patients and HCPs to rate each outcome on a scale of 1 (not important) to 9 (absolutely important) by either a postal or web-based questionnaire. Ratings were categorized as low (1-3), moderate (4-6), and high importance (7-9). We considered an outcome to be of high importance if >70% of participants rated the outcome as high AND if <15% rated the outcome as low. These outcomes will be included in the second round for which the same patients and HCPs will be resurveyed. Here, we report the preliminary findings of round one of the Delphi survey, which was completed by 104 patients and 56 HCPs (21 surgeons, 20 dieticians, 16 nurses). A top 10 list of most important outcomes to be discussed revealed that both patients and HCPs wanted to discuss the removal of cancer, eating and drinking, the recovery period, and swallowing problems due to scar tissue. HCPs, and not patients, considered the discussion of global quality of life, physical functioning, and weight loss to be a top 10 topic. Patients, and not HCPS, wanted to discuss survival, cancer recurrence, vitamin B12, and food supplements. These findings suggest that patients and HCPs hold different views on the topics that need to be discussed in the initial follow-up consultation after esophageal cancer surgery. Whereas clinicians focus on broader concepts of quality of life (e.g., global quality of life, physical functioning, eating and drinking), patients focus on specific issues related to prognosis (e.g., disease recurrence), and eating and drinking (e.g., supplements, vitamin B12). To inform patients about these outcomes, HCPs need to have fast and easy access to high-quality evidence-based information. In addition, such information needs to 'translated' to ensure that it is understandable to patients. However, since the time to discuss all outcomes is limited, and several outcomes do not belong to the expertise of surgeons, multidisciplinary teams need to determine which HCP (surgeon, nurse, or dietician) addresses which outcome. We are currently developing a web-based application to support HCPs in providing patients with high-quality, evidence-based, and translated information.

**The long-term outcome of autoimmune pancreatitis**

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Autoimmune pancreatitis (AIP) is the pancreatic manifestation of a systemic IgG4-related fibroinflammatory disorder (IgG4-RD). The long-term course of this form of pancreatitis is scarcely described. Therefore, we investigated the long-term outcome of AIP, in terms of pancreatic function, quality of life (QoL), pancreatic carcinoma, and mortality. From our AIP database registry, we identified patients with a minimum follow-up of 2 years. Information was subtracted regarding treatment (outcome), pancreatic carcinoma, and mortality. If informed consent was obtained, additional follow-up data was collected prospectively. To evaluate the pancreatic function, a fecal elasase-1 test was performed (normal value > 200 µg/g) and fasting blood glucose (FBG) and glycated haemoglobin were determined. Patients were considered to be endocrine insufficient if they received treatment for glycaemic control, or when FBG was above 7.0 mmol/l and the HbA1c level was more than 48 mmol/mol (6.5%). QoL was assessed using the European Organization for Research and Treatment of Cancer (EORTC) Quality of Life Questionnaire C30 (QLQ-C30) and the Short Form-36 (SF-36). Scores were compared to those obtained from a Dutch reference population, matched for sex and age. A total of 111 patients were identified from the database (96 males; median age 72 yrs; IQR 61-78), with a median follow-up of 84 months (IQR 52-120). From 43 patients, only retrospective data were obtained (39%); 21 (19%) had died, 10 (9%) were lost to follow-up, and 12 (11%) did not agree to participate. Sixty-eight patients were followed prospectively, with a median follow-up of 73 months (IQR 49-103). IgG4-associated cholangitis was present in 36/66 (55%) patients. In total, 55/68 (81%) of patients received steroid therapy, with a response rate of 100%. At follow-up, exocrine insufficiency was present in 56/67 patients (84%) and endocrine insufficiency in 44/64 patients (69%). No significant differences in QoL scores were found between AIP patients and the reference population. None of the patients developed pancreatic carcinoma during follow-up.
Conclusion: At long-term follow up, most AIP patients are found to have both exo- and endocrine pancreatic insufficiency. Therefore, regular evaluation of the pancreatic function is recommended. Long-term QoL is not impaired and we did not observe any occurrence of pancreatic cancer in our series.

**The Young Coeliacs of the PreventCD Study - A Prospective Cohort at High-Risk for Coeliac Disease**

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The EU-PreventCD project (www.preventcd.com) is a prospective double-blind intervention study investigating the effect of early gluten introduction on development of coeliac disease (CD) in high-risk children. The analysis is still blinded as to the effect of the intervention. The aim of the present study is to characterize the development of CD in the prospective cohort of PreventCD at the age of 3y. From 2007-2010, 1324 infants with a 1st degree relative with CD were recruited in 8 countries shortly after birth. 814 children, HLA-DQ2+ and/or DQ8+, have been followed clinically and serologically until the age of 3y. Small bowel biopsies (SBBs) were performed based on symptoms suggestive of CD, and/or anti-tissuetransglutaminase antibodies (TG2A) or antigliadin antibodies (AGA). The mean age of the cohort is 4.3y; 48.5% girls; 89% of the children were DQ2+ (16% homozygous); 52% were breastfed ≥ 6 months. Seventy-four SBBs were performed in 68 children. CD was confirmed by SBBs in 53 children and in another 3 without SBBs (new ESPGHAN criteria). The cumulative incidence (CI) of CD at 3y was 5.2%. The mean age at diagnosis was 2.7y, with 64% being diagnosed under 3y. All 56 children with CD had elevated TG2A, 82% had elevated AGA, and 64% had symptoms. CD was not significantly associated with pregnancy duration, birth weight, duration of breastfeeding, or number/type of relatives with CD. CD developed more frequently in girls (CI 7.2% v.s. 3.3%; p=0.03). HLA genotypes were highly related to the CI of CD (p<0.0001), at 3 years, the CI was 18.6% for DQ2 homozygous children, 3.7% for DQ2 heterozygous children, and zero for children positive for DQ8. These preliminary results show that genetically susceptible children from high-risk families develop CD at a very young age and that this is significantly associated with homozygosity for DQ2. Even in very young children, presence of TG2A is a powerful predictor of CD.

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**Samenstelling:** INCIVO® filmomhulde tabletten. Elke tablet bevat 375 mg telaprevir. **Farmaceutische vorm:** Gele, capsulevormige tablet van ongeveer 20 mm lang, waarop aan één kant 'T375' staat. **Indicaties:** INCIVO, in combinatie met peginterferon alfa en ribavirine, is geïndiceerd voor de behandeling van genotype 1 chronische hepatitis C bij volwassen patiënten met gecompenseerde leverziekte (waaronder cirrose) (1) die nooit eerder behandeld werden (therapienaïef), of (2) die eerder behandeld werden met interferon alfa (gepegyleerd of niet gepegyleerd) als monotherapie of in combinatie met ribavirine, waaronder patiënten met een recidief, partiële responders en patiënten zonder respons (null responders). **Dosering en wijze van toediening:** INCIVO, 1125 mg (drie filmomhulde tabletten van 375 mg) dient tweemaal daags (b.i.d.) oraal met voedsel te worden ingenomen. Als alternatief kan 750 mg (twee tabletten van 375 mg) iedere 8 uur (q8h) oraal met voedsel ingenomen worden. De totale dagelijkse dosis is 6 tabletten (2.250 mg). INCIVO moet worden toegediend in combinatie met ribavirine en ofwel peginterferon alfa-2a ofwel -2b. Aanbevolen wordt dat patiënten met ribonucleïnezuur van het hepatitis C virus (HCV-RNA) > 1.000 IE/ml in week 4 of week 12 met de behandeling stoppen. **Behandelduur:** De behandeling met INCIVO moet worden gestart in combinatie met peginterferon alfa en ribavirine en gedurende 12 weken worden aangehouden. Patiënten zonder cirrose die therapienaïef zijn of een recidief hadden op een eerdere behandeling, en bij wie HCV-RNA ondetecteerbaar is in week 4 en 12, moeten additioneel nog 12 weken behandeld worden met alleen peginterferon alfa en ribavirine, voor een totale behandelingsduur van 24 weken. Voor alle andere patiënten wordt een additionele behandelingsperiode van 36 weken met alleen peginterferon alfa en ribavirine aanbevolen, voor een totale behandelingsduur van 48 weken. **Contra-indicaties:** Overgevoeligheid voor het werkzame bestanddeel of voor één van de hulpstoffen. Gelijktijdige toediening met werkzame stoffen die voor hun klaring sterk afhankelijk zijn van CYP3A en waarvan verhoogde plasmaconcentraties geassocieerd zijn met ernstige en/of levensbedreigende gebeurtenissen. Dit zijn onder andere de werkzame stoffen alfuzosine, amiodaron, bepridil, kinidine, astemizol, terfenadine, cisapride, pimozide, moederkoornalkaloïden (dihydro-ergotamine, ergonovine, ergotamine, methylergonovine), lovastatine, simvastatine, atorvastatine, sildenafil of tadalafil (alleen indien gebruikt voor de behandeling van pulmonale arteriële hypertensie) en oraal toegediend midazolam of triazolam. Gelijktijdige toediening met klasse-Ia- of -III-antiaritmica, behalve intraveneus lidocaïne. Gelijktijdige toediening van INCIVO met werkzame stoffen die CYP3A sterk induceren, bijvoorbeeld rifampicine, sint-janskruid *(Hypericum perforatum)*, carbamazepine, fenytoïne en fenobarbital en dus kunnen leiden tot lagere blootstelling en verlies van werkzaamheid van INCIVO. Raadpleeg de SPC van peginterferon alfa en van ribavirine voor een lijst met de contra-indicaties van deze producten, aangezien INCIVO in combinatie met peginterferon alfa en ribavirine gebruikt moet worden. **Belangrijkste waarschuwingen en voorzorgen:** Ernstige rash: Er zijn ernstige, mogelijk levensbedreigende en fatale huidreacties gemeld bij de INCIVO-combinatiebehandeling. Toxische epidermale necrolyse (TEN), inclusief fatale afloop, is waargenomen na het in de handel brengen. Fatale gevallen zijn gerapporteerd bij patiënten met progressieve rash en systemische symptomen die INCIVO-combinatiebehandeling bleven krijgen nadat een ernstige huidreactie geïdentificeerd was. In placebogecontroleerde fase-2- en fase-3-studies had 0,4% van de patiënten vermoedelijk *Drug Rash with Eosinophilia and Systemic Symptoms* (DRESS). In de klinische praktijk met INCIVO had minder dan 0,1% van de patiënten stevensjohnsonsyndroom (SJS). In placebogecontroleerde fase-2- en fase-3-studies werd ernstige rash (voornamelijk eczemateus, met jeuk en die meer dan 50% van het lichaamsoppervlak beslaat) gemeld bij 4,8% van de patiënten die behandeld werden met de INCIVO-combinatiebehandeling tegenover 0,4% van degenen die behandeld werden met peginterferon alfa en ribavirine. Voorschrijvers dienen ervoor te zorgen dat de patiënten volledig geïnformeerd zijn over het risico op ernstige rash en dat ze hun voorschrijvend arts onmiddellijk moeten raadplegen zodra ze een nieuwe rash krijgen of als een bestaande rash verergert. Alle gevallen van rash moeten regelmatig gecontroleerd worden op progressie tot de rash is verdwenen. In het geval van een ernstige huidreactie, moet stopzetting van andere geneesmiddelen waarvan bekend is dat zij geassocieerd zijn met ernstige huidreacties overwogen worden. Anemie: In placebogecontroleerde fase-2- en fase-3-studies namen de totale incidentie en de ernst van anemie toe bij de INCIVO-combinatiebehandeling in vergelijking met een behandeling met alleen peginterferon alfa en ribavirine. Voor de behandeling van anemie dient men de SPC van ribavirine te raadplegen voor de richtlijnen over de dosisverlaging. Als de behandeling met ribavirine wordt stopgezet voor de behandeling van anemie, moet ook de behandeling met INCIVO definitief worden stopgezet. Als de behandeling met INCIVO wordt stopgezet voor anemie, kunnen patiënten verdergaan met de behandeling met peginterferon alfa en ribavirine. Hemoglobine dient voor en tijdens de INCIVO-combinatiebehandeling op regelmatige tijdstippen gecontroleerd te worden. De dosis van INCIVO mag niet worden verlaagd en de behandeling met INCIVO mag niet worden hervat indien stopgezet. Zwangerschap en anticonceptie bij mannen en vrouwen: INCIVO wordt niet aanbevolen voor gebruik tijdens de zwangerschap en bij vrouwen die zwanger kunnen worden en geen anticonceptie toepassen. Zowel vrouwelijke patiënten die zwanger kunnen worden en hun mannelijke partners, als mannelijke patiënten en hun vrouwelijke partners moeten tijdens en na de behandeling met INCIVO twee effectieve anticonceptiemethoden gebruiken, zoals wordt aanbevolen in de SPC van ribavirine. Hormonale anticonceptiva kunnen worden voortgezet, maar zijn wellicht niet betrouwbaar tijdens gebruik van INCIVO en gedurende maximaal twee maanden na het stoppen met INCIVO. Cardiovasculair: Gebruik van INCIVO moet worden vermeden bij patiënten met congenitale QT-verlenging, of met een familiale voorgeschiedenis van congenitale QT-verlenging of plotse dood. Algemeen: INCIVO mag niet als monotherapie worden toegediend en mag alleen worden voorgeschreven in combinatie met zowel peginterferon alfa als ribavirine. De SPC van peginterferon alfa en van ribavirine moeten daarom worden geraadpleegd voordat de behandeling met INCIVO wordt gestart. **Interacties:** INCIVO is een sterke, tijdsafhankelijke remmer van CYP3A4 (d.w.z. remming kan sterker zijn tijdens de eerste twee weken van behandeling) en remt P-gp ook aanzienlijk. Gelijktijdige toediening van INCIVO en geneesmiddelen die CYP3A en/of P-gp induceren, kan de plasmaconcentraties van telaprevir verlagen. Gelijktijdige toediening van INCIVO en geneesmiddelen die CYP3A en/of P-gp remmen, kan de plasmaconcentraties van telaprevir verhogen. Toediening van INCIVO kan de systemische blootstelling aan geneesmiddelen die substraat zijn van CYP3A of P-gp verhogen, wat het therapeutisch effect en bijwerkingen van die middelen kan verhogen of verlengen. Telaprevir remt de organisch anion-transporterende polypeptiden OATP1B1 en OATP2B1. Op basis van de resultaten van klinische geneesmiddelinteractiestudies, kan inductie van metabole enzymen door telaprevir niet worden uitgesloten. Voor een overzicht van interacties en doseringsaanbevelingen met andere geneesmiddelen, zie SPC. **Bijwerkingen:** op INCIVO (ingenomen in combinatie met peginterferon alfa en ribavirine): Zeer vaak (≥1/10): anemie, pruritus, rash, nausea, diarree, braken, hemorroïden, proctalgie. Vaak (≥1/100 tot <1/10): trombocytopenie, lymfopenie, hyperurikemie, dysgeusie, syncope, anale pruritus, rectale hemorragie, anale fissuur, eczeem, gezwollen gezicht, exfoliatieve uitslag, orale candidiasis, hypothyreoïdie, hypokaliëmie, hyperbilirubinemie, perifeer oedeem, productsmaak abnormaal. Soms (≥1/1000 tot <1/100): jicht, retinopathie, proctitis, DRESS, urticaria, creatinine in bloed verhoogd. Zelden (≤1/1000): SJS, TEN, erythema multiforme. **Farmacotherapeutische categorie:** Direct werkende antivirale middelen. **ATC code:** J05AE11. **Afleverstatus:** UR. **Registratiehouder:** Janssen Cilag International NV, Turnhoutseweg 30, B2340 Beerse, België. **Uitgebreide productinformatie:** zie voor volledige SPC www.janssennederland.nl. **Datum:** 27/05/2013

**A prognostic scoring model identifies patients with a low risk of an adverse outcome of an Ischemic Colitis**

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The clinical course of ischemic colitis (IC) varies from self-limiting to surgery or even death. Currently it is difficult to predict disease course and identify those patients in whom a more aggressive approach is justified. The aim of this study was to develop a model that predicts an adverse outcome of IC (defined as surgery or death). A systematic search was performed in Pubmed, Embase and Cochrane to identify studies predicting the outcome of IC. Studies were appraised for validity and included if IC was histologically proven in at least two-thirds of cases and data extraction of predictors of an adverse outcome was possible. Pooled odds ratios (OR) were calculated with random effect meta-analysis for several prognostic factors. In addition, patients with histologically proven IC were identified in the endoscopic databases of two Dutch hospitals. Data on clinical presentation, endoscopic findings and laboratory results were obtained. A numerical scoring system was formulated that categorizes patients by risk, aiming to use a minimum of factors. Of a total of 2334 articles, 11 studies were included in the analysis comprising 1485 IC cases with a adverse outcome in 20%. Significant predictors of an adverse outcome were peritoneal signs OR 17.2[95%CI 6.6-44.9], ulcers 14.9[3.3-67.1], right colon involvement 7.9[3.4-18,3], tachycardia 6.9[4.1-11.4], no rectal bleeding 5.7[2.8-11.3], low bicarbonate 3.99[1.7-9.6], temperature ≥ 38°C 3.95[2.4-6.5], pulmonary disease 2.9[1.1-7.4], chronic renal failure 2.8[1.5- 5.3], hyponatremia 2.8[1.1-6.9], cancer 2.6[1.2-5.4], arrhythmia 2.6[1.2-5.6] and congestive heart failure 2.5[1.2-5.2]. Clinically, 70 patients with IC were identified of whom 34% had an adverse outcome. No rectal bleeding OR 35,2[95%CI 4.0-308], peritoneal signs 22.9[2.2-236], leucocytosis 7.4[1.5-36.8], temperature ≥38°C 5.5[1.2-26.1], tachycardia 5.1[1.3-20], hypotension 34[6.6-177], vascular surgery 14.7[4.0-54], and smoking 4.8[1.1-21] were identified as predictors of adverse outcome by univariate analysis. A scoring system ranging from 0 to 21 points was formulated based on β-coefficients of the following factors: smoking, cardiovascular surgery in the last 6 weeks, chronic renal failure, no rectal bleeding, peritoneal signs, hypotension, right colon involvement, SIRS criteria and endoscopic findings (ulcers and necrosis). The model was tested in the 70 patients. At a cut-off point of ≥4 points, the NPV of an adverse outcome was 95%[82-99], with a PPV of 69%[50-84]. The AUC of the ROC curve was 0.923.
Conclusion: A scoring system based on clinical data reliable categorizes patients into low or high risk groups for an adverse outcome of IC.

**The development of IC is associated with arteriopathy**

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The aetiology of ischemic colitis (IC) is thought to be related to a prolonged state of low perfusion of the colon. It is however unknown whether this low flow state is associated with atherosclerotic arterial disease. The aim of this study was to determine the association between risk factors for atherosclerosis and IC. We conducted a retrospective case-control study. Patients were identified from endoscopy databases of two independent hospitals in the period 1999 to 2012 with either histology confirmed IC, or having a colonoscopy for acute onset of abdominal pain, diarrhoea or rectal blood loss. The latter group served as a control group. Data on comorbidities and risk factors for atherosclerosis were obtained. Parameters with a miss rate < 25% were included in the analysis. Univariate and multivariate analysis were performed and expressed as adjusted odds ratios (OR) with their 95% confidence intervals (CI). The prevalence of cardiovascular risk factors differed between the 126 IC patients (mean age 72 (interquartile range (IQR) 64-78), 39% male) and 217 controls (mean age 60 (IQR 49-72), 52% male); 26% diabetes mellitus in the IC group vs. 10% in the controls (OR 3.22[95% CI 1.76-5.89]; p<0.001), hypercholesterolemia 43% vs. 24% (OR 2.34[95% CI 1.46-3.77]; p<0.001), hypertension 67% vs. 41%(OR 3.00[95%CI 1.88-4.80]; p<0.001), myocardial infarction 21% vs. 8%(OR 3.19[95% CI 1.60-6.33];p=0.001), peripheral vascular disease 29% vs. 4%(OR 10.41[95% CI 4.60-23.58]; p<0.001), cerebral vascular disease 18% vs. 5%(OR 4.42[95% CI 1.99-9.82]; p<0.001). Furthermore, the following co-morbidities were also associated with IC (IC vs. controls); haemodialysis 9% vs. 1%(OR 20.44[95% CI 2.61-160.37]; p<0.001), heart failure 13% vs. 2%(OR 7.74[95% CI 2.52-23.72]; p<0.001), severe renal failure 16% vs. 4%(OR 4.29[95% CI 1.68-10.93];p=0.001), arrhythmia 20% vs.7%(OR 3.30[95% CI 1.65-6.63]; p<0.001), asthma 14% vs. 5% (OR 3,39[95% CI1,48-7,74];p=0.002), COPD 20% vs. 8% (OR 3.00[95% CI 1,501 - 5,816];p=0.001). In the multivariate analysis only age (OR 1,03[95% CI 1.01-1.06]; p=0.023), cerebral vascular disease (OR 3.05[95% CI 1.12-8.35]; p=0.011) and peripheral vascular disease 4.02[95% CI 1.25-5.77]; p=0.030) were independently associated with IC.
Conclusion: Arteriopathy in peripheral and cerebral vessels is independently associated with IC, suggesting that atherosclerosis of the small mesenteric arteries contributes to the development of IC.

**Intestinal microbiota profiling in healthy children: analysis of short-term and long-term stability**

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Background: The human intestinal microbiota is considered to have major functions in maintaining human health, including nutrient digestion, protection against pathogens, regulation of host metabolism and immunity. Dysbiosis is thought to be associated with numerous diseases, including inflammatory bowel disease, metabolic syndrome, obesity, functional abdominal pain and immune disorders. For the understanding of the role of intestinal microbiota in the pathogenesis and disease course in children, microbiotal stability and composition in healthy children should be defined first. So far, information on this topic is limited. Aim: To describe the short-term and long-term stability of the intestinal microbiota in healthy children aged 2-17 years. Methods: In this prospective study, fecal samples of 60 children (median age 9,3 years, IQR 5,7-12,3) were collected weekly for 6 weeks. Long-term stability was assessed by collecting one more fecal sample one year later. All samples were analysed by means of IS-pro, a validated high-throughput, PCR-based profiling technique, providing virtually complete insight into the composition of the intestinal microbiota. Results: Short-term intestinal microbiota profiles were highly variable and phylum-specific. Bacteriodetes showed a median correlation coefficient (R) at one-week-interval (R1) of 0,87 (Q1: 0,78, Q3: 0,93) and at 5-week-interval (R5) of 0,83 (Q1: 0,73, Q3: 0,78). Firmicutes showed a more variable pattern: R1 0,77 (Q1: 0,65, Q3: 0,87) and R5 0,63 (Q1: 0,53, Q3: 0,87). Proteobacteria were extremely unstable at short-term: R1 0,52 (Q1: 0,22, Q3: 0,71), R5 0,43 (Q1: 0,63, Q3: 0,05). In addition, we identified a core microbiome, consisting of 4 species within the phylum Bacteriodetes which were present in every fecal sample of all children. Moreover, by constructing an IS-profile cluster dendogram, we observed both within-subject and within-family clustering. One-year follow up samples are currently analysed; the results will be presented.
Conclusion: Short-term stability in healthy children is limited and phylum-specific, which is in contrast to reported data on stability in adults. Furthermore, our results suggest the existence of a core microbiome in healthy children.

**Altered faecal microbiota composition in patients with a first episode of acute uncomplicated diverticulitis**

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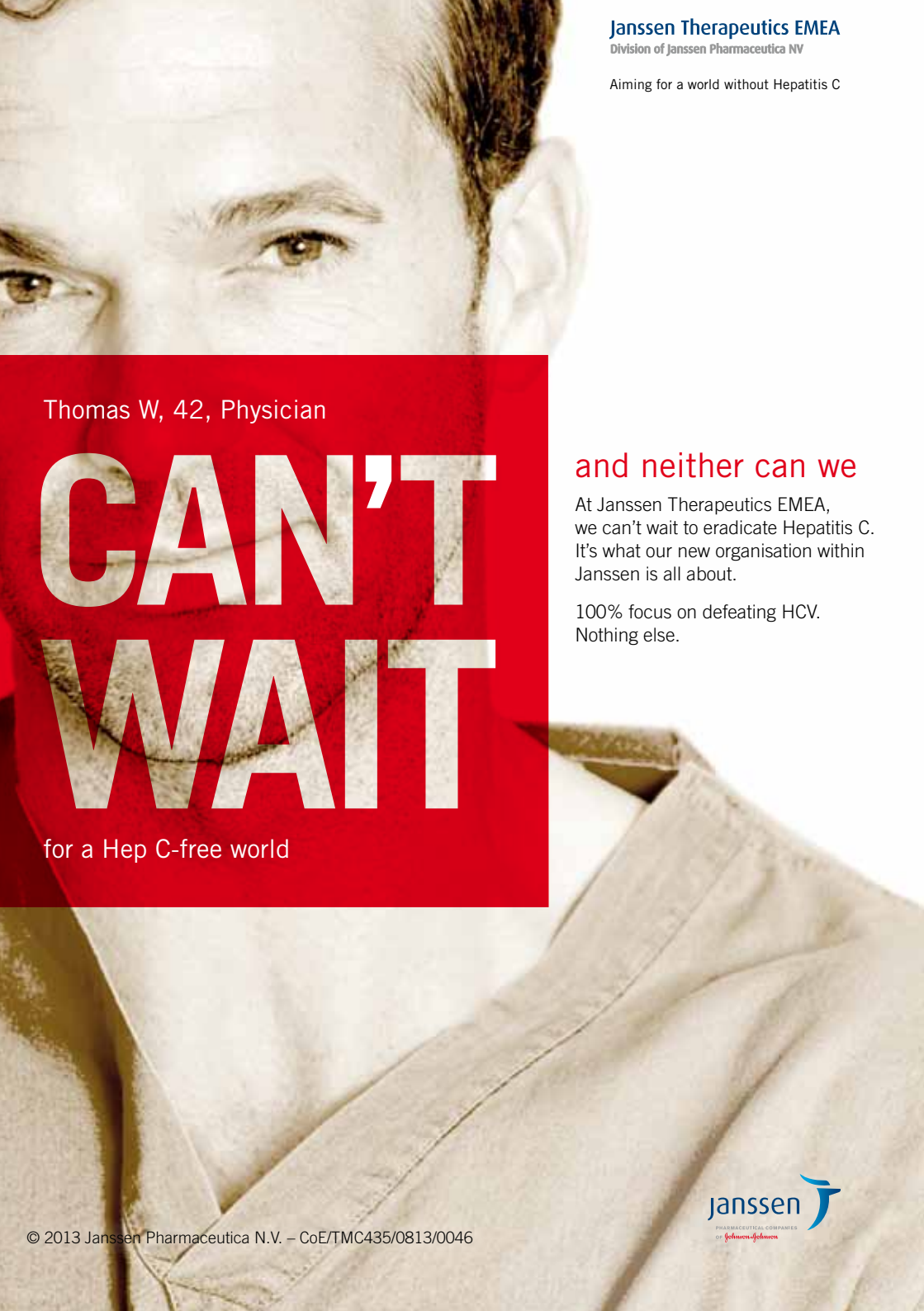
The gut microbiome plays an important role in health and disease. Only recently this complex ecosystem is being characterized by nucleic acid sequencing methods and reproducible profiling techniques have emerged. Disease specific variations have been found, for example for Crohn's disease. Diverticular disease patients have been hypothesized to harbor a change as well that presumably promotes disease and inflammation. However, little is known on the composition in diverticular disease and acute diverticulitis. Furthermore, current theories on the etiopathogenesis still are inconclusive. Since a large number of patients is affected, characterization of these microbiota is an important step in defining its role in the etiopathogenesis of disease and could be of great clinical value.

Characterize the faecal microbiota in patients with a first episode of uncomplicated acute diverticulitis and compare these to those of healthy subjects.

We conducted a case-control study, ancillary to the 'DIABOLO Trial'. Consecutive diverticulitis patients, from 3 selected centers, underwent baseline sampling with rectal swabs. The controls were a mixed population of adults evaluated for gastrointestinal complaints but without serious diagnoses and no diverticulitis. After DNA isolation IS-pro was performed: a PCR-based profiling technique which combines bacterial species differentiation by the length of the 16S-23S rDNA interspace region with taxonomic classification by phylum-specific fluorescent labeling. Digital profiles were analyzed on the level of the entire (phyla) profile, as well as individual (species) peaks.

The diverticulitis cohort consisted of 18 patients, mean age 57.8 years, 72.2% male. Compared to the 25 healthy controls the 'average' IS profile of diverticulitis patients displayed a greater abundancy of the phylum Proteobacteria. Comparison of all individual profiles, in a dendrogram, on the level all bacteria as well at the level of the subgroup Firmicutes+Bacteroidetes did not reveal clustering or group effects. But the dendrogram focussed on Proteobacteria did visualize clustering, with a peak pattern that represented E coli. Scatter plots showed higher intensity of E coli peaks in the diverticulitis cohort.

Conclusions: There is a difference in the faecal microbiota between diverticulitis patients and healthy controls, which is defined by the phylum Proteobacteria and most explicitely visible for E coli. This study is a first step towards elucidating the role of an (altered) gut microbiome in the etiopathogenesis of diverticular disease and its inflammatory complications.



**Helicobacter pylori colonization and preeclampsia: the Generation R study**

*W.J. den Hollander[1], S. Schalekamp - Timmermans[2], I.L. Holster[1], V. W. Jaddoe[3], G.I. Perez- Perez[5], M.J. Blaser[5], E.A.P. Steegers[2], E.J. Kuipers[1,3] Dept. of [1]Gastroenterology and Hepatology, [2]Obstetrics and Gynaecology, [3]Pediatrics, [4]Internal Medicine, Erasmus Medical Center, Rotterdam, The Netherlands, [5]Dept. of Medicine and Microbiology, New York Langone Medicine Center, New York, U.S.A.*

Introduction: Preeclampsia (PE) is characterized by endothelial dysfunction and related hypertension and coagulative disorders. It is a leading cause of perinatal and maternal morbidity and mortality. Although the exact pathogenesis is still unknown, certain infectious agents seem to play a role. Helicobacter pylori (H. pylori) has been reported to induce platelet aggregation, and we therefore hypothesized that this bacterium could be associated with PE. Aims & Methods: The objective of this study was to assess the association between H. pylori colonization and PE. We measured IgG anti-H. pylori and CagA-antibodies in serum of pregnant women of the Generation R study, a population-based prospective cohort study in Rotterdam, the Netherlands. Delivery and medical records were retrieved for identification of subjects with PE, which were defined according to standard criteria. Information on demographics, education, and maternal risk factors was collected by questionnaires. Only women with a live born singleton pregnancy were included. Subjects with chronic hypertension, systemic lupus erythematosus, lupus anticoagulants or chronic heart disease were excluded from analyses. Odds ratios (OR) of PE for H. pylori colonization were calculated using logistic regression analyses after adjustment for potential confounders including maternal age, ethnicity, parity, smoking, body mass index and education level. Results: Serum of 6348 pregnant women was analyzed (mean age 29.7 ± SD 5.3). In total, 2923 women were H. pylori positive (46%) and 1028 of them were CagA-positive (35%). For 132 women pregnancy was complicated with PE (2.1%). H. pylori colonization rate in women with PE was 56% compared to 44% in subjects without PE (p=0.02). CagA-positivity rate was 20% in women with and 16% in women without PE (p=0.30). Adjusted for potential confounding effects, women colonized with H. pylori were more likely to develop PE (final OR 1.53; 95% confidence interval 1.04-2.26). CagA-positivity was not associated with PE. Conclusion: Our data demonstrate that H. pylori colonization in pregnant women is associated with PE. H. pylori may be involved in different inflammatory mechanisms, which might potentially affect the pathogenesis of PE. Understanding and further validation of this association may contribute to effective intervention (e.g. H. pylori eradication treatment) for reducing morbidity and mortality from this disease.

**Helicobacter pylori colonization rate in children is highly variable among different ethnic groups in Western populations: the Generation R study**

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Introduction: Helicobacter pylori (H. pylori) is usually acquired during childhood. Although colonization rates have been declining in Western countries, less is known about H. pylori prevalence among children living in a multi-ethnic Western city. Aims & Methods: Our aim was to identify H. pylori and CagA status and H. pylori-related risk factors in children living in Rotterdam, a large European city. We measured IgG anti-H. pylori and CagA-antibodies in children participating in the Generation R study, a population-based prospective cohort study. Information on demographics and maternal characteristics was collected by questionnaires. Odds ratios (OR) for H. pylori colonization were adjusted for potential confounders. Results: Serum of 4467 children was analysed (mean age 6.2 years ± 0.48 SD), of which 2164 were female (48%). Overall, 438 children were H. pylori positive (10%), and 142 of them were CagA-positive (32%). Highest colonization rate was found in children of Moroccan ethnicity (27%), followed by children originating from Cape Verde (23%), Dutch Antilles (15%), Turkey (13%), other non-western countries (12%), Surinam (10%), other western countries (10%), and the Netherlands (6%) respectively ($p<0.001$). Colonization rate if all non-Dutch children were pooled was 15% compared with 6% of the Dutch children ($p<0.001$). Multivariate regression analyses revealed following associations with childhood H. pylori colonization: non-Dutch ethnicity (OR 2.30; 95% confidence interval 1.82-2.90), male gender (0.69; 0.56-0.84), and day care attendance (0.60; 0.41-0.88). H. pylori-positive Dutch children were CagA-positive in 15% of the cases compared with 39% of the non-Dutch subjects ($p<0.001$).
Conclusion: We identified large differences in colonization rates among children living in a multi-ethnic population. Highest H. pylori and CagA prevalence was found in children from non-Western countries, implying that in coming decades H. pylori and related diseases will be prevalent in this multi-ethnic population.

**Cost concerns should not affect the choice for plastic or metal stent for unresectable malignant common bile duct obstruction: a randomized controlled trial**

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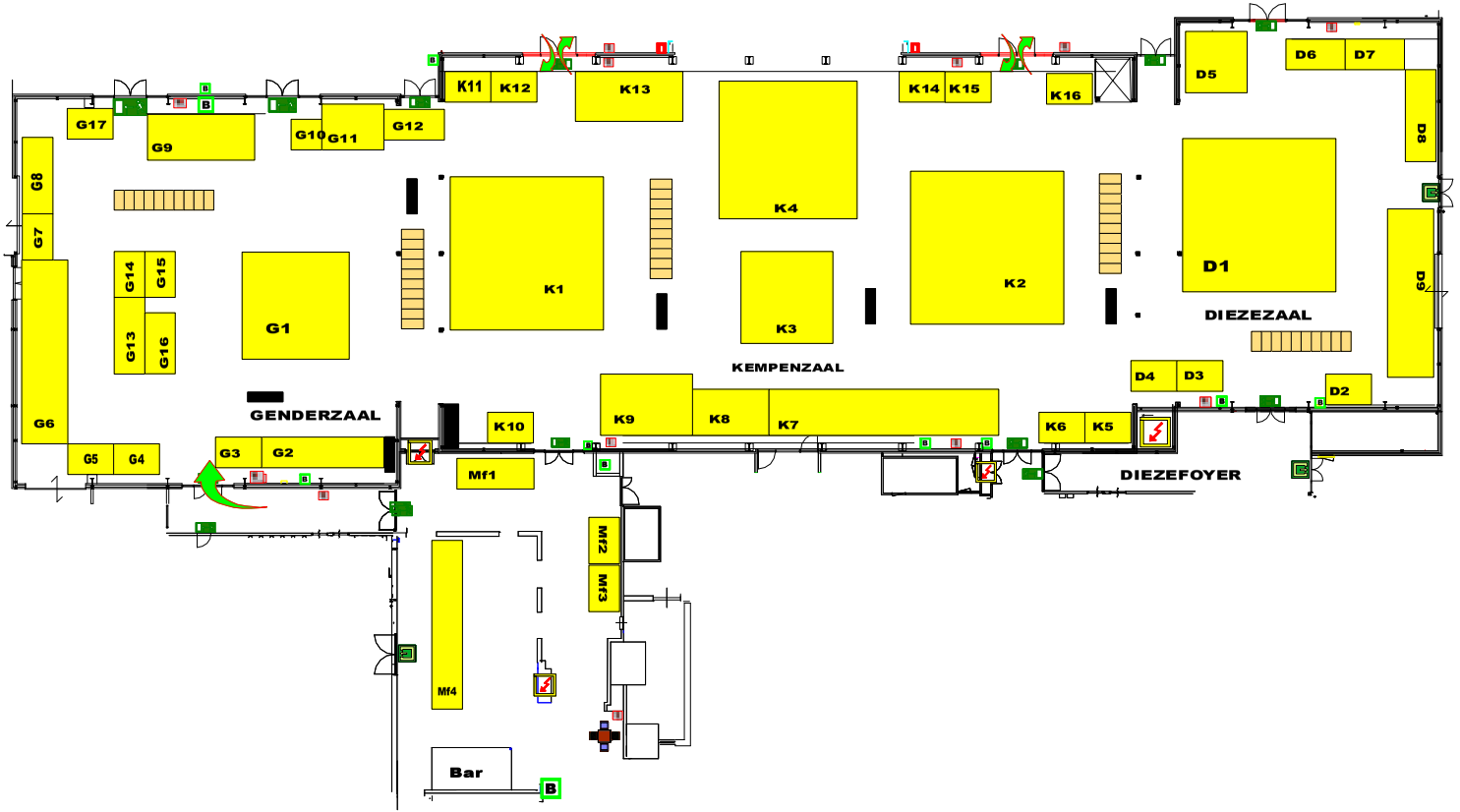
*[1]Dept. of Gastroenterology and Hepatology, University Medical Center Utrecht, Utrecht, The Netherlands*

Endoscopic stent placement is the procedure of choice for palliation of malignant common bile duct (CBD) obstruction. Although self-expandable metals stents (SEMS) are associated with a longer stent patency compared to plastic stents, they are far more expensive. Until now, no detailed cost analysis comparing treatment with plastic and metal stents have been performed. Our aim was to perform a full cost comparison of plastic stent, partially covered SEMS (pcSEMS) and uncovered SEMS (uSEMS) placement for the palliation of CBD obstruction. We performed a randomized, prospective, multicenter trial in 18 hospitals. In total, 219 patients were randomized to plastic stent (n=73), pcSEMS (n=75) or uSEMS (n=71) placement with stratification for primary stent placement or stent placement after a first recurrent obstruction. Cost comparison included initial costs and costs during follow up. Data on health care use was obtained at 2 weeks and monthly thereafter until death or one year follow-up. Non- parametric bootstrap techniques were used to derive a p-value for the difference in cost distribution. Base characteristics were similar between the three groups. Recurrent biliary obstruction occurred in 29 patients (40%) in the plastic stent group, in 10 patients (14%) in the pcSEMS group and in 11 patients (15%) in the uSEMS group. Mean stent patency time was 170 days for plastic stents, 303 days for pcSEMS and 285 days for uSEMS ($p<0.05$). There was no difference in 3-month ($p= 0.77$) and overall survival between the groups ($p=0.28$). Costs for the initial stent placement procedure were significantly lower for plastic stents compared to SEMS (€1,084 vs €1,942; $p= 0.001$). However, total costs per patient were not significantly different between plastic stents and SEMS (€6,614 vs €7,723, $p= 0.13$). During follow-up, the main costs driver in both groups were costs for hospitalization (plastic 69% vs SEMS 68%). Total costs for initial medical procedures and reinterventions were not different between the groups (plastic €2,078 vs SEMS €2,434; $p= 0.06$). In patients with a short survival (≤ 3 months), total costs per patient were also not different between plastic stents and SEMS (€6,796 vs €6,538; $p = 0.81$). No differences in costs were found between pcSEMS and uSEMS placement.
Conclusion: Although initial costs are higher for SEMS placement, total costs are not different between plastic stents and SEMS, even in patients with a short survival. Since the clinical outcome with SEMS is favourable and total costs are not different, SEMS placement is recommended in patients with unresectable malignant CBD obstruction.

**Alfabetische lijst van standhouders tijdens het Jubileumcongres, 3-4 oktober 2013 te Veldhoven**
***G = Genderzaal, D = Diezezaal, K = Kempenhal, M = Meijerijfoyer Standnummer***

| | |
|---|---|
| AbbVie | K1 |
| Astellas Pharma BV | D6 |
| AstraZeneca | D2 |
| Bayer B.V. Healthcare | G8 |
| Biolitec Biomedical | K10 |
| Boston Scientific | Mf4 |
| Bristol-Myers Squibb | G15 |
| Cablon Medical BV | D8 |
| Campro Scientific | K6 |
| Crohn en Colitis (CCUVN) | Mf1 |
| Cobra Medical | G2 |
| Colopolast BV | G10 |
| COOK Nederland BV | D5 |
| Covidien NL | K11 |
| Dr.Falk Pharma | K2 |
| Endoss BV | D4 |
| Endotechniek | G16 |
| Erbe Nederland BV | G3 |
| EverywhereIM | Mf2 |
| Ferring | K7 |
| FMH Medical BV | G6 |
| Fresenius Kabi Nederland B.V. | D3 |
| Gilead Sciences BV | K5 |
| Hitachi Medical Systems BV | K8 |
| Janssen Therapeutics NV | G11 |
| Janssen-Cilag B.V. | G14 |
| Linde Healthcare-Benelux | G4 |
| Medical Measurements Systems BV | G7 |
| Medivators | G13 |
| Mermaid Medical | K16 |
| Mindray Medical | K15 |
| MSD | D1 |
| Norgine | G9 |
| Olympus Nederland BV | K4 |
| Pentax Nederland BV | K9 |
| Pyramed | G5 |
| Quadia Online Video | G17 |
| Rescope BV | K12 |
| Roche Nederland B.V. | K3 |
| Scovas Medical BV | K13 |
| Selinion Medical | G12 |
| Stichting Opsporing Erfelijke Tumoren | Mf3 |
| Stöpler Instrumenten & Apparaten | BV D7 |
| Tramedico B.V. | D9 |
| Vifor Pharma | G1 |
| Zambon Nederland B.V. | K14 |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**Mezavant®1200 mg verkorte productinformatie**

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Ernstige nierinsufficiëntie (GFR <30 ml/min/1,73 $m^2$) en/of ernstige leverinsufficiëntie. **BIJZONDERE WAARSCHUWINGEN EN VOORZORGEN BIJ GEBRUIK** Meldingen van nierinsufficiëntie, waaronder minimale verandering in nefropathie en acute/chronische interstitiële nefritis zijn in verband gebracht met mesalazine-preparaten en prodrugs met mesalazine. Mezavant® moet met voorzichtigheid worden gebruikt bij patiënten met een bevestigde milde tot matige nierinsufficiëntie. Het wordt aanbevolen dat bij alle patiënten de nierfunctie wordt geëvalueerd voordat met de behandeling wordt begonnen en ten minste tweemaal per jaar tijdens de behandeling. Bij patiënten met chronische longproblemen, met name astma, kunnen overgevoeligheidsreacties optreden en deze patiënten moeten nauwlettend worden bewaakt. Na de behandeling met mesalazine zijn er in zeldzame gevallen ernstige bloedafwijkingen gemeld. Wanneer bij de patiënt een onverklaarbare bloeding, blauwe plekken, purpura, anemie, koorts of een pijnlijke keel optreden, moet er een bloedonderzoek worden uitgevoerd. Indien een bloedafwijking wordt vermoed, moet de behandeling worden stopgezet. Mesalazine-geïnduceerde cardiale overgevoeligheidsreacties (myo- en pericarditis) zijn in zeldzame gevallen gemeld bij andere mesalazine-preparaten. Voorzichtigheid is geboden bij het voorschrijven van deze medicatie aan patiënten met aandoeningen die kunnen leiden tot een myo- of pericarditis. Bij verdenking op een dergelijke overgevoeligheidsreactie mogen producten met mesalazine niet opnieuw worden geïntroduceerd. Mesalazine is in verband gebracht met een acuut intolerantiesyndroom dat moeilijk te onderscheiden is van een opwakkering van een inflammatoire darmziekte. Hoewel de exacte incidentiefrequentie niet is bepaald, is het syndroom opgetreden bij 3% van de patiënten die deelnamen aan de gecontroleerde klinische onderzoeken naar mesalazine of sulfasalazine. De symptomen bestaan uit kramp, acute buikpijn en bloederige diarree, soms koorts, hoofdpijn en huiduitslag. Bij verdenking op een acuut intolerantiesyndroom is directe stopzetting vereist en producten met mesalazine mogen niet opnieuw worden geïntroduceerd. Er zijn meldingen geweest van een verhoogd leverenzymgehalte bij patiënten die mesalazine-preparaten gebruikten. Voorzichtigheid is geboden bij gebruik van Mezavant® bij patiënten met leverinsufficiëntie. Voorzichtigheid is geboden bij de behandeling van patiënten die allergisch zijn voor sulfasalazine door het mogelijke risico op kruisallergie tussen sulfasalazine en mesalazine. Een organische of functionele obstructie in het bovenste gedeelte van het maagdarmkanaal kan de werking van het product vertragen. **BIJWERKINGEN** De drie meest frequent gerapporteerde bijwerkingen binnen de gepoolde veiligheidsanalyse van de klinische onderzoeken onder patiënten met colitis ulcerosa waren hoofdpijn, buikpijn en misselijkheid. Individuele behandelingsgerelateerde bijwerkingen zijn niet vaker dan 10% gemeld. Andere gerapporteerde gevallen met Mezavant® traden minder vaak op en de incidentie wordt hieronder weergegeven: *Bloed- en lymfestelselaandoeningen:* Soms (>0,1% en <1%): afname in trombocytentelling. *Zenuwstelsel--aandoeningen:* Vaak (>1% en <10%): hoofdpijn; Soms (>0,1% en <1%): duizeligheid, slaperigheid, trillingen. *Evenwichtsorgaan en ooraandoeningen:* Soms (>0,1% en <1%): oorpijn. *Hartaandoeningen:* Soms (>0,1% en <1%): tachycardie. *Bloedvataandoeningen:* Vaak (>1% en <10%): hypertensie; Soms (>0,1% en <1%): hypotensie. *Ademhalingsstelsel-, borstkas- en mediastiniumaandoeningen:* Soms (>0,1% en <1%): faryngolaryngeale pijn. *Maagdarmstelselaandoeningen:* Vaak (>1% en <10%): zwelling van de buik, buikpijn, diarree, dyspepsie, braken, gasvorming, misselijkheid; Soms (>0,1% en <1%): colitis, pancreatitis, rectale poliepen. *Lever- en galaandoeningen:* Vaak (>1% en <10%): leverfunctietest afwijkend (bijvoorbeeld ALT, AST, bilirubine). *Huid- en onderhuidaandoeningen:* Vaak (>1% en <10%): prurigo, huiduitslag; Soms (>0,1% en <1%): acne, alopecia, netelroos. *Skeletspierstelsel- en bindweefselaandoeningen:* Vaak (>1% en <10%): artralgie geassocieerd met myalgie, rugpijn. *Algemene aandoeningen en toedieningsplaatsstoornissen:* Vaak (>1% en <10%): astenie, pyrexie; Soms (>0,1% en <1%): gezichtsoedeem, vermoeidheid. Er moet gedacht worden aan door mesalazine geïnduceerde nefrotoxiciteit bij patiënten die een nierprobleem ontwikkelen tijdens de behandeling. Zie ook rubriek Bijzondere waarschuwingen en voorzorgen bij gebruik. **FARMACOTHERAPEUTISCHE CATEGORIE** Aminosalicylzuur en gelijke stoffen. **ATC-CODE** A07E C02. **AFLEVERSTATUS** U.R. **VERGOEDINGSSTATUS** Volledig vergoed. **HOUDER VAN DE VERGUNNING VOOR HET IN DE HANDEL BRENGEN** Shire Pharmaceutical Contracts Ltd Hampshire International Business Park, Chineham, Basingstoke, Hampshire, RG24 8EP, Verenigd Koninkrijk. **NUMMER VAN DE VERGUNNING VOOR HET IN DE HANDEL BRENGEN** Nederland: RVG 33600. **DATUM VAN EERSTE VERLENING VAN DE VERGUNNING/HERNIEUWING VAN DE VERGUNNING** 24 juli 2007. **DATUM VAN HERZIENING VAN DE TEKST** Nederland: 5 november 2010.

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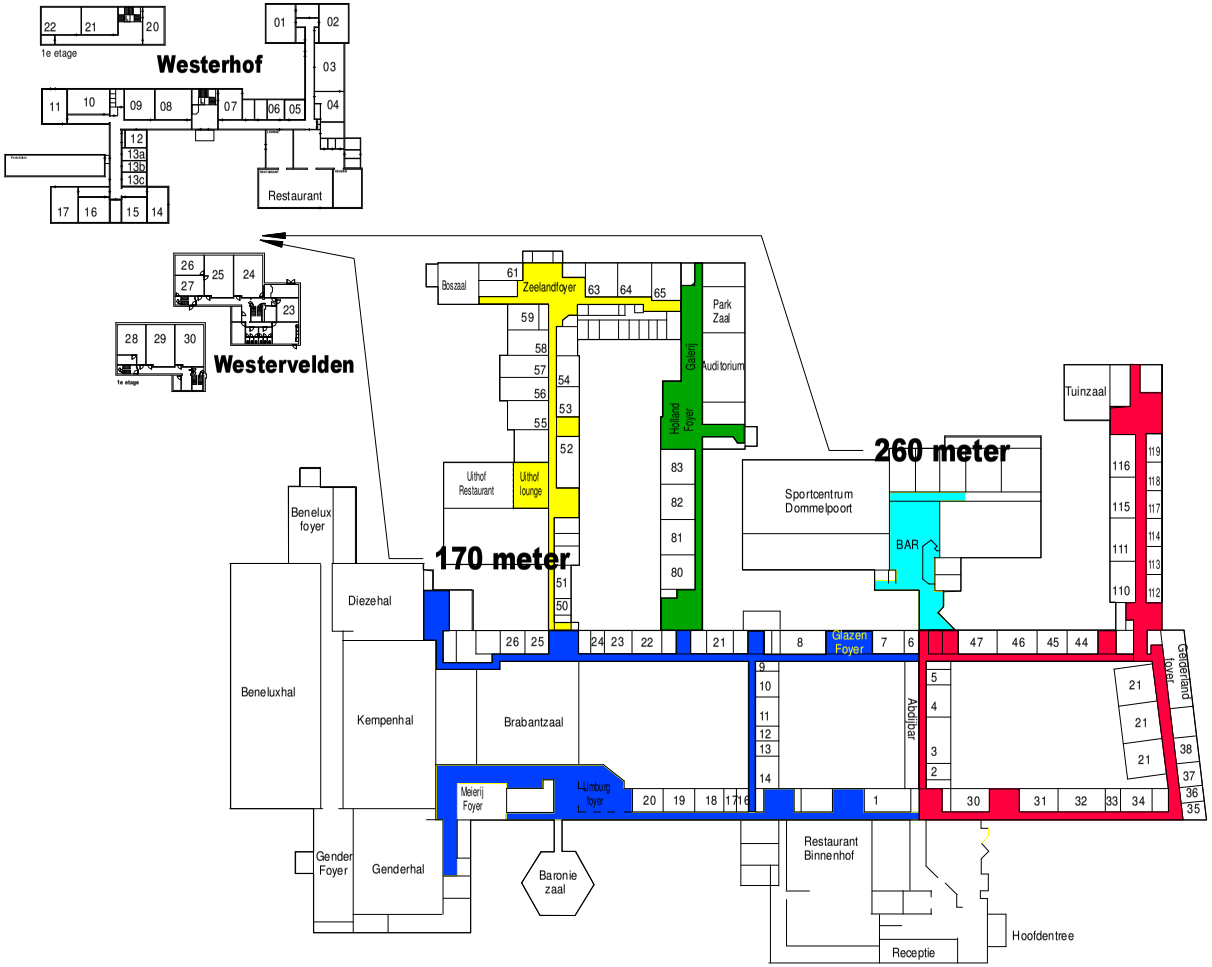


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| Greenpeace |
| NS 16-07-2004 |
| Schaal +/- 1:2500 |

## Nederlandse Vereniging voor Gastroenterologie

**Aanmeldingsformulier lidmaatschap** *(doorhalen wat niet van toepassing is)*

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|---|---|---|---|
| naam en voorletters | | | m / v |
| voornaam | | | geb. datum: |
| titel | | | |
| specialisme / functie | | | |
| doctoraal examen | neen / ja d.d. | zo ja, studierichting: | |
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| postcode en plaats | | | |
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| werkinstelling | | | |
| afdeling | | | |
| adres | | | |
| postcode en plaats | | | |
| telefoonnummer | | | |
| e-mail adres | | | |
| Toezending verenigingspost aan huis- / werkadres | | | |

**Tevens wil ondergetekende zich aansluiten bij:**

□ Sectie Gastrointestinale Endoscopie
□ Netherlands Society of Parenteral and Enteral Nutrition
□ Sectie Neurogastroenterologie en Motiliteit
□ Sectie Experimentele Gastroenterologie
□ Sectie Kindergastroenterologie
□ Sectie Inflammatoire Darmziekten
□ Sectie Gastrointestinale Oncologie

*n.b. Aanvullende lidmaatschappen van secties zijn kosteloos*

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□ Hierbij machtig ik de penningmeester van de Nederlandse Vereniging voor Gastroenterologie om de verschuldigde contributie tot wederopzegging automatisch van mijn bank-/girorekening af te laten schrijven. Betaling geschiedt nadat u door de eerstvolgende ledenvergadering als lid bent aangenomen. Indien u geen machtiging tot incasso geeft ontvangt u automatisch een factuur. Voor verzending van facturen worden vanaf volgend jaar administratiekosten in rekening gebracht.

**IBAN:**

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Datum en handtekening:

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Dit ondertekende formulier per post of fax (023 – 5513087) sturen naar: Secretariaat NVGE, Postbus 657, 2003 RR Haarlem

**Aanvullende informatie:** De contributie van de Nederlandse Vereniging voor Gastroenterologie bedraagt € 50,00 per jaar.

## NEDERLANDSE VERENIGING VOOR HEPATOLOGIE

## Aanmeldingsformulier lidmaatschap

| | | | |
|---|---|---|---|
| naam en voorletters | | | m / v |
| voornaam | | | geb. datum: |
| titel | | | |
| specialisme / functie | | | |
| doctoraal examen | neen / ja d.d. | zo ja, studierichting: | |
| arts examen | n.v.t. / ja d.d. | | |
| assistent i.o. voor | | einde opleiding: | |
| inschrijving MSRC | neen / ja d.d. | BIG registratie nr. | |
| huisadres | | | |
| postcode en plaats | | | |
| telefoonnummer | | | |
| werkinstelling | | | |
| afdeling | | | |
| adres | | | |
| postcode en plaats | | | |
| telefoonnummer | | | |
| e-mail adres | | | |
| * Toezending verenigingspost aan huis- / werkadres | | | |

** Doorhalen wat niet van toepassing is.*

□ Hierbij machtig ik de penningmeester van de Nederlandse Vereniging voor Hepatologie om de verschuldigde contriutie tot wederopzegging automatisch van mijn bank-/girorekening af te laten schrijven. Betaling geschiedt nadat u door de eerst-volgende ledenvergadering als lid bent aangenomen. Indien u geen machtiging tot incasso geeft ontvangt u automatisch een factuur. Voor verzending van facturen worden vanaf volgend jaar administratiekosten in rekening gebracht.

**IBAN:**

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Datum en handtekening:

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*Dit ondertekende formulier per post of fax (023 – 5513087) sturen naar:*
*Secretariaat NVH, Postbus 657, 2003 RR Haarlem*

**Aanvullende informatie:** De contributie van de Nederlandse Vereniging voor Hepatologie bedraagt € 35,00 per jaar.
Na toetreding als lid ontvangt u een factuur (conform de regels is volledige contributie verschuldigd in het jaar van toetreding).