Pélerin Symposium 2024

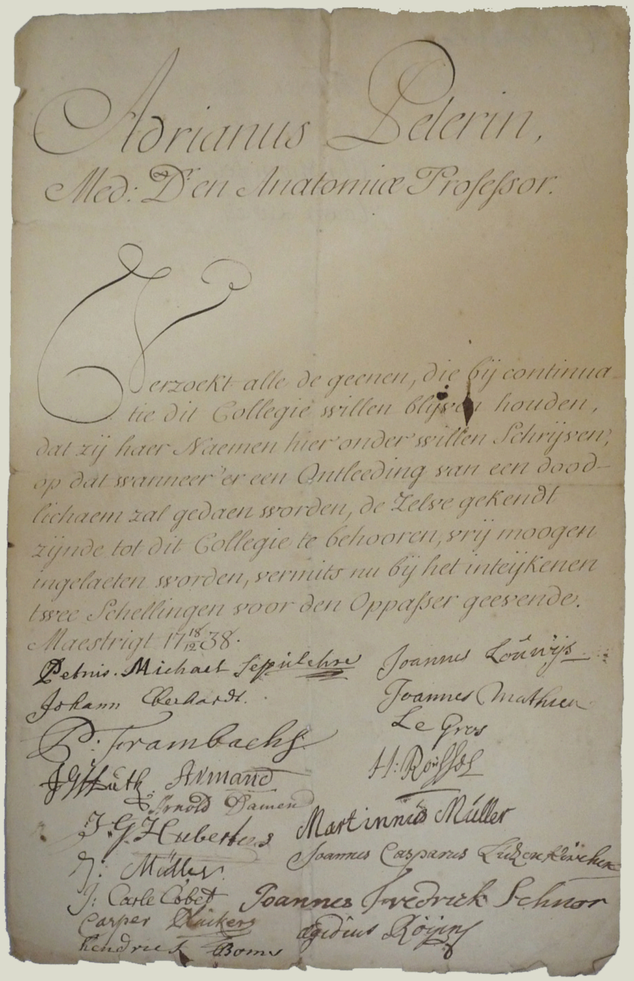
ABSTRACTBOEKJE

Overburg de communicatiekloof

MET GASTSPREKER ALDITH HUNKAR

pélerin
ARTS·ASSISTENTEN SYMPOSIUM

INHOUDS OPGAVE


Adrianus Pelerin,
Med: D:en Anatomiæ Professor.

Verzoekt alle de geenen, die bij continuatie dit Collegie willen blijven houden, dat zij haar Naemen hier onder willen schrijven, op dat wanneer er een Ontleeding van een dood-lichaem zal gedaen worden, de zelve gekendt zijnde tot dit Collegie te behooren, vrij moogen ingelaeten worden, vermits nu bij het inteijkenen twee Schellingen voor den Oppaßer geevende.
Maestrigt 17 18/12 38.

Voorwoord

De Stichting Pélerin

Sinds 1996 kent de Stichting Pélerin de Pélerin Wetenschapsprijs toe aan het beste onderzoek verricht door een arts-assistent of promovendus in het Maastricht Universitair Medisch Centrum. Het symposium heeft als doel jonge artsonderzoekers te stimuleren en schept de mogelijkheid voor het presenteren van wetenschappelijk onderzoek.

Dit jaar zal het symposium voor de 27e keer plaatsvinden. Echter het fundament voor dit symposium werd al ruim 250 jaar geleden gelegd.

In 1738 werd Adrianus Pélerin benoemd als eerste professor in de anatomie en chirurgie in Maastricht. Hij stond aan de wieg van het medisch onderwijs in Maastricht. Met zijn anatomische lessen verbeterde hij de medische zorg in het militair hospitaal van de garnizoenstad Maastricht. Tevens was Pélerin verbonden aan de illustere School van Maastricht, een instelling die studenten voorbereidde op een verdere universitaire studie. Ofwel een Maastrichtse bacheloropleiding avant la lettre. Tijdens zijn opleiding verrichte hij onderzoek naar het op dat moment endemische pokkenvirus. In 1719 promoveerde Pélerin in Leiden op het proefschrift "de Variolis". Zijn proefschrift heeft hoogstwaarschijnlijk bijgedragen aan de vroegtijdige invoering van de pokkenvaccinatie in Maastricht.

In de geest van Pélerin zijn zowel wetenschap als opleiding gebundeld in het jaarlijkse Pélerin Wetenschapssymposium.

De Pélerin Stichting wil de kwaliteit en de continuïteit van academische patiëntenzorg bevorderen

Het Pélerinsymposium 2024

OVERBRUG DE COMMUNICATIEKLOOF

Het jaarlijkse Pélerin arts-assistenten symposium is dé mogelijkheid voor arts-assistenten, arts-onderzoekers en senior-coassistenten om wetenschappelijk onderzoek, verricht vanuit het Maastricht UMC+, onder de aandacht te brengen. Arts-assistenten, arts-onderzoekers en senior-coassistenten hebben ook dit jaar weer interessante abstracts ingediend. Tijdens het symposium zal de top 5 een presentatie geven over zijn/haar onderzoek, waarbij de beste presentatie beloond zal worden met de Pélerin Wetenschapsprijs. Daarnaast hebben genomineerden voor de Pitch prijs ook dit jaar weer interessante pitches opgenomen over hun onderzoek waarmee zij zullen meedingen naar de Pélerin Pitchprijs. Ook de winnaar van de Pélerin senior-coassistent prijs zal bekend worden gemaakt tijdens het Pélerin symposium, naar aanleiding van de poster-presentaties van de genomineerde senior-coassistenten tijdens de lunchsessie.

Welkom bij de 28e editie van het Pélerin wetenschapssymposium! Het thema van dit jaar is "Overbrug de communicatiekloof". Hoe kan de communicatie tussen de patiënt en arts verbeteren? Hoe ervaren patiënten de zorg in het ziekenhuis? De gastspreker van dit jaar, Aldith Hunkar, zal ons als voormalig journaliste en nieuwslezeres met humor en inzicht meer vertellen over haar eigen ervaringen met communicatie in de gezondheidszorg, toen ze zelf patiënt werd. Aldith deelt haar persoonlijke verhaal over hoe belangrijk goede communicatie is, maar ook hoe vaak dit mis kan gaan. Ze laat ons nadenken over de rol van zorgverleners en de impact van woorden in momenten van onzekerheid.

Fotograaf
Sacha de Boer

Kortom, wij zijn blij dat we dit jaar weer de mogelijkheid hebben om zoveel interessant onderzoek te kunnen presenteren aan u. Wij wensen u een leerzame en vooral ook plezierige avond toe!

Programma

Terras niveau 4, MUMC+

- 12:00u Senior-co sessie & krokettenlunch

Greepzaal, MUMC+

- 17:00u Openingswoord
- 17:10u Start Pélerin Wetenschapsprijs
- 18:35u Diner
- 19:30u Pitches
- 19:45u Gastspreker Aldith Hunker
- 20:30u Prijsuitreiking
- 21:00u Borrel

ORGANISATIE 2024

pélerin
ARTS·ASSISTENTEN SYMPOSIUM

Al vroeg in het jaar beginnen wij achter de schermen met de voorbereidingen voor het symposium. De organisatie bestaat uit 8 gedreven, actieve maar vooral ook gezellige leden uit verschillende vakgebieden (zie hiernaast). Om de continuïteit van het symposium te waarborgen blijft elk lid voor 2 jaar in de organisatie, waarbij per jaar de helft wisselt. Zo kunnen we alle leerzame ervaringen van dit jaar weer meenemen in de organisatie van het Pélerin symposium volgend jaar! Interesse? Kijk op onze website!

Van links naar rechts:
Drs. A. Aliu: Maag-Darm-Leverziekten
Drs. S.M.L. van de Walle: Cardiothoracale chirurgie
Drs. M.M.M. Eussen: Chirurgie
Drs. L.G. Reinders: Pulmonologie
Drs. S.L. Assmann: Chirurgie/Maag-Darm-Leverziekten
Drs. D.J.I. Heuvelings: Chirurgie
Drs. K.E. Hawinkels: Maag-Darm-Leverziekten

WINNAARS VOORGAANDE EDITIE

Editie 2023

Pélerin Wetenschapsprijs:
Hanne Verberght – Heelkunde

Pitch prijs:
Matthijs Bosveld – Huisartsgeneeskunde

Senior-cassistenten prijs:
Finn van der Voort - Urologie

(foto's op volgorde van boven naar beneden)

Winnaars Pélerin Wetenschapsprijs voorgaande edities

1996 Drs. M.J. Bonten, afdeling interne geneeskunde
1997 Drs. H.W. van Straaten & drs. L. Koster-Kamphuis, afdeling kindergeneeskunde
1998 Drs. J.A. de Priester, afdeling radiologie
1999 Drs. R.J. van Oostenbrugge, afdeling neurologie
2000 Drs. L. Hofstra, afdeling cardiologie
2001 Drs. S.W.Olde Damink, afdeling algemene heelkunde
2002 Drs. E. Hoitsma, afdeling neurologie
2003 Drs. A.W. Nap, afdeling gynaecologie & obstetrie
2004 Drs. F.M. van Dielen, afdeling algemene heelkunde
2005 Drs. V.C. Cappendijk, afdeling radiologie
2006 Drs. M.A. Hoving, afdeling neurologie
2007 Drs. J. Trip, afdeling neurologie
2008 Drs. J.P. Derikx, afdeling algemene heelkunde
2009 Drs. M.G. Snoeijs, afdeling algemene heelkunde &
Drs. J.V. Been, afdeling kindergeneeskunde
2010 Drs. J.G. Bloemen, afdeling algemene heelkunde
2011 Drs. E.J. Rondagh, afdeling maag-, darm- & leverziekten
2012 Drs. A.H. Arits, afdeling dermatologie
2013 Drs. R.M. Schols, afdeling algemene heelkunde
2014 Drs. T. Brinkhuizen, afdeling dermatologie
2015 Drs. M. Dickman, afdeling oogheelkunde
2016 Drs. J. Beugels, afdeling plastische chirurgie
2017 Drs. M.W. Smulders, afdeling cardiologie
2018 Drs. M.H.E Jansen, afdeling dermatologie
2019 Drs. B. Corten, afdeling heelkunde
2020 Drs. V. Schiffer, afdeling gynaecologie en obstetrie
2021 Drs. F. Adan, afdeling dermatologie
2022 Drs. F. Pinckaers, afdeling radiologie

Genomineerden 2024

PÉLERIN WETENSCHAPSPRIJS

AMAURY MONARD - HEMATOLOGIE
JULIA BELS - INTENSIVE CARE
JULIEN LUYTEN - CHIRURGIE
SOPHIE LAVEN - GYNAECOLOGIE & OBSTETRIE
TOM WOLSWIJK - DERMATOLOGIE

PÉLERIN PITCH PRIJS

CASPER GIJSEN - KINDERGENEESKUNDE
MONSE WIELAND - KEEL- NEUS- EN OORHEELKUNDE
NIENKE BOSMA - GYNAECOLOGIE & OBSTETRIE
TAMARA ODERKERK - GYNAECOLOGIE & OBSTETRIE
YESIM KAYA - CARDIOLOGIE

PÉLERIN SENIOR-COASSISTENT PRIJS

ANNE-FLEUR GIELEN - NEUROLOGIE
COCO SMIT - CHIRURGIE
FLORIS TEN VOORDE - KLINISCHE IMMUNOLOGIE
ILSE HUIJBERTS - NEUROLOGIE & RADIOLOGIE
JODY MOMMERTZ - RADIOLOGIE
JOYCE VAN DOOREN - KINDERGENEESKUNDE
LILIA MAFARA - PUBLIC HEALTH
NOORTJE VAN DEN BERGH - MAAG-, DARM- & LEVERGENEESKUNDE
OTTE BORGHOUTS - DERMATOLOGIE
TRIJNTJE VAN DER HOEVEN - PSYCHIATRIE
ZEB VAN HELDEN - CARDIOTHORACALE CHIRURGIE

Genomineerd voor Pélerin Wetenschapsprijs

Current practice regarding Bleeding Disorder of Unknown Cause (BDUC) in the Netherlands: a national survey

C.M.A. Mussert(1)*, **A.L.L. Monard(2,3)***, M.J.H.A. Kruip(4), Y.M.C. Henskens(3,5), M. van den Biggelaar(6), T.T. van Duijl(6), R.E.G. Schutgens(7), S.E.M. Schols(8), K. Fijnvandraat(9), K. Meijer(10), P.L. den Exter(11), L. Nieuwenhuizen(12), I. van Moort(13), M.H. Cnossen(1), F.C.J.I. Heubel-Moenen(2,3) for the BDUC-iN study group
* Shared first authorship

1. Department of hematology – pediatric hematology, Erasmus Medical Center, Rotterdam, the Netherlands
2. Department of internal medicine – hematology, Maastricht University Medical Center, Maastricht, the Netherlands
3. CARIM – school for cardiovascular disease, Maastricht University, the Netherlands
4. Department of internal medicine – hematology, Erasmus Medical Center, Rotterdam, the Netherlands
5. Department of Central Diagnostic Laboratory, Maastricht University Medical Center, Maastricht, the Netherlands
6. Department of molecular hematology, Sanquin Research, Amsterdam, the Netherlands
7. Center for Benign Haematology, Thrombosis and Haemostasis, Van Creveldkliniek, University Medical Center Utrecht, University Utrecht, Utrecht, the Netherlands
8. Department of internal medicine – hematology, Radboud university medical Center, Nijmegen, the Netherlands
9. Department of hematology – pediatric hematology, Amsterdam University Medical Center, Amsterdam, the Netherlands
10. Department of internal medicine – hematology, University Medical Center Groningen, Groningen, the Netherlands
11. Department of internal medicine – vascular medicine, Leiden University Medical Center, Leiden, the Netherlands
12. Department of internal medicine – hematology, Maxima Medical Center, Veldhoven, the Netherlands
13. Department of hematology, Erasmus Medical Center, Rotterdam, the Netherlands

Introduction

In the majority of individuals who are referred to hemostasis experts with a clinically relevant bleeding tendency, no diagnosis can be made after extensive laboratory testing. These individuals are classified as having a 'bleeding disorder of unknown cause' (BDUC). There is a wide variation in BDUC definitions and performed laboratory hemostasis tests to rule out established bleeding disorders. Clear guidelines for BDUC diagnosis, treatment and follow-up are lacking. This study aims to investigate current practices regarding BDUC in the Netherlands as a foundation for guideline development.

Methods

From June 8th to October 6th 2023, an online survey was sent to 54 hematologists (pediatric and adult), internists vascular medicine, nurse practitioners and clinical chemists, working in Dutch hemophilia treatment centers. Questions comprised the essentials of a BDUC definition, the observed bleeding phenotype, as well as usual diagnostic process, treatment and follow-up. A cut-off of >70% agreement was defined.

Genomineerd voor Pélerin Wetenschapsprijs

Results
Forty four (81%) healthcare professionals completed the survey including 28 hematologists and internists vascular medicine, 9 nurse practitioners and 7 clinical chemists. Nineteen percent of respondents indicates no formal registration of BDUC patients in their clinic. A definition for BDUC should entail the presence of 1) an increased bleeding tendency, 2) an elevated bleeding assessment tool (BAT) score, 3) exclusion of other (hemostatic) causes and 4) the absence of abnormal laboratory test results. To score bleeding symptoms, 92% of physicians applies a BAT, predominantly the ISTH-BAT (86%). In general, a stepwise approach, guided by the BAT-score, is used to determine the extent and type of laboratory testing. Significant heterogeneity is observed in the performed laboratory tests and the sequence of execution. Most frequently prescribed treatment options are tranexamic acid and desmopressin. Follow-up depends on bleeding phenotype and bleeding history

Conclusion
Based on these results, four important elements of the definition for BDUC were identified. Furthermore, there is a need for agreement on a standard set of performed laboratory tests to diagnose a patient with BDUC. National consensus resulting in a national guideline will be achieved through panel expert discussion within the BDUC study group which represents all Dutch hemophilia treatment centers.

Genomineerd voor Pélerin Wetenschapsprijs

The effect of high versus standard protein provision on functional recovery in critical illness (PRECISe), a double-blinded, multicentre, parallel-group, randomised, controlled trial

Julia LM Bels (1,2), Steven Thiessen (3,4), Rob JJ van Gassel (1,2), Albertus Beishuizen (5), Ashley De Bie Dekker (6,7), Vincent Fraipont (8), Stoffel Lamote (9), Didier Ledoux (10), Clarissa Scheeren (11), Elisabeth de Waele (12), Arthur RH van Zanten (13,14), Laura Bormans-Russell (11), Bas CT van Bussel (1,15,16), Tom Fivez (3), Iwan CC van der Horst (1,15), Marechal Hugues (8), Ingeborg Harks (6), Joop Jonckheer (12), Ingrid Meex (3), Michelle P Paulus (13), Martin Rinket (5), Susanne van Santen (1), Katrien Tartaglia (3), Adam Deane (17), Frieda Demuydt (18), Zudin Puthucheary (19), Lilian Vloet (20), Peter Weijs (21), Sander MJ van Kuijk (22), Marcel CG van de Poll* (1,2,23), Dieter Mesotten* (3,4)

*Marcel C G van de Poll and Dieter Mesotten contributed equally to this work and share senior authorship.

1. Department of Intensive Care Medicine, Maastricht University Medical Centre, the Netherlands
2. Maastricht School for Nutrition and Translational Research in Metabolism (NUTRIM), Maastricht, the Netherlands
3. Department of Intensive Care Medicine Hospital East Limburg, Genk, Belgium
4. Faculty of Medicine and Life Sciences, UHasselt, Hasselt, Belgium
5. Department of Intensive Care Medicine, Medisch Spectrum Twente, Enschede, the Netherlands
6. Department of Intensive Care Medicine, Catharina Hospital Eindhoven, Eindhoven, the Netherlands
7. Department of Technical Engineering, Technical University Eindhoven, Eindhoven, the Netherlands
8. Intensive Care Unit, Citadelle Hospital, Liege, Belgium
9. Department of Intensive Care Medicine, General Hospital Groeninge, Kortrijk, Belgium
10. Department of Intensive Care Medicine, Centre Hospitalier Universitaire, Liege, Belgium
11. Department of Intensive Care Medicine, Zuyderland Medical Center, Heerlen, the Netherlands
12. Department of Intensive Care Medicine, University Hospital Brussels, Brussels, Belgium
13. Department of Intensive Care Medicine, Ziekenhuis Gelderse Vallei, Ede, the Netherlands
14. Wageningen University and Research, Wageningen, the Netherlands
15. Cardiovascular Research Institute Maastricht (CARIM), Maastricht University, Maastricht, the Netherlands
16. Care and Public Health Research Institute (CAPHRI), Maastricht University, Maastricht, the Netherlands
17. Department of Intensive Care Medicine, University of Melbourne, Melbourne, Australia
18. Private Individual, Louvain, Belgium
19. Department of Intensive Care Medicine, Queen Mary University of London, London, United Kingdom
20. Foundation Family and Patient Centered Intensive Care (FCIC) and IC Connect, Alkmaar and HAN University of Applied Sciences, School of Health Studies, Research Department Emergency and Critical Care, Nijmegen, the Netherlands
21. Amsterdam University of Applied Sciences, Amsterdam, the Netherlands
22. Department of Clinical Epidemiology and Medical Technology Assessment, Maastricht, the Netherlands
23. Department of Surgery, Maastricht University Medical Centre, Maastricht, the Netherlands

Genomineerd voor Pélerin Wetenschapsprijs

Introduction
Muscle loss and weakness during critical illness are associated with a prolonged reduction of health-related quality of life. Higher protein provision during intensive care unit (ICU) stay may improve these outcomes by alleviating muscle weakness. This study aimed to assess the effect of higher enteral protein provision on health-related quality of life and functional outcomes over a period of 180 days after ICU admission.

Methods
PRECISe was a double-blinded, multicentre, parallel-group, randomised, controlled trial in five Dutch and five Belgian hospitals. Patients who were invasively ventilated within 24 hours of an unplanned ICU admission were randomised to receive standard (1.3 g protein/kg/day) or high (2.0 g protein/kg/day) protein provision using isocaloric enteral feeds. The primary outcome was health-related quality of life, assessed by the EuroQoL-5D-5L (EQ-5D-5L) health utility score over 180 days following randomisation, analysed using linear mixed-effects models. The study was registered with ClinicalTrials.gov (NCT04633421).

Results
Between November 19, 2020, and April 14, 2023, 935 patients were enrolled; 465 were assigned to standard and 470 to high protein provision. Median time from ICU admission to randomisation was one day. The primary endpoint was assessed in 430 and 419 patients in the standard and high protein group respectively. The EQ-5D-5L health utility score over 180 days was lower in patients allocated to high protein (effect size -0.052; 95% confidence interval: -0.100 to -0.005; p=0.03) indicating worse health-related quality of life. The probability of overall mortality was numerically higher in the high protein group (0.42 (0.02) vs 0.38 (0.02), hazard ratio 1.14; 95% CI: 0.92 to 1.40). Other functional outcomes were similar between both groups. Incidence of gastrointestinal intolerance was higher in the high protein group (hazard ratio 1.76; 95% CI: 1.06 to 2.92; P=0.03). Subgroup analyses indicated that high protein provision may be particularly harmful in medical and female ICU patients. These analyses were not corrected for multiplicity.

Conclusion
High enteral protein provision (2.0 g/kg/day) compared to standard enteral protein provision (1.3 g/kg/day) resulted in worse health-related quality of life in critically ill patients and did not improve functional outcomes over a period of 180 days following ICU admission.

Genomineerd voor Pélerin Wetenschapsprijs

Surgery for Perihilar Cholangiocarcinoma Without Preoperative Biliary Drainage: A Retrospective Multicentre Propensity Scores Weighted Analysis.

M.J.L. Dewulf (1), **J.A. Luyten (1,2)**, S.W.M. Olde Damink (1,2), P.B. Olthof (4), S.M.J. Van Kuijk (3), and The Perihilar Cholangiocarcinoma Collaboration Group*
*Order is still to be determined

1. Department of Surgery, Maastricht University Medical Centre, Maastricht, The Netherlands.
2. NUTRIM-Department of Surgery, School of Nutrition and Translational Research in Metabolism, Maastricht University, Maastricht, The Netherlands.
3. Departement of Clinical epidemiology & evaluation of medical technology, Maastricht University Medical Centre, Maastricht, The Netherlands
4. Department of Surgery, University Medical Center Groningen, Groningen, The Netherlands.

Introduction
Currently, there is no consensus on the use of preoperative biliary drainage (PBD) for perihilar cholangiocarcinoma (pCCA). Although recent studies indicate no significant improvement in post-surgical outcomes with biliary drainage, most patients still undergo PBD. Our research aims to elucidate the impact of PBD on post-operative mortality and morbidity.

Methods
In a retrospective cohort design, data from the pCCA Collaboration Group, comprising pCCA patients who underwent surgical resection at 21 Western hepato-biliary centres between 2000 and 2020 were analysed. Our study included all patients who underwent major hepatectomy for histologically confirmed pCCA. Patients who only underwent limited bile duct resection or received liver transplantation were excluded from the analysis. To correct for confounding variables, we performed propensity score weighting (PSW) using a generalised linear model. For the following variables matching was performed: age, sex, American Society of Anaesthesiologists (ASA) classification, clinical icterus at presentation, Bismuth-Corlette classification, use of portal vein-embolization, type of hepatectomy, and portal vein and hepatic artery reconstruction. A propensity score weighted regression (PSWR) was then used to compare outcomes between undrained and drained patients.

Results
A total of 328 (16.27%) patients did not undergo biliary drainage prior to surgery, while 1688 (83.73%) patients did. Before applying PSW, significant differences in disease stage and clinical course were observed, with drained patients presenting in more advanced stages. After weighting, statistical differences remained only for T-stage ($p=0.02$), pre-operative cholangitis ($p<0.001$), bilirubin levels at presentation ($p=0.006$), and CA-19-9 levels ($p=0.04$). Regarding outcomes after PSWR, 90-day mortality (OR 1.17, 95% CI 0.73-1.89, $p=0.514$) was unaffected by PBD for drained compared to undrained patients. However, post-operatively, drained patients had higher odds of clinically relevant liver failure (OR 1.96, 95% CI 1.17-3.28, $p=0.010$), severe infectious complications (OR 2.04, 95% CI 1.33-3.13, $p=0.002$), and serious complications (Clavien-Dindo grade > III) (OR 1.47, 95% CI 1.07-2.01, $p=0.016$).

Conclusion
In patients with resectable pCCA, preoperative PBD did not affect 90-day post-operative mortality. However, patients who underwent PBD had a higher likelihood of clinically relevant post-hepatectomy liver failure, major complications, and infectious complications. This analysis highlights the potential benefit of not draining patients unless strictly necessary.

Genomineerd voor Pélerin Wetenschapsprijs

Sex Differences in the Efficacy of Angiotensin Receptor Blockers in Blood Pressure Lowering and Cardiac Remodeling: A Systematic Review and Meta-Analysis

Sophie A. J. S. Laven, (1) Daniek A. M. Meijs, (1,4) Zenab Mohseni-Alsalhi, (1) Esmée W. P. Vaes, (1) Nick Wilmes (1,5), Eveline M. van Luik, (1) Maud A. M. Vesseur, (1) Sander de Haas, (1); Chahinda Ghossein-Doha, (1,3) Marc E. A. Spaanderman. (1,2)

1. Department of Internal Medicine, Division of Rheumatology, Maastricht University Medical Center+, The Netherlands
2. Care and Public Health Research Institute (CAPHRI), Maastricht University, The Netherlands
3. Department of Rheumatology and Clinical Immunology, Medisch Spectrum Twente, The Netherlands
4. Department of Psychology, Health and Technology, University of Twente, The Netherlands

Introduction
With rising healthcare expenditures and an expected increase in workforce shortages, sustainable alternatives to traditional outpatient follow-up strategies are vital to optimise the efficiency of care. We investigated the (cost-)effectiveness of patient-initiated follow-up supported by asynchronous telemonitoring (PIFU/TM) for the follow-up of patients with spondyloarthritis (SpA) compared to usual care (UC) in daily practice (TeleSpA).

Methods
TeleSpA was a multicentre, pragmatic, non-blinded, randomised controlled trial (ClinicalTrials.gov identifier NCT04673825). Patients with SpA and stable disease were randomised to PIFU/TM or UC (1:1). Patients were followed once after 1 year with remote monitoring at 6 months (PIFU/TM) or at the discretion of their treating rheumatologist (UC). Extra visits could be scheduled by patients in both groups, at any time. The primary outcome was the number of rheumatology visits within a 1-year period. We hypothesised superiority with a reduction of ≥25% of visits with PIFU/TM compared to UC. Secondary outcomes included health outcomes (non-inferiority of PIFU/TM versus UC) and 1-year costeffectiveness. The primary analysis was by full analysis set.

Results
Between 2 December 2020 and 20 June 2022, 200 patients were randomly assigned to PIFU/TM (n=100) or UC (n=100). Participants had a mean age of 55.0 (SD 11.9) years, 79 (39.5%) were women. After 1 year, the mean number of visits was 1.9 (SD 1.5) in the PIFU/TM group and 2.6 (SD 1.3) in the UC group (mean difference -0.7 (95%CI -1.0 to -0.3) [25.4% reduction], p<0.001). This was fully attributable to a reduction in the number of physical visits (mean 1.4 (SD 0.9) versus 2.0 (SD 0.7); mean difference -0.7 (95% CI -0.9 to -0.4)), as telephone visits were comparable in both groups (mean 0.6 (SD 0.8) versus 0.6 (SD 1.1) for PIFU/TM and UC, respectively). Non-inferiority of PIFU/TM was demonstrated for all health outcomes of interest. PIFU/TM was cost-effective from a healthcare perspective, saving healthcare costs (-€243) without loss in Quality-Adjusted Life Years (+0.004). No trial-related serious events were reported.

Conclusion
PIFU/TM safely resulted in significant and meaningful reductions in the total number of rheumatology visits. This was not at the expense of health outcomes and saved healthcare costs.

Genomineerd voor Pélerin Wetenschapsprijs

Line-field confocal optical coherence tomography versus conventional optical coherence tomography for diagnosing and subtyping basal cell carcinoma: a diagnostic cohort study

Tom Wolswijk (1,2), Patricia Joan Nelemans (3), Janne de Kort (4), Lisa Hillen (5), Klara Mosterd (1,2)

1. Department of Dermatology, Maastricht University Medical Center+, Maastricht, The Netherlands;
2. GROW Research Institute for Oncology and Reproduction, Maastricht University, Maastricht, The Netherlands;
3. Department of Epidemiology, Maastricht University, Maastricht, The Netherlands;
4. Maastricht University, Faculty of Health Medicine and Life Sciences, Maastricht, The Netherlands
5. Department of Pathology, Maastricht University Medical Center+, Maastricht, The Netherlands

Introduction
Basal cell carcinoma (BCC) is the most common form of cancer. Histopathologic examination of biopsy specimens is the gold standard for diagnosing and subtyping BCC. However, non-invasive imaging techniques such as conventional optical coherence tomography (cOCT) and reflectance confocal microscopy (RCM) may replace biopsy if BCC can be differentiated from non-BCC with high confidence and accuracy. Line-field confocal optical coherence tomography (LC-OCT) combines a deep signal penetration depth as seen on cOCT with the cellular resolution of RCM in a new diagnostic tool. However, the signal depth of LC-OCT is limited compared to cOCT. The high resolution of LC-OCT may aid in BCC detection, but the limited signal depth might result in missing infiltrative BCCs which grow deeper within the dermis. This study compared the diagnostic accuracy for BCC detection and subtyping between LC-OCT and cOCT assessment.

Methods
In this diagnostic cohort study, lesions suspect for BCC were scanned using LC-OCT and cOCT. An OCT assessor evaluated scans in a randomized non-paired order, assigning diagnostic confidence on a five point confidence-scale. Only the highest score (certain of BCC presence and subtype) was considered a positive OCT test result, and the suspected subtype was recorded. Lower scores were considered negative OCT test results. In clinical practice, these cases would be referred to biopsy. Histopathology served as reference standard.

Results
A total of 139 patients with 197 lesions were included. LC-OCT assessment resulted in a significantly higher area under the curve (0.961) compared to cOCT assessment (0.893) (p=0.001). LC-OCT assessment resulted in higher sensitivity for BCC detection compared to cOCT assessment (85.3% vs. 70.7%, respectively, p=0.003), whereas specificity to detect non-BCC was comparable (96.3% vs. 95.1%, respectively, p=>0.999). However, sensitivity for detecting infiltrative subtypes was lower for LC-OCT compared to cOCT assessment (48.0% vs. 77.8%, respectively, p=0.049).

Conclusion
LC-OCT assessment leads to detecting more BCCs compared to cOCT assessment while specificity is preserved. However, infiltrative subtypes are more frequently missed on LC-OCT compared to cOCT.

Genomineerd voor Pélerin Pitch prijs

Towards non-invasive home monitoring of children with asthma, a clinical cohort study

Casper E.W. Gijsen (1,2,3), Jan Lucas (4), Jean W.M. Muris (1,5), Marieke W.P. van Horck (3), Edward Dompeling(1,2)

1. CAPHRI – Care and Public Health Research Institute, Maastricht University Medical Centre+, Maastricht, The Netherlands
2. Department of Pediatrics, Maastricht University Medical Centre+, Maastricht, The Netherlands
3. Department of Pediatrics, Zuyderland Medical Centre, Heerlen/Sittard-Geleen, The Netherlands
4. Department of Business Intelligence, Zuyderland Medical Centre, Heerlen/Sittard-Geleen, The Netherlands
5. Department of General Practice, Maastricht University, Maastricht, The Netherlands

Introduction
Uncontrolled asthma in children can significantly impair quality of life, highlighting the importance of effective symptom monitoring to achieve good asthma control. However, regular clinical follow-up visits not necessarily match the natural course of asthma. Therefore, the objective of this study was to evaluate whether digital home monitoring with feedback, including non-invasive measurements of vital parameters, can detect early deterioration of the disease and improve asthma control.

Methods
In this twelve-week study, 40 children with asthma between 6-18 years of age received digital home monitoring. Patients were home monitored via an application, a smartwatch and a home spirometer. Vital parameters were collected continuously, (Children) Asthma Control Test (C)-ACT at least monthly, and lung function at least weekly. Medical feedback was provided based on predefined cut-off values. Logistic regression analysis, Wilcoxon and paired T-test were used.

Results
The C-ACT scores tend to improve during the study period (median C-ACT T1: 22.5 versus T0: 24, p=0.063). No significant improvement in lung function were found. Logistic regression analysis showed a significant association between an increase in nighttime heart rate and deterioration in (C)-ACT scores (p=0.032, CI 1.428 – 0.066), corrected for the use of Salbutamol. Furthermore, no significant association was observed between lung function and (C)-ACT.

Conclusion
A step closer to non-invasive home monitoring was taken by demonstrating a trend toward improved CACT.
A significant association was found between an increase in nighttime heart rate and worsening (C)-ACT scores. Moreover, a non-significant improvement of C-ACT scores was observed.

Genomineerd voor Pélerin Pitch prijs

Assessing Participation in and Acceptability of Maastricht's Multi-Domain Screening for Head and Neck Cancer Patients

Monse W. M. Wieland (1,2), Walmari Pilz (1,2), Bjorn Winkens (3,4), Ann Hoeben (2,5), Laura Baijens (1,2)

1. Department of Otorhinolaryngology, Head and Neck Surgery, Maastricht University Medical Center, Maastricht, the Netherlands
2. GROW- Research Institute for Oncology and Reproduction, Maastricht University, Maastricht, the Netherlands
3. Department of Methodology and Statistics, Maastricht University, Maastricht, the Netherlands
4. Care and Public Health Research Institute – CAPHRI, Maastricht University, Maastricht, the Nether-lands
5. Division of Medical Oncology, Department of Internal Medicine, Maastricht University Medical Center, the Netherlands

Introduction
Oropharyngeal dysphagia, malnutrition, sarcopenia, and frailty are common in newly diagnosed headand-neck cancer (HNC) patients. A previous study in Maastricht identified high prevalences of these conditions using a pre-treatment multi-domain screening (MDS) method. Concurrent screening for these conditions is important as their presence and severity can influence cancer treatment decision-making and outcomes. It is essential to efficiently manage MDS by an acceptable and satisfactory method for patients and nurses.
The objective of this study was to evaluate the acceptability and participation in MDS and to gather preliminary information on barriers and facilitators for screening prior to cancer treatment.

Methods
From November 2022 to July 2023, all newly diagnosed HNC patients of the Comprehensive Cancer Center Maastricht underwent screening for the risk of OD (Eating Assessment Tool-10), malnutrition (Short Nutritional Assessment Questionnaire and BMI), sarcopenia (Short Physical Performance Battery and Hand Grip Strength), and frailty (Distress Thermometer and Maastricht Frailty Screening Tool). Following MDS, participants rated a visual-analog-scale (VAS) ranging from 0 (not acceptable - extremely burdensome) to 100 (highly acceptable - not burdensome). Oncology nurses received a similar VAS to rate the acceptability of the MDS from their perspective. Demographic and oncological data were retrieved from the Dutch-Head-and-Neck-Audit. Independent samples T-tests and Pearson chi-square tests were used for group comparisons between participants and non-participants in MDS.

Results
Of the 157 patients, 136 (86.6%) participated in MDS. The mean age of the participants was 66.9 years (SD 10.7), and 63.1% were male. Two of the 136 participants found the screening too time-consuming, and five found it not useful. The patients' mean VAS score was 96.1 (SD 10.5), and the nurses' mean VAS score was 90.2 (SD 21.6), both indicating highly acceptability of MDS. Significant group differences were found, with non-participants having a significantly higher proportion of advanced-stage cancer compared to participants in the MDS. No significant group differences were found for other
demographic characteristics.

Conclusion
This study revealed that MDS prior to cancer treatment was considered highly acceptable by both newly diagnosed HNC patients and nurses. Factors such as symptom burden and functional impairment due to advanced-stage cancer may cause non-participation in MDS.

Genomineerd voor Pélerin Pitch prijs

Gynaecologists' Practices in Inquiring Sexual Harrasment: a cross-sectional study among Dutch gynaecologists

Lisa Zuidema, (1,2)*, **Nienke Bosma, (1)*** Jaklien C. Leemans, (1) Jacques W.M. Maas, (2,3) Marieke Dewitte, (4) Jaklien C. Leemans, (1) Marlies Y. Bongers, (1,2) Peggy M.A.J. Geomini, (1) Janneke van 't Hooft (5)
* Authors contributed equally

1. Department of Obstetrics and Gynaecology, Máxima Medical Center, Veldhoven, The Netherlands
2. Grow, School of Oncology and Reproduction, Maastricht University, Maastricht, The Netherlands
3. Department of Obstetrics and Gynaecology, Maastricht University Medical Center+, The Netherlands
4. Department Experimental Health Psychology, Faculty of Psychology and Neuroscience, Maastricht University, The Netherlands
5. Department of Obstetrics and Gynaecology, Spaarne Gasthuis, Haarlem, The Netherlands

Introduction
Sexual harassment is a major problem in the Netherlands. Half of Dutch women have experiences sexual harassment at some point in their lives, while on the other side the Dutch Center of Sexual Violence indicates that sexual violence and harassment is often not recognized by healthcare professionals. To our knowledge there is no standardized way Dutch gynaecologists inquire about negative sexual experiences during a consultation. Our study aims to examine the current practice for identifying patients' sexual harassment within Dutch gynaecology clinics, along with an exploration of the factors that aid or hinder this screening process.

Methods
In this population-based cross-sectional study, an expert panel developed a 32-item web-based questionnaire and contains 23 closed and 9 open questions in four domains: 1) demographics 2) knowledge and training 3) method of inquiring sexual harassment 4) barriers and facilitators of inquiring sexual harassment.

Results
246/1531 (16%) completed questionnaires were returned (179 specialists and 67 residents). A total of 77/239 (32.2%) of respondents feel they often inquire about sexual harassment of their patient during a first consultation. 175/246 (71%) respondents feel competent to inquire sexual harassment. However, 143/246 (58%) of respondents did never receive specific training on this topic and 106/223 (48%) would like to improve skills (e.g. communication and follow-up after inquiring sexual harassment). Conducting gynaecological examinations was the primary motivator for inquiring about sexual harassment in 96/246 cases (39%) as opposed to investigating any potential correlation with gynecological complaints, which accounted for 82/246 cases (33%). The main facilitators of inquiring sexual harassment were a history
of domestic violence 193/222 (86%), general signs of reserved attitude 184/222 (83%) or non-verbal 216/222 (97%) or verbal expression of restrain to gynaecological examination 217/220 (99%). The main barrier reported by the respondents was time restriction. Subgroup analysis showed that gynaecologists feel more competent than residents to discuss sexual harassment (Odds Ratio 2.73; 95% Confidence Interval [1.51-4.95]).

Conclusion
Dutch gynaecologists feel competent to discuss patients' sexual harassment during a consultation but would like to be trained on the subsequent steps to take.

Genomineerd voor Pélerin Pitch prijs

Patients' motives and considerations on treatment decision-making for heavy menstrual bleeding: a qualitative study.

Oderkerk, T.J. (1, 2, 3), Singotani, R.G. (4), Zuidema, L (1, 3), van der Hijden, E.J.E. (4), Geomini, P.M.A.J. (1), Bongers, M.Y. (1, 2, 3), Donker, M.H. (5)

1. Department of Obstetrics and Gynaecology, Máxima Medical Center, The Netherlands
2. Department of Obstetrics and Gynaecology, Maastricht University Medical Center+, The Netherlands
3. GROW – School for Oncology and Reproduction, Maastricht University, the Netherlands
4. Department of Ethics, Governance, and Society, School of Business and Economics, VU University Amsterdam, the Netherlands
5. Department of Health Sciences, VU University Amsterdam, the Netherlands

Introduction
Several treatment modalities for heavy menstrual bleeding are available. However, many women report being unsatisfied in their search for an appropriate and effective treatment. The aim of this study is to gain insights in the experienced impact of heavy menstrual bleeding and the motives and considerations of women during the decision-making process for treating heavy menstrual bleeding.

Methods
An interpretative qualitative study was performed, using in-depth interviews. In total, 14 semi-structured interviews were conducted with patients who consulted a physician for treatment of heavy menstrual bleeding. In the interviews three topics were addressed: 1) participant's experience with heavy menstrual bleeding, 2) experience with patient journey of treatment decision-making and 3) elaborating on alternative treatments for heavy menstrual bleeding. A thematic analysis was conducted.

Results
Fourteen participants aged between 30 and 59 years old were interviewed. Three main themes emerged: "Considerations in taking a (next) step to seek help", "Various sources of information can contribute, confuse or frighten decision-making process" and "A physician's understanding and a relationship of trust are needed to guide the decision-making process". The process of seeking help starts with acknowledging menstrual bleeding as 'abnormal', followed by the decision to determine the legitimacy of seeking medical help. Opinions and experiences of people in one's social environment and pre-visit expectations, uncertainty and fears can contribute greatly to treatment choice. Furthermore, the experienced relationship with a physician played a significant role in the participant's treatment decision-making. Participants expressed that the feeling of being heard, trusting the physician and being able to express one's own choice were important in the appreciation of this relationship.

Conclusion
Our results show that women's considerations and decision making strongly depend on obtained information and prior experience, the relationship with the physician, influence of the social environment, the pre-visit expectations/desires, the fear of treatment complications and uncertainty of the effect of the treatment. It is the responsibility of the physician to create a trusting and open atmosphere during consultation. Patient-centered communication is helpful to share knowledge, and gain insight into patients' hopes, fears and worries.

Genomineerd voor Pélerin Pitch prijs

3D Target definition and initial results from the ELectroanatomic substrate-guided Stereotactic Ablative Radiotherapy for refractory Ventricular Tachycardia (ELSTAR-VT)

YS. Kaya (1), J. Stoks (1), C. Hazelaar (2), W. Elmpt (2), S. Gommers (3), MJM. Cluitmans (1), D. Dilling-Boer (4), DKM. De Ruysscher (2), K. Verhoeven (2), PGA. Volders (3), RMA. Ter Bekke (3)

1. Cardiovascular Research Institute Maastricht (CARIM), Maastricht, Netherlands (The)
2. Maastro Clinic, Maastricht, Netherlands (The)
3. Maastricht University Medical Centre (MUMC), Maastricht, Netherlands (The)
4. Virga Jesse Hospital, Hasselt, Belgium

Introduction

Noninvasive stereotactic radiotherapy (STAR) is an emerging transmural ablative therapy for refractory ventricular tachycardia (VT). Delineation of the arrhythmogenic gross target volume (GTV) relies on electrical (exit and isthmus) VT characteristics and anatomical scar detailing. 17-AHA segmental approaches or eyeballing techniques are adopted to transfer the GTV to the treatment planning CT. An individualized 3D GTV delineated with ADAS3D based on the areas of interest of each modality could lead to a smaller GTV compared to 17-AHA segmental approaches.We investigated whether our workflow using ADAS3D for the delineating of the GTV renders smaller GTV compared to 17-AHA segmental approaches whilst remaining effective for VT treatment during follow-up.

Methods

We targeted 3D-personalized GTV with STAR in patients with refractory VT in structural heart disease. Electroanatomical detailing was achieved by combining high-resolution invasive and noninvasive (ECG imaging during noninvasive programmed stimulation) mapping, combined with wall thickness analyses by cardiac CT. After coregistration in ADAS3D, a 3D DICOM-radiation therapy file including the delineated target volume was generated and transferred into the free-breathing and respiration-corrected 4D CT scan. Standard STAR using a single-fraction of 20-25 Gy was applied. We compared conventional (17- AHA segmental approaches) versus 3D-based GTV demarcation, and assessed VT burden and procedural safety.

Results

From January 2023 to February 2024 STAR was successfully performed in three patients (all male, mean age 73±1 years, two ischemic cardiomyopathy, one laminopathy) with persistent VT despite ≥2 catheterbased (endocardial/epicardial) ablation procedures. The 3D-derived GTVs showed a statistical trend towards smaller volumes compared to conventional segmental delineation (11±4 versus 21±3 cm3, p=0.07). VT burden and ICD therapy was reduced by 100% over 9 patients-months (8-week blanking period). No acute or subacute adverse events occurred. One patient died of progressive heart failure.

Conclusion

3D-individualized target volume annotation may hold promise for effective and safe STAR employment.

Genomineerd voor Pélerin senior-coassistent prijs

Interaction between early ischemic changes and treatment effect on outcomes in patients presenting with ischemic stroke between 6-24 hours; a MR CLEAN-LATE sub-study

Gielen, AFMCS (1,2), Robbe, MMQ (3,4), Knapen, RRMM (3,4), Van Oostenbrugge, RJ (2,4)

1. Faculty of Health, Medicine and Life Sciences, Maastricht University, Maastricht, the Netherlands
2. Department of Neurology, Maastricht university Medical Center+, the Netherlands
3. Department of Radiology and Nuclear Medicine, Maastricht University Medical Center+, the Netherlands
4. CARIM - Cardiovascular Research Institute Maastricht, Maastricht university, the Netherlands

Introduction
Most studies on acute ischemic stroke (AIS) include patients based on the extent of the ischemic area, measured by the Alberta Stroke Programme Early CT Score (ASPECTS). Previous studies have shown that good collateral status is associated with good functional outcome. This study aims to investigate the interaction between ASPECTS and treatment effect, and the association between ASPECTS and clinical outcomes, in late-window AIS patients pre-selected on collaterals in the MR CLEAN-LATE trial.

Methods
Patients of 18 years and older, presenting with AIS due to anterior large vessel occlusion in the late window (6-24h) and collateral flow on CTA were included. Primary outcome was modified Rankin Scale (mRS) at 90 days. Secondary outcomes included good functional outcome (mRS0-2), mortality and 24- hour National Institutes of Health Stroke Scale (NIHSS). Ordinal, binary, and linear regression analyses were conducted, as appropriate. Subgroup analysis will be conducted to assess the treatment effect of ASPECTS and the interaction between ASPECTS and collaterals.

Results
498 patients were included in this analysis. The interaction between ASPECTS and treatment effect on shift in mRS was not significant (acOR 0.55, 95%CI:0.11-1.51; Pinteraction=0.23). ASPECTS also did not modify treatment effect on any of the secondary outcomes. In a subgroup of patients treated with endovascular thrombectomy (EVT), analyses investigating the treatment effect of ASPECTS showed a significant shift in mRS (acOR 1.42, 95%CI:1.23-1.65, P<0.001). In patients who received best medical treatment a significant effect was observed as well (acOR 1.19, 95%CI:1.01-1.39, P=0.03). In patients receiving EVT, ASPECTS was also significantly associated with higher odds of good functional outcome (aOR 1.48, 95%CI:1.18-1.84, P<0.001), as well as lower odds of mortality (aOR 0.65, 95%CI:0.53-0.80, P<0.001). In patients who received best medical treatment, a significant interaction between ASPECTS and collateral grading was observed in good functional outcome and mortality (aOR 2.99, 95%CI:1.46- 6.13, Pinteraction=0.03; aOR 0.56, 95%CI:0.35-0.87 Pinteraction=0.01, respectively).

Conclusion
No significant interaction between ASPECTS and treatment effect on outcomes was found in this MR CLEAN-LATE study population of AIS patients pre-selected on collaterals in the late window. However, a treatment effect of ASPECTS was present, questioning the importance of ASPECTS for treatment decision making in this population.

Genomineerd voor Pélerin senior-coassistent prijs

The association between patient and surgery characteristics on Postoperative C-reactive protein in colorectal cancer patients-a multicenter analysis of 1536 patients-

Smit, C. (1,2), Dr. J. Konsten. (2), Dr. J. Melenhorst. (1), Dr. M. van Heinsbergen. (2), Prof. Dr. M. Janssen-Heijnen. (2)

1. Department of Surgery, Maastricht University Medical Center+, the Netherlands
2. Department of Surgery, VieCuri Medical Center, the Netherlands

Introduction
Postoperative day 3 (POD 3) C-reactive protein (CRP) levels are predictive of complications in colorectal cancer patients but may be influenced by patient and surgical characteristics. This study evaluates the associations between these characteristics and POD 3 CRP levels in patients with and without major postoperative complications and examines whether CRP cut-off values differ between subgroups.

Methods
A retrospective cohort study was conducted with 1536 patients undergoing colorectal resections from January 2016 to December 2023 at VieCuri Medical Centre and Maastricht University Medical Center (MUMC+). Data on patient/surgical characteristics, POD 3 CRP levels, and major complications were collected from electronic medical records. Mann-Whitney U and Kruskal-Wallis tests assessed differences in POD 3 CRP among subgroups. Associations between patient/surgery characteristics and POD 3 CRP were assessed using multivariate linear regression. ROC curve analysis using Youden's Jindex determined optimal CRP cut-off values for predicting major complications.

Results
Significant differences in POD 3 CRP were observed between subgroups when stratified by no/minor complication. However, no significant difference was found when stratified by major complication. The optimal CRP cut-off for safe hospital discharge was 149.5 mg/L on POD 3 (sensitivity= 0.710, specificity= 0.738). Higher optimal cut-off values were found in specific subgroups: obese (213.50 mg/L), ASA III & IV (155.50 mg/L) and open/converted surgeries (227.50 mg/L). Major complication status, gender, obesity, ASA II-IV, and type of surgery were all significantly associated with POD 3 CRP levels ($F(10, 1454)= 41.489$, $p<0.001$, $R^2= 0.222$).

Conclusion
Several patient and surgical characteristics are significantly associated with POD 3 CRP levels. Obese patients, patients with ASA III and IV, and those undergoing open or converted surgeries exhibited higher optimal cut-off values. Validating the current multivariate linear regression model could facilitate personalized cut-off values for POD 3 CRP, enabling precise postoperative complication risk assessments and reliable patient discharge decisions.

Genomineerd voor Pélerin senior-coassistent prijs

Risk of ESKD in ANCA glomerulonephritis at presentation and during the course of disease

ten Voorde, F. (1,2) , van Doorn, D. (1,2), Timmermans, S. (1,2), van Paassen, P. (1,2)

1. Maastricht Universitair Medisch Centrum+, Maastricht, Limburg, Netherlands.
2. Universiteit Maastricht Cardiovascular Research Institute Maastricht, Maastricht, Limburg, Netherlands.

Introduction
Kidney involvement in ANCA vasculitis is common and impacts quality of life and survival. Tools to determine disease activity and predict risk for ESKD may optimize intensity and duration of immunosuppression. The ANCA kidney risk score (AKRiS) predicts ESKD. The AKRiS, however, is based on cross-sectional data. Here, we validated AKRiS in two well-defined cohorts of patients with de novo ANCA glomerulonephritis (AGN) and studied the effect of kidney recovery and relapsing AGN on kidney survival.

Methods
We analyzed patients with de novo AGN recruited from the Limburg Renal Registry (i.e., historical cohort; n=290) and prospective PROMAVAS cohort (n=36). Kidney recovery at 12 months and slope of eGFR from 12 months onward were studied, using a two-slope mixed-effects linear spline model.

Results
The historical cohort included 126 (63%), 43 (21.5%), 28 (14%), and 3 (1.5%) patients with low, moderate, high, and very high risk, with follow-up of 10 (IQR, 6-15) years. Creatinine was 2.4 (IQR, 1.4-4.5) mg/dL and 164 (82%) patients were treated using a cyclophosphamide-based regimen. Kidney survival varied from 97.5%, 87.9%, 74.5%, to 33.3% at 36 months, validating AKRiS with good discrimination (C statistic,0.84). The PROMAVAS cohort (creatinine, 2.4; IQR, 1.8-3.5) mg/dL, including 21 (58.3%) patients treated using a rituximab-based regimen, corroborated these observations (C statistic, 0.92). The eGFR improved +10.4 (95%CI, 7.8 to 12.9) mL/min/1.73m at 12 months, with no differences between patients with an eGFR <30 mL/min/1.73m as compared to those with better kidney function at presentation. eGFR's mean annual slope was -1.0 mL/min/1.73m (95%CI, -1.7 to -0.3) in remitted AGN, contrasting -3.3 mL/min/1.73m (95%CI, -4.4 to -2.2; P=0.001) in relapsing AGN. ESKD was associated with eGFR <30 mL/min/1.73m at 12 months.

Conclusion
AKRiS predicts the risk of ESKD in de novo AGN. Moreover, CKD stage at 12 months, and relapsing AGN affect eGFR's slope and progression to ESKD. Treatment should therefore focus on maximal kidney recovery using novel drugs, such as, C5aR inhibition, and prevention of relapsing AGN, particularly in patients with eGFR <30 mL/min/1.73m at 12 months, to maintain kidney function. Future trials should focus on the effects of treatment on kidney recovery and eGFR's slope.

Genomineerd voor Pélerin senior-coassistent prijs

Two-Year Outcomes after Collateral-Based Selection for Endovascular Treatment of Acute Ischaemic Stroke in the Late Window: Follow-Up of the MR CLEAN-LATE Trial

Ilse Huijberts (1,2), Florentina ME Pinckaers (1,3,4), Susanne GH Olthuis (3,5), Sander MJ van Kuijk (6), Alida A Postma (1,7), Hieronymus D Boogaarts (8), Yvo BWEM Roos (9), Charles BLM Majoie (10), Aad van der Lugt (11), Diederik WJ Dippel (12), Wim H van Zwam (1,3), Robert J van Oostenbrugge (3,5), on behalf of the MR CLEAN-LATE investigators.

1. Department of Radiology and Nuclear Medicine, Maastricht University Medical Centre, Maastricht, The Netherlands
2. Faculty of Health, Medicine and Life Sciences (FHML), Maastricht University, Maastricht, The Netherlands
3. School for Cardiovascular Diseases (CARIM), Maastricht University, Maastricht, The Netherlands
4. Care and Public Health Research Institute (CAPHRI), Maastricht University, Maastricht, The Netherlands
5. Department of Neurology, Maastricht University Medical Centre, Maastricht, The Netherlands
6. Department of Clinical Epidemiology and Medical Technology Assessment (KEMTA), Maastricht University Medical Centre, Maastricht, The Netherlands
7. School for Mental Health and Neuroscience (MHENS), Maastricht University, Maastricht, The Netherlands
8. Department of Neurosurgery, Radboud UMC, Nijmegen, the Netherlands
9. Department of Neurology, Amsterdam UMC location University of Amsterdam, Amsterdam, The Netherlands
10. Department of Radiology and Nuclear Medicine, Amsterdam Neurosciences, Amsterdam UMC location University of Amsterdam, Amsterdam, The Netherlands
11. Department of Radiology and Nuclear Medicine, Erasmus MC, University Medical Center Rotterdam, Rotterdam, The Netherlands
12. Department of Neurology, Erasmus MC, University Medical Center Rotterdam, Rotterdam, The Netherlands.

Introduction

The MR CLEAN-LATE trial provided evidence for the safety and efficacy of endovascular treatment (EVT) for acute ischaemic stroke (AIS) within the late window in patients preselected on the presence of collateral flow on CT-angiography (CTA). The present study aims to evaluate clinical outcomes two years after randomisation.

Methods

MR CLEAN-LATE was an open-label, blinded-endpoint, randomised, controlled, phase 3 trial, conducted at 18 EVT-centres in the Netherlands. If EVT could be initiated within 6-24 hours of stroke onset or last seen well, patients with an AIS due to a large vessel occlusion in the anterior circulation and at least some collateral flow in the affected middle cerebral artery territory on CTA were randomly assigned (1:1) to either the EVT (intervention) or non-EVT (control) group. Outcomes at 90 days post-stroke were previously reported. For the present study, the modified Rankin Scale (mRS) at two years (-3 months, +6 months) was the primary outcome. Secondary two-year end points included all-cause mortality, quality of life (EQ-5D-5L), and the Barthel Index score.

Genomineerd voor Pélerin senior-coassistent prijs

Results
From the 502 trial participants enrolled between Feb 2, 2018, and Jan 27, 2022, the mRS-score at twoyears was available for 428 patients (85%). The median mRS-score was 4 (2-6) in the EVT-group and 6 (2-6) in the control group. The EVT group demonstrated a shift towards better functional outcomes on the mRS at two years (adjusted common OR 1·41, 95%CI 1·00-1·99) and was associated with improved functional independence (mRS 0-2: aOR 1.79, 95%CI 1.11-2.91; mRS 0-3: aOR 1.62, 95%CI 1.04-2.52). EQ- 5D-5L utility values (adjusted β 0.06, 95%CI -0.01-0.12) and Barthel Index scores (adjusted β 7.20, 95%CI 0.51-13.88) also favoured the EVT-group. All-cause mortality during the two-year follow-up was nonsignificantly lower in the EVT-group compared to the control group (34% vs 41%; adjusted hazard ratio 0·81, 95%CI 0·60-1·08).

Conclusion
The effectiveness of late-window EVT in improving clinical outcomes sustained for up to two years in a population pre-selected based on the presence of collateral flow on CTA. This is important for prompting further evaluations of (cost-)effectiveness, health care policy development, and clinical decision making.

Genomineerd voor Pélerin senior-coassistent prijs

HER2-positive invasive breast cancer with a DCIS component on contrast-enhanced mammography: combined evaluation of suspicious calcifications and enhancement

Mommertz, J. (**1**), Ploumen, R (2), van Nijnatten, T. (1)

1. Department of Radiology, Maastricht University Medical Center+, the Netherlands
2. Department of Surgery, Maastricht University Medical Center+, the Netherlands

Introduction
Recent emergence of contrast-enhanced mammography (CEM) shows promising results in the imaging of a ductal carcinoma in situ (DCIS) component, as it allows for immediate evaluation of both suspicious calcifications and enhancement. DCIS detection is important for both surgical treatment as well as response monitoring during neoadjuvant systemic therapy (NST). Previous studies looked at detection of pure DCIS, and not DCIS in addition to an invasive carcinoma, which is most often seen in HER2+ invasive breast cancer. Therefore, we aimed to investigate whether CEM can be used to detect a DCIS component in HER2+ invasive breast cancer, both in patients who have undergone primary surgery and NST.

Methods
In this retrospective study, 63 patients were included. Two independent radiologists reassessed CEM exams, and our breast pathologist reassessed biopsy and postoperative pathology specimens. Interobserver agreement was evaluated for detection and measurement of findings related to DCIS on CEM. The detection of DCIS was based on the percentage of patients with suspicious calcifications and/or non-mass enhancement (NME) on CEM. Imaging findings were related to DCIS histopathology. Intra-class correlation (ICC) and Bland-Altman plots were used to determine the agreement between radiological and histopathological size assessment of DCIS.

Results
Interobserver agreement for imaging findings was good for mass and suspicious calcifications (k=0.708 and k=0.777 respectively) and moderate for NME (k=0.440). Excellent reliability (k=0.956 for mass and k=0.943 for suspicious calcifications) and good reliability (k=0.889 for NME) were found for measurement of diameter between radiologists. When looking at both suspicious calcifications and NME, CEM was able to detect 71.4% of DCIS, and measured DCIS diameter correctly in 58% of cases. No significant association was found between imaging findings and DCIS grade. NME was found to be a better predictor for DCIS diameter (ICC= 0.785) compared to suspicious calcifications (ICC = 0.561).

Conclusion
CEM offers added value for the detection of DCIS accompanying an invasive carcinoma. NME is the best predictor for DCIS diameter on CEM, yet reliability of NME was lower compared to calcifications between radiologists. Further research into the diagnostic performance and ability of CEM to monitor NST response is warranted.

Genomineerd voor Pélerin senior-coassistent prijs

Liver involvement in paediatric celiac disease

Joyce H.A.M. van Dooren (2,3), Johanna M (1,2,3). Kreutz, Anita C.E. Vreugdenhil (1,2,3)

1. NUTRIM – School of Nutrition and Translational Research in Metabolism, Maastricht University, the Netherlands
2. MosaKids Children's Hospital, Maastricht, the Netherlands
3. Department of Paediatrics, Maastricht University Medical Centre+, Maastricht, the Netherlands

Introduction
Celiac disease (CD) is a chronic autoimmune disease of the small intestine triggered by gluten intake. The liver is often affected in adults patients with CD, manifesting as liver function test abnormalities (LFTA). Unfortunately, the prevalence of LFTA in children with CD is unknown, both at diagnosis and while following a gluten-free diet (GFD). This study aimed to examine the prevalence of LFTA at diagnosis and its possible persistence during follow-up in paediatric CD. Additionally, it investigated whether changes in BMI-z scores were associated with changes in ALT serum levels throughout the follow-up period.

Methods
This single centre retrospective chart review included data from 115 patients (74 girls, age range 0.8- 17.6 years) diagnosed with CD between March 1996 and July 2023. LFTA was defined as ALT serum levels exceeding gender-specific upper limits of normal (22.1 U/L for girls and 25.8 U/L for boys). Serum transaminases were assessed at diagnosis and after following a GFD for three, 12 and 24 months. A mixed effects model was performed to investigate a potential association between changes in BMI-z scores and changes in ALT serum levels over the follow-up period.

Results
Overall, 51/115 (44.3%) patients had LFTA at diagnosis, which correlated significantly with younger age (9.21 [7.2] vs 3.92 [5.7] years, $p<0.001$) and lower BMI-z values (-0.15 (SD±1.05) vs -0.85 (SD±1.19), $p=0.002$). ALT serum levels significantly decreased at all three follow-up moments compared to diagnosis ($p<0.001$). Persistence of LFTA occurred in 46.3% of the patients after three months of followup. After 12 and 24 months of following a GFD, LFTA persisted in 20.2% and 26.9% of the patients, respectively. No significant association was found between changes in BMI-z score and changes in ALT serum levels over time.

Conclusion
At diagnosis, 44% of the children with CD have LFTA. After 24 months on a GFD, 26.9% of the patients continued to have LFTA. Given the high prevalence found in this study, it may be warranted to monitor the liver both at diagnosis and throughout follow-up. Future research is recommended to evaluate the extent in which LFTA is associated with the development of liver disease in children with CD.

Genomineerd voor Pélerin senior-coassistent prijs

ADHERENCE TO PHYSICAL ACTIVITY GUIDELINES IN MAY MEASUREMENT MONTH 2021 AND 2022 PARTICIPANTS

Lilia Mafara (1), Gabriele Kerr (1), Thomas Beaney (1), Markus Schlaich (2), Aletta E Schutte (3,4), George Stergiou (5), Neil R Poulter (6)

1.Department of Primary Care and Public Health, Imperial College London, UK
2.Dobney Hypertension Centre, Medical School, Royal Perth Hospital Unit - University of Western Australia, Perth, WA, Australia.
3.School of Population Health, University of New South Wales, The George Institute for Global Health, Sydney, Australia.
4.Hypertension in Africa Research Team/SAMRC Unit for Hypertension and CVD, North-West University, Potchefstroom, South Africa.
5.Hypertension Center STRIDE-7, National and Kapodistrian University of Athens, School of Medicine, Third Department of Medicine, Sotiria Hospital, Athens, Greece.
6.Imperial Clinical Trials Unit, Imperial College London, W12 7RH, United Kingdom.

Introduction
Physical activity (PA) lowers blood pressure (BP) and improves other cardiovascular risk factors, but many adults fail to achieve recommended PA levels. We aimed to evaluate adherence to the World Health Organisation's (WHO) PA guidelines and associations with BP treatment and control rates amongst adults screened in May Measurement Month (MMM) 2021 and 2022.

Methods
Adults (≥18 years) were surveyed opportunistically from 74 countries. Each participant had three seated BP readings, using multiple imputation for any missing values. Participants who self-reported (yes/no) adherence to the WHO PA guidelines (75 minutes of vigorous exercise or 150 minutes of moderate exercise per week) were included. Hypertension was defined as a BP ≥140/90mmHg and/or taking BPlowering medication.

Results
Of 1,357,575 participants screened, 1,098,038 (80.9%) provided information on PA adherence. The mean (standard deviation) age was 46.8 (16.8) years and 52.9% were female. 333,214 (30.3%) participants adhered to PA guidelines. Of 394,444 (35.9%) participants with hypertension, PA adherence was higher in the 211,900 (53.7%) treated with BP-lowering medication (33.2% vs 27.4%, p<0.0001) than those untreated. Amongst treated hypertensives, adherence was higher in those with controlled BP and increased with age (p<0.0001). Of participants not taking BP-lowering medication, higher adherence was reported by the 703,594 (79.4%) normotensive participants (p<0.0001) and adherence was highest in the 18–29 age group.
The absolute rates of PA adherence were 40.3%, 37.3% and 36.2% in those with a history of diabetes, stroke and myocardial infarction, respectively, compared to 29.7, 30.3, 30.2% in those without these respective conditions (all p<0.0001).

Conclusion
Only 30% of MMM 2021 and 2022 participants worldwide adhered to WHO PA guidelines. Compared with untreated hypertensive participants, adherence was higher amongst those taking BP-lowering medication. PA adherence was significantly higher in those with diabetes. Those adhering to PA guidelines were more likely to have BP <140/90 mmHg, regardless of taking BP-lowering medication, emphasising the importance of PA for BP control.

Genomineerd voor Pélerin senior-coassistent prijs

Physical Fitness in Patients with Inflammatory Bowel Disease Compared to Healthy Individuals

Noortje van den Bergh (1), Karlijn Demers (1,2,3,4), Bart C. Bongers (3,5), Daisy M.A.E. Jonkers (4), Marieke J. Pierik (1,4), Laurents P.S. Stassen (2),

1. Department of Gastroenterology-Hepatology, Maastricht University Medical Center+, Maastricht, The Netherlands.
2. Department of Surgery, Maastricht University Medical Center+, Maastricht, The Netherlands.
3. Department of Surgery, NUTRIM, Maastricht University, Maastricht, the Netherlands
4. Department of Gastroenterology-Hepatology, NUTRIM, Maastricht University, Maastricht, the Netherlands
5. Department of Nutrition and Movement Sciences, NUTRIM, Maastricht University, Maastricht, the Netherlands

Introduction
Inflammatory bowel disease (IBD) is chronic inflammatory disorder of the gastrointestinal tract, characterised by flare-ups and periods of remission. While lifestyle factors are believed to play a role in the disease course, the relevance of health-related physical fitness (HRPF) components (body composition, cardiorespiratory fitness, muscular strength, muscular endurance, and flexibility) in patients with IBD remains poorly understood. This hinders the development of physical activity and physical exercise training guidelines for these patients, with the goal of optimizing disease outcomes. Therefore, the primary aim of this study was to examine HRPF components (cardiorespiratory fitness, body composition, muscular strength, muscular endurance, and flexibility) in patients with IBD as compared to healthy individuals. The secondary aim of this study was to examine patient-, disease- and treatment-related factors associated with specific components of HRPF in patients with IBD.

Methods
A single-centre comparative cross-sectional study was conducted, including patients with IBD as well as healthy individuals. Participants performed physical tests for each of the HRPF components, including the sum of four skinfold thicknesses, steep ramp test, 1-minute sit-to-stand test, handheld dynamometry, Biodex dynamometry, and the sit-and-reach test. Additionally, they completed questionnaires for physical activity (International Physical Activity Questionnaire Short From and fatigue (Checklist Individual Strength). Clinical data for patients with IBD was retrieved from the electronic patient record system.

Results
Patients with IBD had a higher sum of four skinfold thicknesses than healthy individuals. They also scored significantly lower on the steep ramp test, 1-minute sit-to-stand test and hand held dynamometry. Several independent predictors were identified for HRPF components, including e.g. sex, age, body mass index, number of biologicals, comorbidities, disease phenotype and physical activity.

Conclusion
Patients with IBD exhibited higher body fat percentages, and an impaired cardiorespiratory fitness and muscular strength as compared to healthy individuals. Several independent predictors for HRPF components were found in patients with IBD. More research is needed on the effects of physical activity and exercise on HRPF components in patients with IBD, and whether improvements in these components lead to better disease outcomes.

Genomineerd voor Pélerin senior-coassistent prijs

Preimplantation genetic testing for genodermatoses: mapping the landscape of clinical outcomes and reproductive decision-making

O.J.M. Borghouts (1), F.C.A.P. van Veen (1,2), S.A. de Munnik (3), P.M. Steijlen (1,2), M. Heijligers (3#), A.H. Gostyński (1,2#)
# Authors contributed equally

1 Department of Dermatology, Maastricht University Medical Centre+, The Netherlands
2 GROW school for Oncology and Developmental Biology, Maastricht University, Maastricht, The Netherlands.
3 Department of Clinical Genetics, Maastricht University Medical Centre+, The Netherlands

Introduction
Genodermatoses represent a heterogeneous group of inherited skin disorders, ranging from clinically mild to even lethal variants. Even the clinically mild conditions, may be associated with a substantial impact on quality of life, although often underestimated by society. The experienced burden may complicate reproductive decision-making, with some patients even refraining from having children to avoid transmitting the disorder to offspring. Reproductive options including pre-implantation genetic tests (PGT) offer the possibility of preventing genodermatoses in offspring. This theme however remains largely underexposed within genodermatology in literature. This study aims to gain insight into national PGT indications and clinical outcomes of PGT for genodermatoses.

Methods
A retrospective cohort study of couples affected by a genodermatosis (defined as any hereditary disorders with (primary) cutaneous involvement) referred to the Dutch PGT expert centre between January 1993 and December 2023 was performed. Clinical outcomes and couples' final reproductive decision-making were investigated by screening electronic patient records. PGT success rates were calculated. A logistic regression analysis was performed to identify potential factors influencing pregnancy rate upon PGT.

Results
In total, 588 couples were referred for PGT for sixty distinct genodermatoses. Of these couples, 248 proceeded with the PGT-trajectory (42.18%). PGT-associated factors (i.e. long duration, frequent hospital visits) and the expected physical and emotional impact were main reason for discontinuation. For 248 couples, a total of 477 PGT-cycles were performed. Transfer of 398 unaffected embryos led to 128 ongoing pregnancies (cumulative pregnancy rate 51.61%). Older maternal age and systemic involvement were found to be associated with lower PGT success rates.

Conclusion
Over time, PGT has increasingly been implemented in clinical practise for an increasing number of genodermatoses, including both purely cutaneous disorders (often regarded as clinically mild) as well as more severe inherited skin disorders with additional systemic involvement. This overview of national PGT-indications, patients' considerations regarding PGT and reproductive-decision making, and clinical outcomes could aid in optimizing reproductive counselling for those affected by genodermatoses experiencing reproductive dilemmas.

Genomineerd voor Pélerin senior-coassistent prijs

Second-generation antipsychotics do not cause weight change in elderly patients

Hoeven, H. T. L., Drukker M. (1), Bak M. (1)

1. MHeNS - Mental Health and Neuroscinece Research Institute, Maastricht University, the Netherlands

Introduction
Prior meta-analyses have shown that the majority of antipsychotics are associated with weight gain over time. Weight gain is a risk factor for metabolic syndrome and cardiovascular disease, which is the main cause of morbidity in schizophrenic patients. This association is derived from studies of both adults and elderly, however there is no association made specifically with the geriatric population. Our aim is to systematically investigate whether patients over the age of fifty years old would experience weight change with antipsychotic use.

Methods
Three databases (PubMed, Embase and PsycInfo) were searched for randomised controlled trails and observational studies in study populations aged fifty years or older. A random-effects model was used to analyse the overall effect stratified by antipsychotic and study duration.

Results
Nineteen studies were included in the meta-analysis, of which twelve were used for data extraction. There was no data on first-generation antipsychotics, therefore the meta-analysis only includes secondgeneration antipsychotics (SGAs). Most studies did not reach statistical significance and showed little effect on weight change. Quetiapine showed a statistically significant weight gain and aripiprazole a statistically significant weight loss. However, results varied greatly between studies and diagnoses. Patients with Alzheimer's disease were more prone to weight loss compared to patients with other diagnoses. Data was too limited to draw firm conclusions.

Conclusion
The influence of SGAs on weight in the elderly is small. Nevertheless, careful follow-up of weight and metabolic parameters is necessary, as both weight gain, weight loss and metabolic syndrome demand interventions.

Genomineerd voor Pélerin senior-coassistent prijs

Emphysema: an underexposed risk factor for ascending aortic aneurysm

Z.M.N. van Helden (**1**), A.M.C. van Dijk (1), W.C.L. van der Heijden (1), L.J. Schurgers (2)(3), E. Bidar (1)

1. Department of Cardiothoracic Surgery, Maastricht University Medical Center, Maastricht, The Netherlands
2. Department of Biochemistry, Maastricht University, Maastricht, The Netherlands
3. Cardiovascular Research Institute Maastricht (CARIM), Maastricht University, Maastricht, The Netherlands

Introduction
Aortic valve stenosis and lung emphysema are thought to be risk factors for aortic aneurysm and dissection. Acute type A dissection often presents with malperfusion, and has a 30.5% mortality when presenting with malperfusion. As the risk for dissection increases significantly with an ascending aortic diameter ≥ 40mm, identifying patients at risk for dilatation and dissection is crucial. The prevalence of Chronic Obstructive Pulmonary Disease (COPD) in aortic aneurysms is 42%, based on spirometry. However, the underlying association between the diseases is unknown. In this study, the relation of (undiagnosed) emphysema with increase in aortic diameter in patients with aortic valve disease was studied.

Methods
We conducted a retrospective analysis of CT-aorta scans of patients undergoing cardiac surgery for aortic valve stenosis between 2017 and 2022 at Maastricht UMC+. Preoperative CT-scans were used to measure the diameter of the aorta at root, ascending, arch, descending thoracic, and infrarenal level. Chest X-rays and CT-scans were analyzed for signs of COPD by radiologists, looking primarily at emphysema and hyperinflation. A Chi-squared test was performed to assess the difference in prevalence of emphysema across strata of the ascending aortic diameter. Linear regression analysis was performed to assess the correlation of emphysema with increase in aortic diameter. Risk analysis for an ascending aortic diameter ≥ 40mm was performed.

Results
Among 1044 participants, 29.7% showed signs of emphysema on either chest X-ray or CT-thorax. Emphysema prevalence significantly increased with increase in ascending aortic diameter, with a prevalence of 57.42% in patients with an ascending aortic diameter ≥40mm. The prevalence of current and former smokers remained constant across all diameters. After adjusting for confounders - sex, age, height, smoking status, diabetes, hypertension, kidney function, and vitamin K antagonists use - emphysema was independently associated with increase in diameter of the root, ascending aorta, descending thoracic aorta, and infrarenal aorta. The highest beta-coefficient, 0.188, was observed for the ascending aorta after accounting for confounders. Risk analysis indicated a 15.8% increased risk of having an ascending aorta ≥40mm in patients with emphysema.

Conclusion
Emphysema is independently associated with an increase in maximal ascending aortic diameter.

Arts-onderzoeker categorie

Phosphatidylethanol complements urinary and scalp hair ethyl glucuronide for the detection of different levels of alcohol use in patients with alcohol-related cirrhosis: establishing a 3-day, 3-week, 3-month alcohol use profile

Benedict T.K. Vanlerberghe (1,2,3,4), Catalina Dumitrascu (5), Nele Van den Eede (6), Hugo Neels (5), Hannah van Malenstein (3,4), Tom JG. Gevers (1,2), Matthijs Kramer (1,7), Lukas Van Melkebeke (3,4), Ad A.M. Masclee (1,2), Douwe de Boer (2,8), Schalk van der Merwe (3,4), Frederik Nevens (3,4) Alexander L .N. van Nuijs (5), Jef Verbeek (3,4)

1. Department of Gastroenterology and Hepatology, Maastricht University Medical Centre, Maastricht, the Netherlands
2. School of Nutrition and Translational Research in Metabolism (NUTRIM), Maastricht University, Maastricht, the Netherlands
3. Department of Gastroenterology and Hepatology, University Hospitals Leuven, Leuven, Belgium
4. Laboratory of Hepatology, Department of Chronic Diseases and Metabolism (CHROMETA), KU Leuven, Leuven, Belgium
5. Department of Pharmaceutical Sciences, Toxicological Centre, University of Antwerp, Antwerp, Belgium.
6. Laboratory Medicine, University Hospitals Leuven, Leuven, Belgium.
7. School for Oncology & Reproduction (GROW), Maastricht University, Maastricht, The Netherlands
8. Central Diagnostic Laboratory, Maastricht University Medical Centre, Maastricht, The Netherlands.

Introduction
Phosphatidylethanol (PEth) is a mid-term alcohol use biomarker (weeks) that could bridge the detection windows of urinary ethyl glucuronide (uEtG) (days) and scalp hair (h)EtG (months), but is barely validated in patients with alcohol-related liver disease (ALD). In addition, the reported detection windows per biomarker are highly variable (1 to 7 days for uEtG and 2 to 4 weeks for PEth). Furthermore, available studies only focused on any alcohol use, while categorizing patients based on different levels of alcohol use would be highly informative in patients with steatotic liver diseases, such as metabolic dysfunction-associated steatotic liver disease. We therefore assessed the diagnostic accuracy and optimal detection windows of whole blood PEth, uEtG, hEtG, and the novel biomarker fingernail (n)EtG, for different levels of alcohol use in patients with ALD.

Methods
Patients with ALD-cirrhosis were questioned on their alcohol use in the prior 3 months by using the Alcohol Timeline Followback (n=116). 1-7 days (uEtG), 1-5 weeks (PEth) and 3 month (hEtG, nEtG) detection windows were assessed for any, increased (females ≥ 2U/d, males ≥ 3U/d) and excessive use (females ≥ 5U/d, males ≥ 6U/d).

Results
uEtG (SE 100%, SP 93.4%, PPV 81.5%, NPV 100%), PEth (SE 95.2%, SP 98.4%, PPV 97.6%, NPV 96.9%), and hEtG (SE 89.7%, SP 86.2%, PPV 81.4%, NPV 92.6%) all had high diagnostic accuracies to detect any alcohol use, at their most optimal detection windows of 3 days, 3 weeks, and 3 months, respectively. uEtG, PEth and hEtG had high negative predictive values (>92%) for increased and excessive use. Absolute biomarker values only correlated with alcohol use in multivariate analysis and not with Child-Pugh score or kidney dysfunction. Finally, nEtG (SE 78.9%, SP 97.4%, PPV 96.8%, NPV 82.6%) showed promising diagnostic accuracies for assessing alcohol use in the prior 3 months.

Conclusion
uEtG, PEth, and hEtG have excellent and complementary diagnostic accuracies to detect any alcohol use over the last 3 days, 3 weeks and 3 months, respectively, and are highly useful to rule out significant alcohol use in patients with liver disease. nEtG provides an alternative for hEtG, but requires further validation.

Arts-onderzoeker categorie

Prediction of Etiology and Outcome in Kidney Biopsy Proven Thrombotic Microangiopathy

van Doorn, D.P.C. (1, 2); Timmermans, S.A.M.E.G. (1, 2), van Paassen, P. (1, 2)

1. Dept. Nephrology and Clinical Immunology, Maastricht University Medical Center, Maastricht, The Netherlands.
2. Dept. Biochemistry, Cardiovascular Research Institute Maastricht, Maastricht, The Netherlands.

Introduction
The syndromes of thrombotic microangiopathy (TMA) are associated with acute kidney injury and risk of end-stage kidney disease (ESKD). Patients typically present with systemic hemolysis, that is, thrombocytopenia and microangiopathic hemolytic anemia. Kidney-limited TMA, however, can occur but is often overlooked and undertreated. Here, we studied morphologic features on kidney biopsy and their clinical correlates in patients with TMA.

Methods
Patients with TMA on kidney biopsy were recruited from the Limburg Renal Registry and classified as definite complement-mediated (C-)TMA (i.e., ≥1 pathogenic complement gene variant), probable C-TMA (i.e., massive ex vivo C5b9 formation, either with ≥1 complement gene variant of uncertain significance or not), and secondary TMA (i.e., normal ex vivo C5b9 formation without complement gene variants). Morphologic features, including activity and chronicity indices, were studied in relation to clinical presentation and outcome.

Results
Patients were classified as definite C-TMA (N=14, 18%), probable C-TMA (N=21, 27%), or secondary TMA (N=42, 55%), including 52 (66%; n/N=8/14, 10/21, and 33/42) patients with kidney-limited TMA. C-TMA presented with higher creatinine (645 [IQR, 345–965] vs. 280 [IQR, 193–469] µmol/L; P<0.001), more hemolytic anemia (n/N=24/35 [69%] vs. 14/41 [34%]; P=0.006), more glomerular thrombi (n/N=27/35 [77%] vs. 18/42 [43%]; P=0.005) and at younger age (33 [IQR, 28-40] vs. 40 [IQR, 35-52] years; P=0.010) compared to secondary TMA. Serum creatinine (OR=1.16 [95%CI: 1.02-1.35]) and the presence of glomerular thrombi (OR=4.37 [95%CI: 1.27-16.86]) were independently associated with C-TMA. Kidney remission was more prevalent in eculizumab treated patients with definite (100% vs. 11%; P=0.001) and probable C-TMA (86% vs. 29%; P=0.009), but not secondary TMA (60% vs. 67%; P=0.700). Chronicity indices predict risk of ESKD in secondary TMA, however, not in C-TMA.

Conclusion
Kidney-limited TMA is common along the spectrum of TMA and a diagnosis could be missed in more than half of patients with complement gene abnormalities if a biopsy was not performed. A young patient with high serum creatinine and systemic hemolysis should be promptly treated with eculizumab. Glomerular thrombi make complement dysregulation even more likely. Chronicity indices should not be used to withhold complement-specific drugs in patients with definite- and probable C-TMA.

Arts-onderzoeker categorie

Local immune cell infiltration is associated with obesity and presence of endometrial carcinoma

EAH Jacques (1), A van den Bosch (2), PJ de Vos van Steenwijk (1,2), LFS Kooreman (2,3), B Delvoux (1,2), A Romano (1,2), HMJ Werner (1,2)

1. Department of Obstetrics and Gynecology, Maastricht University Medical Centre, Maastricht, The Netherlands
2. GROW-Research institute for Oncology and Reproduction, Maastricht University, The Netherlands
3. Department of Pathology, Maastricht University Medical Centre, Maastricht, The Netherlands

Introduction
The worldwide endometrial cancer (EC) incidence is increasing. EC is closely associated to obesity. Obesity is also associated with diabetes mellitus (DM) and metabolic syndrome, in part through the low-grade inflammation originating from adipose tissue. A knowledge gap exists how obesity-related low-grade inflammation may impact on immune cell infiltration in EC. We explored the infiltration of a diverse immune cell panel in endometrial biopsies in obese and lean patients with postmenopausal bleeding due to EC or benign pathology.

Methods
A homogenous retrospective cohort was created (n=44) from women attending the gynaecology outpatient clinic at Maastricht University Medical Centre (the Netherlands) in 2020. All had endometrial sampling performed. Biopsies were stained for a broad selection of immune cell markers, including macrophages (CD68, CD163), T-cells (CD3, CD8), and NK-cells (CD56). Immune cell infiltration and number were separately analyzed in epithelium and stroma. Results were stratified for BMI and diagnosis.

Results
Overall, a significant decreased epithelial immune cell infiltration was observed within the malignant histology compared to benign histology (CD3; 63 vs 148 cells/mm2 p=0.003, CD8; 57 vs 186 cells/mm2 p=0.003, CD56; 9 vs 32 cells/mm2 p=0.016) and increased immune cell infiltration in the epithelium of obese compared to lean patients (CD163; 62 vs 7 cells/mm^2 epithelium, p=0.021) was seen. In the small subgroup of obese patients with malignancy (n=11), diabetes altered immune cell presence (CD56; 26 vs. 1 cells/mm^2 p=0.034).

Conclusion
Most interestingly we show that obesity and malignant diagnosis are associated with differences in immune cell presence. The alterations in immune cell infiltration seen in obese EC patients with and without diabetes suggests a complex interaction where obesity-related low grade inflammation plays a central role. These results needs further studying, including mechanistic studying, in a larger cohort.

Arts-onderzoeker categorie

The Influence of an E-learning Programme on Recognition of Actinic Keratosis

Ellen M.M. Oyen (1,2), Anne-claire van Alstede (1), Patty J. Nelemans (3), Maud H.E. Jansen (4), Klara Mosterd (1,2)

1. Department of Dermatology, Maastricht University Medical Center+, Maastricht, The Netherlands
2. Grow Research Institute for Oncology and Reproduction, Faculty of Health, Medicine and Life Sciences, Maastricht University, Maastricht, The Netherlands
3. Department of Epidemiology, Faculty of Health, Medicine and Life Sciences, Maastricht University, Maastricht, The Netherlands
4. Department of Dermatology, Zuyderland Medical Center, Heerlen, The Netherlands

Introduction
Actinic keratosis is the most prevalent intra-epithelial neoplasm among Caucasians. Although its diagnosis and treatment are relatively uncomplicated, general practitioners (in training), frequently refer patients to dermatologists. When general practitioners do manage actinic keratosis themselves, they generally use cryotherapy, but that is largely due to their limited experience and lack of confidence. An effective method to educate GPs about actinic keratosis could be via an e-learning programme. Objectives: To determine whether the diagnostic accuracy of diagnosing actinic keratosis by general practitioners improved after they had participated in an e-learning programme and secondly if the management and treatment of the general practitioners differed after they had participated.

Methods
A prospective observational cohort study was conducted in the Netherlands. The research setup consisted of a pre-test, 30 cases in the educational module, and a post-test. The pre- and post-test aimed to check for improved sensitivity while maintaining specificity.

Results
In total, 32 participants were analysed. The post-test showed a statistically significant improvement in the diagnostic accuracy of actinic keratosis with sensitivity (0.656 versus 0.744, p=0.016) and specificity (0.728 versus 0.810, p=0.015). The confidence in diagnosis, as measured on the Likert scale, demonstrated a significant improvement from the pre-test to the post-test, with an area under the curve of 0.737 (95% CI 0.689-0.775) pre-test versus 0.835 (95% CI 0.804-0.866) post-test and a p-value of p<0.001. After the e-learning programme, there is an increase in the treatment of actinic keratosis by general practitioners (72.9% versus 80.3%) and a decline in the referrals to a dermatologist (16.2% versus 7.1%). General practitioners prescribe less 5% 5-fluorouracil cream (40.0% versus 32.2%) and opt more for treatment with cryotherapy (30.5% versus 37.5%).

Conclusion
Participation in the e-learning programme resulted in a statistically significant increase in sensitivity and specificity for diagnosing actinic keratosis among general practitioners.

Arts-onderzoeker categorie

Interobserver agreement on desmoplasia in cutaneous squamous cell carcinoma: an observational cohort study.

Emmy C. Crüts MD (1,2), Mikaella Loizou (3), Carmen Weinans MD (4), Veronique Winnepenninckx MD, PhD(4), Desmoplasia dermatopathology research group(5), Antien L. Mooyaart MD, PhD(6), Sophie VanbellePhD(7), Patty J. Nelemans MD, PhD(7,8), Klara Mosterd MD, PhD(1,2)

1. Department of Dermatology, Maastricht University Medical Center+, Maastricht, The Netherlands
2. Grow Research Institute for Oncology and Reproduction, Maastricht University, Maastricht, The Netherlands
3. Faculty of Health, Medicine and Life Sciences, Maastricht University, Maastricht, The Netherlands
4. Department of Pathology, Maastricht University Medical Center+, Maastricht, The Netherlands
5. In alphabetic order: Myrurgia Abdul Hamid MD, Avital Amir MD, PhD, Gilles F.H. Diercks MD, PhD, Marijke R. van Dijk MD, PhD, Danny Goudkade MD, Kelly G.P. Kerckhoffs MD, Laura A. Smit MD, Allard C. van der Wal MD, PhD, C. Weinans MD
6. Department of Pathology, Erasmus Medical Center, Rotterdam, The Netherlands
7. Department of Methodology and Statistics, CAPHRI, Maastricht University, Maastricht, The Netherlands
8. Department of Epidemiology, Maastricht University, Maastricht, The Netherlands

Introduction
Desmoplasia is an important risk factor for recurrent disease in cutaneous squamous cell carcinoma (cSCC) and several guidelines recommend using this histological characteristic for risk stratification. However, a universally accepted definition is lacking. The objective of this study was to investigate the interobserver agreement in the assessment of desmoplasia in cSCC among dermatopathologists.

Methods
Prospective study among dermatopathologists assessing randomly selected histopathologic sections of cSCCs for desmoplasia using a literature-based pre-specified definition. Interobserver agreement was expressed as proportion of agreement and Conger's kappa (κ) coefficient.

Results
Nine dermatopathologists assessed histopathological sections of 50 cSCCs. The proportion of agreement was 71.8% (95%CI, 66.5-77.1) and Conger's kappa coefficient was 0.36 (95%CI, 0.24-0.48), corresponding to fair agreement. Agreement for dermatopathologists with ≤5 years of work experience was higher compared to dermatopathologists with >5 years of experience (77.3%, κ=0.47 and 64.4%, κ=0.23, respectively; p<0.001). Interobserver agreement was higher among dermatopathologists from non-academic centers (81.3%, κ=0.45) compared to those from academic centers (67.5%, κ=0.32) although not statistically significant (p=0.157).

Conclusion
Only fair interobserver agreement among dermatopathologists was found. Before this histopathological characteristic can be used for cSCC risk stratification in clinical practice an unambiguous definition of desmoplasia is needed.

Arts-onderzoeker categorie

The influence of body posture on cervical sagittal balance parameters measured on conventional radiographs: A systematic review.

van Santbrink, E. (1,2,3), Schuermans, V. (1,2,3), van de Goor, A. (4), de Bie, R. (3,5), Boselie, T. (1,2), van Santbrink, H. (1,2,3), Smeets, A. (1,2)

1. Department of Neurosurgery, Maastricht University Medical Centre, Maastricht, the Netherlands
2. Department of Neurosurgery, Zuyderland Medical Centre, Heerlen, the Netherlands
3. CAPHRI Institute for Public Health and Primary Care, Maastricht University, Maastricht, the Netherlands
4. Faculty of Psychology and Neurosciences, Maastricht University, Maastricht, the Netherlands
5. Department of Epidemiology, Maastricht University, Maastricht, The Netherlands.

Introduction
Cervical sagittal balance parameters are an important aid in surgical decision-making and enable outcome prediction in cervical spine surgery. In current literature, the normative values of these parameters vary highly within and between patients. This variability might be attributed to body posture. The primary aim is to review the literature on the influence of body posture on cervical sagittal balance parameters measured on lateral X-rays.

Methods
A systematic review was performed. PubMed, Embase, Cochrane Library, Web of Science, and CINAHL were systematically searched until May 2024. The primary outcome was variability in cervical lordosis (CL) as measured in altering body postures on lateral X-rays. Quality of the included articles was assessed with the QUADAS-2 tool.

Results
Out of 17,628 screened articles, eight were eligible for inclusion. Articles were mainly excluded based on irrelevant outcomes (n= 10,372), duplicates (n= 4,315), wrong study design (n= 1,462), or the influence of body posture was not described (n= 612). Overall CL ranged from -3.5 to 33.3 degrees. In all studies, statistically significant differences in cervical sagittal balance parameters were observed with respect to body posture. The observed differences between postures for CL ranged from 1 to 16.6 degrees.

Conclusion
Body posture significantly influences the values of cervical sagittal balance parameters measured on X-rays. Studies investigating this influence are scarce and vary highly in investigated body postures. Standardisation of body posture is imperative to enable optimal comparison of cervical sagittal balance parameters within and between patients, but also between studies. Moreover, the high variability observed raises questions about the comparability of measured values in previously published studies.

Arts-onderzoeker categorie

Fatigue, Physical Fitness, and Physical Activity in Patients with Inflammatory Bowel Disease

Karlijn Demers (1,2,3,4), Bart C. Bongers (3,5), Sander M.J. van Kuijk (6), Guy Plasqui (5), Daisy M.A.E. Jonkers (4), Marieke J. Pierik (2,4), Laurents P.S. Stassen (1,3)

1. Department of Surgery, Maastricht University Medical Center+, The Netherlands.
2. Department of Gastroenterology-Hepatology, Maastricht University Medical Center +, The Netherlands.
3. Department of Surgery, Institute of Nutrition and Translational Research in Metabolism (NUTRIM), Maastricht University, the Netherlands
4. Department of Gastroenterology-Hepatology, Institute of Nutrition and Translational Research in Metabolism (NUTRIM), Maastricht University, the Netherlands
5. Department of Nutrition and Movement Sciences, Institute of Nutrition and Translational Research in Metabolism (NUTRIM), Maastricht University, the Netherlands
6. Department of Clinical Epidemiology and Medical Technology Assessment (KEMTA), Maastricht University Medical Center +, the Netherlands

Introduction
Fatigue is a common and debilitating symptom in patients with Inflammatory Bowel Disease (IBD). Fatigue may be associated with lower levels of physical activity and reduced physical fitness; however, their interrelationships are not fully understood. Therefore, this study aimed to investigate the association between fatigue, physical fitness, and physical activity in patients with IBD.

Methods
Patients with IBD in remission or with mild-to-moderate disease activity participated in this cross-sectional study. Fatigue was defined as a score of ≥ 35 on the subjective fatigue subscale of the checklist individual strength. Physical fitness measurements were performed for body composition (deuterium oxide dilution technique), cardiorespiratory fitness (cardiopulmonary exercise test), muscular strength and muscular endurance of the quadriceps and hamstring muscles (Biodex dynamometry), and flexibility (sit-and-reach test). Physical activity was quantified using accelerometry.

Results
In total, 53 patients were included, of whom 17 (32.1%) experienced fatigue. Fatigued patients exhibited a higher fat-mass index (p=0.014), lower cardiorespiratory fitness (p=0.017), and worse quadriceps muscular endurance (p=0.026 and p=0.008). No significant differences between fatigued and non-fatigued patients were observed in physical activity levels. Significant correlations were identified between fatigue scores and physical fitness measures but not with physical activity levels.

Conclusion
An association between fatigue and reduced physical fitness was found in patients with IBD, suggesting that optimizing physical fitness components could potentially improve fatigue symptoms. Physical activity levels did not differ significantly between fatigued and non-fatigued patients, suggesting that the observed fitness impairments may not be directly related to the amount of physical activity.

Arts-onderzoeker categorie

Effectiveness and cost-effectiveness of patient-initiated follow-up supported by asynchronous telemonitoring in spondyloarthritis (TeleSpA-study): a pragmatic multicentre randomised controlled trial

Hermans, K. (1, 2), Webers, C. (1, 2), Boonen, A. (1, 2), Vonkeman, H.E. (3, 4), van Tubergen, A. (1, 2)

1. Department of Internal Medicine, Division of Rheumatology, Maastricht University Medical Center+, The Netherlands
2. Care and Public Health Research Institute (CAPHRI), Maastricht University, The Netherlands
3. Department of Rheumatology and Clinical Immunology, Medisch Spectrum Twente, The Netherlands
4. Department of Psychology, Health and Technology, University of Twente, The Netherlands

Introduction
With rising healthcare expenditures and an expected increase in workforce shortages, sustainable alternatives to traditional outpatient follow-up strategies are vital to optimise the efficiency of care. We investigated the (cost-)effectiveness of patient-initiated follow-up supported by asynchronous telemonitoring (PIFU/TM) for the follow-up of patients with spondyloarthritis (SpA) compared to usual care (UC) in daily practice (TeleSpA).

Methods
TeleSpA was a multicentre, pragmatic, non-blinded, randomised controlled trial (ClinicalTrials.gov identifier NCT04673825). Patients with SpA and stable disease were randomised to PIFU/TM or UC (1:1). Patients were followed once after 1 year with remote monitoring at 6 months (PIFU/TM) or at the discretion of their treating rheumatologist (UC). Extra visits could be scheduled by patients in both groups, at any time. The primary outcome was the number of rheumatology visits within a 1-year period. We hypothesised superiority with a reduction of ≥25% of visits with PIFU/TM compared to UC. Secondary outcomes included health outcomes (non-inferiority of PIFU/TM versus UC) and 1-year cost-effectiveness. The primary analysis was by full analysis set.

Results
Between 2 December 2020 and 20 June 2022, 200 patients were randomly assigned to PIFU/TM (n=100) or UC (n=100). Participants had a mean age of 55.0 (SD 11.9) years, 79 (39.5%) were women. After 1 year, the mean number of visits was 1.9 (SD 1.5) in the PIFU/TM group and 2.6 (SD 1.3) in the UC group (mean difference -0.7 (95%CI -1.0 to -0.3) [25.4% reduction], p<0.001). This was fully attributable to a reduction in the number of physical visits (mean 1.4 (SD 0.9) versus 2.0 (SD 0.7); mean difference -0.7 (95% CI -0.9 to -0.4)), as telephone visits were comparable in both groups (mean 0.6 (SD 0.8) versus 0.6 (SD 1.1) for PIFU/TM and UC, respectively). Non-inferiority of PIFU/TM was demonstrated for all health outcomes of interest. PIFU/TM was cost-effective from a healthcare perspective, saving healthcare costs (-€243) without loss in Quality-Adjusted Life Years (+0.004). No trial-related serious events were reported.

Conclusion
PIFU/TM safely resulted in significant and meaningful reductions in the total number of rheumatology visits. This was not at the expense of health outcomes and saved healthcare costs.

Arts-onderzoeker categorie

The Lane-Sandhu score and the modified RUST for assessment of postoperative radiographs of long bone non-unions and bone defects

A.J.L Lodewijks (1,2), L vd Broeck (1), D. Loeffen (3), J.Geurts (4), M. Poeze (1,2), T.J.Blokhuis (1,2)

1. Department of Surgery, Maastricht University Medical Center+, Maastricht, The Netherlands
2. NUTRIM , School for Nutrition and Translational Research in Metabolism, Maastricht University, Maastricht, the Netherlands
3. Department of Radiology , Maastricht University Medical Center+, Maastricht, The Netherlands
4. Department of Orthopedics, Maastricht University Medical Center+, Maastricht, The Netherlands

Introduction
Radiographic assessment of bone healing is challenging, especially in the presence of postoperative bone defects, fixation materials, or biological adjuncts. However, for clinical practice and in particular research, quantification of bone healing can be of interest. Scores, such as the (modified) Radiographic Union Score for Tibial fractures ((m)RUST) are widely known and used to quantify bone healing. The Lane-Sandhu score, a lesser known score for bone defects, may have benefits over the mRUST score. The aim of this study is to compare the Land-Sandhu score with the mRUST in inter- and intraobserver variability in long bone non-unions.

Methods
First, five postoperative radiographs of operated bone defects and non-unions were scored by five observers using the mRUST and Lane-Sandhu score individually. A training session was held thereafter to analyze the pitfalls of each score. Finally, ten other radiographs were scored by each observer. For each of the three sessions the intraclass correlation coefficient (ICC) was calculated to determine intra- and interobserver reliability of the scores. Subanalyses were performed for different fixation methods.

Results
Five radiographs scored in the pilot session resulted in an interobserver reliability of 0.48 for the mRUST and -0.049 for the Lane-Sandhu score. During the training session the interobserver reliability scores were 0.50 and 0.14 respectively. Final analyses of ten radiographs resulted in an ICC of 0.79 (95% CI 0.60-0.91) for the mRUST and 0.76 (0.59-0.88) for the Lane-Sandhu. Both reliability scores are classified as good with no statistical significant difference between the two scores. The reliability was similar in different fixation methods.

Conclusion
Both the mRUST and the (modified) Lane-Sandhu score are reliable scoring systems for the interpretation of postoperative bone defects and nonunion. There is a slight preference for the mRUST over the Lane-Sandhu score because it less dependent on a training session. For future research, the interpretation of postoperative radiographs should be well described and a training session is recommended.

Arts-onderzoeker categorie

Prospective European cohort study on thermal ablation of malignant liver tumors: A-IMAGIO study

A.L. van der Velden (1,2), H. Rahmani (1,2), R. van Dam, (1,3), R. Brecheisen (4), C. van der Leij (1,2)

1. GROW – School for Oncology and Reproduction, Maastricht University, the Netherlands
2. Department of Radiology, Maastricht University Medical Center+, the Netherlands
3. Department of Surgery, Maastricht University Medical Center+, the Netherlands
4. Department of Surgery, NUTRIM School of Nutrition and Translational Research in Metabolism, Maastricht University Medical Centre+

Introduction
Reported clinical outcomes of thermal liver tumor ablation vary significantly as a result of variability in patient selection, treatment planning, ablation equipment, needle guidance, and evaluation tools. To achieve wider acceptance and obtain comparable, reproducible outcomes globally, standardization is important. The objective of the A-IMAGIO project is to develop a standardized, accessible, low-complex-high precision, end-to-end solution for patient selection, treatment planning, needle guidance and treatment evaluation for thermal liver ablation (TA). As a first project, an observational study will be performed to gather insight into current treatment variability and related outcomes.

Methods
This study is a prospective, international, multicenter, observational cohort study. Patients ≥18 years with a primary or secondary liver tumor(s) who are candidate for thermal ablation are eligible for inclusion. Patients will undergo treatment as standard of care in the participating center. Clinical, procedural and imaging data will be collected. In a next phase, Artificial intelligence (AI) will be integrated in the clinical workflow to assist operators in decision making throughout the entire process based on quantitative assessment. AI data analytics will be developed to guide decision making for personalized treatment and algorithms that allow optimized treatment planning and automated quantitative treatment evaluation. Also, a computational model will be developed with input from radiomics and clinical data to identify patients at risk of recurrence after thermal ablation.

Results
We expect to include 1200 patients.

Conclusion
The results are expected to contribute to the development of a more standardized, partly AI-driven, approach for TA leading to comparable outcomes worldwide. This will help establishing TA as the treatment of first choice for patients with malignant liver tumors.

Arts-onderzoeker categorie

The effect of twice daily Aclidinium bromide/Formoterol fumarate versus once daily Tiotropium 'respimat' on static and dynamic lung hyperinflation in patients with COPD during 24 hours

M. Koopman (1,2,3), F.M.E. Franssen (1,2,3), M.A. Spruit (1,2,3), L.E.G.W. Vanfleteren(4)

1. Ciro+, Horn, the Netherlands
2. NUTRIM, School of Nutrition and Translational Research in Metabolism, Maastricht, The Netherlands
3. Department of Respiratory Medicine, Maastricht University Medical Center (MUMC+) – Maastricht, the Netherlands
4. COPD Center, Institute of Medicine, Sahlgrenska University Hospital, University of Gothenburg, Gothenburg, Sweden

Introduction
Lung hyperinflation (LH), both static and dynamic, is common in patients with chronic obstructive pulmonary disease (COPD), and is closely associated with dyspnea, reduced physical activity and night time symptoms. Long-acting bronchodilators are the cornerstone of treatment for symptomatic patients with COPD. However, effects on static and dynamic LH, dyspnea and physical activity during 24 hours have not been studied.

Methods
Patients with stable moderate-to-very-severe COPD and hyperinflation (indicated by a residual volume (RV) > 1,64 times the standard deviation above the predicted value) and dyspnea (defined by mMRC ≥2) were included. In a randomized, two-arm cross-over intervention study, we studied the effect of twice daily aclidinium bromide/formoterol fumarate (AB/FF) vs. once daily tiotropium respimat (TIO) on 24-hour static LH by RV, dynamic LH by inspiratory capacity (ΔIC); dyspnea by transitional dyspnea index (TDI), BORG dyspnea and usage of rescue medication; physical activity by use of energy (joules); and quality of sleep by VAS sleep scores, night time awakenings and sleeping time (minutes). The study timeline is shown in figure 1.

Results
Mean RV over 24 hours was reduced after both AB/FF and TIO (3,93±1,10 and 4,11±1,12 liters), and remained stable with AB/FF compared to TIO. Usage of rescue medication was improved after AB/FF (0,81±1,27 times per day). Patients were more active after AB/FF (8170±967 joules) and slept longer after both regimens (377±57 and 349±74 minutes). There were no differences in ΔIC, dyspnea scores on TDI and BORG, VAS scores on sleep quality and night time awakenings after both AB/FF and TIO compared to washout.

Conclusion
Both AB/FF and TIO improve RV in COPD patients with severe LH. After AB/FF, patients had less rescue medication usage and improved physical activity compared to TIO. However, no differences were found on other outcomes. Increased understanding of the effects of different bronchodilator regimens on daily and night time symptoms and physical activity during 24 hours might be beneficial to guide treatment choices for individual patients with COPD and LH.

Arts-onderzoeker categorie

Exploring dynamic triggers of abdominal pain in irritable bowel syndrome using the Experience Sampling Method - preliminary results from the multicenter DISCOvERIE study

Bosman, M. (1), Vork, L. (1), Houte van den, M. (2), Midenfjord, I. (3), Muñoz, S. (4), Barbaro, MR. (5), Dumitrascu, D. (6), ESM DISCOvERIE group, Jonkers, D. (1*), Keszthelyi, D. (1*)

* Shared senior authorship
1. Department of Gastroenterology-Hepatology, NUTRIM School of Nutrition and Translational Research in Metabolism, Maastricht University Medical Center, Maastricht, The Netherlands.
2. Laboratory for Brain-Gut Axis Studies, Translational Research in Gastrointestinal Disorders (TARGID), Department of Chronic Diseases & Metabolism, KU Leuven, Leuven, Belgium.
3. Department of Internal Medicine, Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Gothenburg, Sweden.
4. Vall d'Hebron Institute of Research (VHIR), Barcelona, Spain.
5. IRCCS Azienda Ospedaliero-Universitaria di Bologna, Bologna, Italy
6. Second Department of Internal Medicine, Iuliu Hatieganu University of Medicine and Pharmacy Cluj-Napoca, Cluj-Napoca, Romania

Introduction
Real-time symptom assessment provides a detailed understanding of the dynamic interplay between gastrointestinal symptoms in irritable bowel syndrome (IBS) and potential triggers, including affect and environmental factors. This study evaluates the association between abdominal pain and potential triggers over time in IBS patients, with and without comorbidities, using our previously developed Experience Sampling Method (ESM)-based PROM as a real-time, repeated measurement method.

Methods
In this prospective, observational multicenter study, as part of the DISCOvERIE project, we included 215 Rome IV IBS patients (81% female; mean age 42.1) from six European countries, categorized into 103 IBS-alone, 51 IBS-mental (anxiety/depression), 16 IBS-somatic (fibromyalgia/chronic fatigue syndrome), and 45 IBS-multicomorbid patient subgroups. Participants scored abdominal pain, affect, and environmental factors using an ESM-based PROM at up to ten random moments each day over seven consecutive days. Linear mixed-effects models analyzed the associations between abdominal pain and these potential triggers, both concurrently and predictively (trigger scores lagged by one time point, maximum of 90 minutes), in each subgroup.

Results
ESM assessment completion rate was 63%. Regarding affect triggers, abdominal pain was significantly correlated with concurrent positive and negative affect in all IBS groups ($p<0.02$), while significant lagged associations were only found within IBS-mental for positive affect ($p=0.02$) and within IBS-alone and IBS-multicomorbid for negative affect ($p<0.001$) (Figure 1.). Regarding environmental triggers, abdominal pain was significantly associated with concurrent 'feeling comfortable in situation' within IBS-alone, IBS-mental and IBS-multicomorbid ($p<0.001$), concurrent 'feeling of pleasantness of company' ($p=0.01$) and being alone (versus with somebody, $p=0.01$) within IBS-alone, and eating since the last ESM-assessment within IBS-alone ($p=0.04$) and IBS-multicomorbid ($p=0.002$) (Figure 1.). No significant lagged associations or correlations with location, activity, alcohol and nicotine use were found.

Conclusion

Our preliminary results demonstrate that real-time abdominal pain in IBS patients is significantly associated with affect and environmental triggers, varying across IBS subgroups. Moreover, both positive and negative affect correlated with abdominal pain, irrespective of mental comorbidities. Over time, fewer triggers predicted abdominal pain, indicating the need for further investigation into lagged associations. This study highlights the value of ESM in accurately identifying individual symptom triggers, enhancing personalized healthcare in IBS.

Arts-onderzoeker categorie

Unravelling the art of developing skilled communication: a longitudinal qualitative research study in General Practice training

Verheijden, MJH (1,2,3,4), Timmerman, A. (1,2), de Bruin, A. (3,4), Giroldi, E. (1,2,3,4)

1. CAPHRI - Care and Public Health Research Institute, Maastricht University, Maastricht, The Netherlands
2. Department of Family Medicine, Maastricht University, Maastricht, The Netherlands
3. SHE - School of Health Professions Educations, Maastricht University, Maastricht, The Netherlands
4. Department of Educational Development and Research, Maastricht University, Maastricht, The Netherlands

Introduction
Doctor-patient communication is a core competency in medical training, which requires a contextual approach enabling learners to adapt communication flexibly in the clinical encounter, referred to as 'skilled communication'. Despite existing conceptual learning models, little is known about how skilled communication develops over time. This study aims to unpack this process of communication learning and to identify its facilitators by addressing the research question: 'How does a longitudinal learning process unfold in developing skilled communication during clinical practice and what are conditions that support this process?'

Methods
A longitudinal qualitative study employing a constructivist grounded theory approach was conducted within the context of the General Practice specialty training program in the Netherlands, specifically sampling from two out of eight training institutes (Maastricht and Nijmegen). Over a 6-month period, 8 first-year and 5 third-year trainees (n=13) were closely monitored by means of clinical observations, stimulated recall interviews and audio diaries. In an iterative process of data collection and analysis, these sources were triangulated by combining horizontal and vertical analysis to identify themes across trainees and to explore how themes evolved over time.

Results
A six-stage cyclic conceptual model was constructed during which trainees: 1) have an impactful experience; 2) become aware of own communication; 3) look for alternative communication behaviours; 4) experiment with new behaviours; 5) evaluate the effectiveness; and 6) internalise the new communication behaviours. Additionally, learning conditions were found to support trainees' learning and reflection: a constructive relationship with supervisors, a nurturing workplace, alignment between training and practice, narrative feedback from formative assessments, and time for mandatory reflections.

Conclusion
Our findings align with previous empirical studies, which demonstrated that learning communication consists of various stages and is context-dependent and person-centered. This study adds that learning communication occurs continuously through time. Becoming a skilled communicator seems to require a continuous approach, with repeated practice and reflection to adapt and internalise communication in the clinical encounter. Consequently, we recommend that trainees should be supported with feedback that helps enhance their communication repertoire. Ideally, they should be guided by supervisors who serve as coaches in a safe learning environment with regular, planned learning activities.

Arts-onderzoeker categorie

Patient reported outcomes during multidisciplinary care for patients with high-risk cutaneous squamous cell carcinoma in the head-neck area

Emmy C. Crüts (1), **Myrthe M. G. Moermans (1),** Patty J. Nelemans (2), Lieke C.J. van Delft (1), Eric A. Dik (3,4), Satish F.K. Lubeek (5), Nicole W.J. Kelleners-Smeets (1), Klara Mosterd (1)

1 Department of Dermatology, Maastricht University Medical Centre+, Maastricht, The Netherlands; GROW Research Institute for Oncology and Reproduction, Maastricht University Medical Centre+, Maastricht, The Netherlands
2 Department of Epidemiology, Maastricht University, Maastricht, The Netherlands.
3 Department of Cranio-Maxillofacial Surgery, Maastricht University Medical Centre+, Maastricht, The Netherlands
4 Department of Cranio-Maxillofacial Surgery, Radboud University Medical Centre, Nijmegen, The Netherlands
5 Department of Dermatology, Radboud University Medical Centre, Nijmegen, The Netherlands.

Introduction
Multidisciplinary care pathways may improve quality and efficiency of care. Little is known about the patient's perspective on multidisciplinary care for patients with high-risk cutaneous squamous cell carcinoma in the head-neck (HR-HNcSCC). In addition, identification of patient-reported concerns is crucial for improving patient-centred care. We aim to investigate how patients with HR-HNcSCC evaluate their health-related quality of life (HRQoL), decisional conflict, and satisfaction with care, and to identify patient-reported issues indicating a need for optimization of multidisciplinary care.

Methods
Included were patients with a HR-HNcSCC, consulting the multidisciplinary head-neck clinic at one of the participating tertiary care centres. At the start of the care pathway, patients completed a questionnaire on patient- and tumour characteristics, the EuroQoL-5D-5L (EQ-5D-5L) and the decisional conflict scale (DCS). One month after completing the care pathway, assessment with the EQ-5D-5L was repeated and the Basal and Squamous Cell Carcinoma Quality of Life (BaSQoL) and the European Organization for Research and Treatment of Cancer Patient Satisfaction (EORTC IN-PATSAT32) questionnaires were completed. The corresponding user manuals and existing literature were used to interpret scores.

Results
Seventy-eight patients were included. The mean generic HRQoL score was 0.76 before care and slightly increased to 0.81 after care (p=0.077). Mean BaSQoL scores varied from 0.46 to 1.05, corresponding with minimal impact on disease-specific HRQoL. However, 73.7% of patients expressed worries about prognosis and part of the patients reported that their concerns about diagnosis and treatment (12%) and their worries about prognosis (7.9%) substantially affected HRQoL. The mean DCS total score was 26.6±15.5, but in 19.2% of patients, this score exceeded the clinically relevant threshold of 37.5. On the subscales informed decision and value clarity, 32.0% and 34.2% of patients reported a mean DCS score above 37.5. The mean score on general satisfaction with care was 79.85±17.54.

Conclusion
On average, patients with HR-HNcSCC who underwent multidisciplinary tertiary care reported limited impact on HRQoL, only slightly elevated decisional conflict, and a high level of satisfaction with care. However, results also indicate room for improvement with respect to information provision regarding diagnosis, treatment and prognosis, and clarification of personal values.

Arts-onderzoeker categorie

Contrast medium reduction in stroke imaging: an additional application of computed tomography perfusion

Robbe, M.M.Q. (1,2), Pinckaers, F.M.E. (1,2), van Oostenbrugge, R.J. (2,3), van Zwam, W.H. (1,2), Staals, J. (3), Wagemans, B. (1), Postma, A.A (1,4)

1. Department of Radiology and Nuclear Medicine, Maastricht University Medical Center+, the Netherlands
2. CARIM - Cardiovascular Research Institute Maastricht, Maastricht University, the Netherlands
3. Department of Neurology, Maastricht University Medical Center+, the Netherlands
4. MHeNs - Mental Health and Neuroscience Research Institute, University Maastricht, the Netherlands

Introduction
In acute management of ischemic stroke, both computed tomography perfusion (CTP) to assess perfusion deficits and CT angiography (CTA) to detect occlusions use contrast medium. Deriving CTP data at the peak of arterial inflow, known as CTP angiographic-reconstructions (CTP-AR), and using it for occlusion detection instead of CTA reduces contrast medium usage. This study evaluated the diagnostic accuracy, additional value of CTP-maps, and scan quality of CTP-AR compared to CTA.

Methods
This retrospective study included ischemic stroke patients from September 2020 to September 2021 who underwent CTP and CTA. Three readers with varied experience assessed occlusion status and expressed certainty, which was reassessed after adding CTP-maps, and rated subjective scan quality. All CT-scans underwent dual assessment with a four-week interval between CTA and CTP evaluations (Figure 1). In case of unanimity between the readers about the occlusion status, the consensus meeting results served as the reference standard. To assess objective image quality, per patient, five ipsilateral and five contralateral regions of interest (ROI) were placed at: arteria cerebri media and its adjacent parenchyma, caudate nucleus, lentiform nucleus, and centrum semiovale. Attenuation and standard deviation per ROI were used to calculate contrast-to-noise and signal-to-noise ratios. For diagnostic accuracy, sensitivity and specificity were calculated using pooled analyses. Differences in subjective and objective image quality and certainty were assessed using Kendall's tau correlation and paired samples t-tests.

Results
In total, 107/210 included patients had an occlusion based on our reference standard. Pooled sensitivity and specificity for occlusion detection were 90% (95%CI 85-93%) and 94% (95%CI 90-97%) for CTA, and 89% (95%CI 84-93%) and 93% (95%CI 89-96) for CTP-AR, respectively. Adding CTP-maps identified 9 (2%) additional occlusions on CTP-AR and 11 (3%) on CTA, with an overall increase in certainty ($P<0.001$). There was no significant difference in subjective image quality between CTP-AR and CTA, while objectively, contrast-to-noise was significantly higher in CTP-AR ($P=0.03$) and signal-to-noise was significantly higher in CTA ($P<0.001$).

Conclusion
CTP-AR has comparable diagnostic accuracy, additional CTP-maps value, and subjective image quality, with higher contrast-to-noise ratios than CTA. Using CTP-AR for occlusion detection in ischemic stroke instead of CTA would significantly reduce contrast medium usage.

Arts-onderzoeker categorie

Pediatric Inguinal Hernia Repair with Laparoscopy (PIHRL)-Trial: A prospective study comparing percutaneous internal ring suture (PIRS) and intra-corporal purse-string suture – 1 year follow-up

Eurlings, R. MD MSc (1,2), Nordkamp, S. MD (1), Cakir, H. MD PhD FEBS (1,3), Dirix, M. MD (1,3), Theeuws, O. MD (1,3), Visschers, R.G.J. MD PhD (1,3), van Gemert, W.G. MD PhD (1,3)

1. Department of Pediatric Surgery, MosaKids Children's Hospital/ Maastricht University Medical Center+ (MUMC+), P. Debyelaan 25, 6229 HX Maastricht, The Netherlands
2. Faculty of Health, Medicine and Life Sciences FHML, NUTRIM School for Nutrition and Translational Research in Metabolism, Maastricht University, Universiteitssingel 40, 6229 ER Maastricht, The Netherlands.
3. European Consortium of Pediatric Surgery, Maastricht, Aachen, Liège

Introduction
With inguinal hernia repair (IHR) being the most common procedures in pediatric surgery, techniques are continuously being improved. Open repair is increasingly giving way to laparoscopic approaches. A newer technique is the percutaneous internal ring suture (PIRS). The aim of this trial is to compare outcomes of PIRS with conventional laparoscopy using a purse-string suture for IHR in children.

Methods
Pediatric patients were prospectively included between 2019 and 2023 in the 'Pediatric Inguinal Hernia Repair with laparoscopy' (PIHRL)-trial to undergo surgery with either PIRS (n=54) or conventional laparoscopic IHR with purse-string suture (LIHR, n=50). Follow-up was conducted at three weeks and one year after surgery. Parents were asked to complete two questionnaires (POSAS and TAPQoL/TACQoL) to assess cosmetic results and quality of life one year after surgery.

Results
The total anesthesia time and surgical time were significantly shorter in the PIRS group (69.8+27.7min vs. 84.7+21.7min, p=0.003 and 37.8+17.9min vs. 45.8+22.1min, respectively). No in-hospital complications occurred. There was one readmittance within 30 days in the LIHR group due to hemorrhaging. This resolved spontaneously without the need for intervention. There was no significant difference in recurrence rate (1 in the PIRS group and 3 in the LIHR group, p=0.263). One patient in the PIRS group suffered from testicular atrophy.

Conclusion
The PIRS technique is a safe and effective alternative for IHR in pediatric patients, with shorter anesthesia times compared to laparoscopic purse-string suturing. Longer follow-up and studies with a bigger sample size are necessary to confirm these results. Also, further investigation into the underlying mechanism of the success of the PIRS technique (i.e. inflammatory reaction and fibrotic process) needs to be conducted.

Arts-onderzoeker categorie

Surgical treatment after neoadjuvant systemic therapy for HER2-positive invasive breast cancer in the Netherlands: 10-year trends and the influence an accompanying DCIS component

Ploumen, R.A.W. (1,2), van Nijnatten, T.J.A. (2,3), Kooreman, L.F.S. (2,4), Voogd, A.C. (5,6), Keymeulen, K.B.M.I. (1), Siesling, S. (6,7), Smidt, M.L. (1,2)

1. Department of Surgery, Maastricht University Medical Centre+, The Netherlands
2. GROW – Research Institute for Oncology and Reproduction, Maastricht University Medical Centre, The Netherlands
3. Department of Radiology and Nuclear Medicine, Maastricht University Medical Centre+, The Netherlands
4. Department of Pathology, Maastricht University Medical Centre+, The Netherlands
5. Department of Epidemiology, Maastricht University, The Netherlands
6. Department of Research and Development, Netherlands Comprehensive Cancer Organisation, The Netherlands
7. Department of Health Technology and Services Research, Technical Medical Centre, University of Twente, The Netherlands

Introduction
Ductal carcinoma in situ (DCIS) is a non-obligate precursor of invasive breast cancer (IBC).
The presence of a DCIS component accompanying IBC is associated with a higher rate of primary mastectomy compared to IBC without DCIS. After neoadjuvant systemic therapy (NST), HER2+ invasive breast cancer patients show high response rates, with a pathological complete response (ypT0) in approximately 60% of patients. This allows for breast-conserving surgery in patients initially indicated for mastectomy. The aim of this study was to examine the surgical trends after NST in a Dutch nationwide HER2+ cohort. In addition, the influence of accompanying DCIS and other clinicopathological variables on mastectomy rate was assessed.

Methods
Women diagnosed with HER2-positive IBC, between 2010-2019, treated with NST and surgery were included from the Netherlands Cancer Registry and matched to the Dutch Nationwide Pathology Databank. Mastectomy rate was examined over the years, and compared between patients with and without a DCIS component in the pre-NST biopsy. Subgroup analysis on patients achieving pCR (ypT0) were performed. Multivariable logistic regression analysis was used to investigate the influence of clinicopathological variables on mastectomy rate.

Results
A total of 5,320 patients were included. Overall, mastectomy rate decreased from 62.8% in 2010 to 35.2% in 2019. Patients with IBC+DCIS underwent significantly more often mastectomy, with a rate of 48.6% in 2019, compared to 30% in IBC only (Figure 1, $p<0.001$). In IBC patients, 1,887 (47.4%) achieved ypT0, of which 37.0% underwent mastectomy. In IBC+DCIS, 519 (38.8%) achieved ypT0, of which 49.3% underwent mastectomy. Multivariable logistic regression analyses showed age <50 (OR 1.443), cT3-4 (OR 5.216), cN+ (OR 1.356), ER-negativity (OR 1.192), multifocal disease (OR 3.055) and presence of DCIS (OR 1.690) to be independently associated with higher mastectomy rate.

Conclusion
Rate of mastectomy decreased significantly in HER2-positive IBC treated with NST between 2010-2019. Multifocal disease and cT3-4 were most important predictors for mastectomy. Presence of DCIS remained associated with higher mastectomy rate, with a rate of 48.6% in 2019, irrespective of potentially achieving ypT0.

Arts-onderzoeker categorie

Gastric carcinogenesis and a potential role for the transient receptor potential vanilloid 1 (TRPV1) receptor: an observational study in histopathology

Sylvester R. Groen (1), Daniel Keszthelyi (1), Arpad Szallasi (2) , Jara A. van Veghel (1), Annick M.E. Alleleyn (1), Kata Csekő (2,3), Zsuzsanna Helyes (2,3), Iryna Samarska (4), Heike I. Grabsch (4), Ad A.M. Masclee (1), Zsa Zsa Weerts (1)

1 Department of Gastroenterology and Hepatology, Maastricht University Medical Center, Maastricht, The Netherlands
2 Department of Pharmacology and Pharmacotherapy, Medical School, University of Pécs, Pécs, Hungary.
3 Janos Szentagothai Research Center & Centre for Neuroscience, University of Pécs, Pécs, Hungary
4 Department of Pathology, Maastricht University Medical Center+, Maastricht, The Netherlands.

Introduction
The Transient Receptor Potential Vanilloid-1 (TRPV1) receptor has been described to be involved in various gastric anti- and pro-inflammatory, analgesic and cytoprotective pathways. Furthermore, several animal studies addressed the correlation of TRPV1-expression in gastric carcinogenesis identifying its role as either tumor-promotor or suppressor. The exact contribution of TRPV1-related pathways however remains unclear in development towards gastric cancer. Main objective of this study is to evaluate immunohistochemical TRPV1-expression in gastric cancer and its preliminary stages compared to controls.

Methods
Patients were selected for inclusion based on retrospective review of pathology records in which gastric mucosal tissue was retrieved during upper gastrointestinal endoscopy. Patients were subdivided in 4 immunohistochemical based groups: Helicobacter Pylori (H. Pylori) associated gastritis with gastric intestinal metaplasia (GIM), chronic atrophic gastritis (CAG) with GIM, H. Pylori associated gastritis without GIM and gastric adenocarcinoma. Patients were labeled as controls after exclusion of celiac disease and gastric pathological conditions. Immunohistochemical staining was applied in all gastric tissue samples for assessment of TRPV1-expression. Quantification of TRPV1-expression was assessed by a pathologist blinded from the study and was summarized in the Immunoreactive Score (IRS).

Results
55 patients were included for analysis (median age 60.4 years, 65.4% female). The median IRS as quantification for TRPV1-expression was significantly higher in patients with H. Pylori associated gastritis compared to controls. When GIM is present (including H. Pylori related gastritis and CAG) TRPV1-expression is even higher compared to patients without GIM and controls ($P<0.001$). Sub-analysis of the median IRS in specific gastric cells (foveolar cells, parietal cells and chief cells) showed corresponding results. In patients with gastric adenocarcinoma there was a complete loss of TRPV1-expression.

Conclusion
TRPV1-expression seems to play a contributing role in gastric mucosal inflammation and the early stages of gastric carcinogenesis, in which a significant increase is seen in preliminary stages of gastric cancer compared to controls. A complete loss of TRPV1-expression is seen in gastric cancer. These findings suggest TRPV1-expression could be a potential marker for precancerous conditions and a possible target for individualized treatment. Further prospective and functional research is necessary to address TRPV1-expression as potential marker and treatment target in gastric carcinogenesis.

Arts-onderzoeker categorie

Models To Predict Response To Hormonal Therapy In Patients With Advanced Or Recurrent Endometrial Cancer

Xiaoman Jin(1) , Daphne Silvertand(1) , Henrica M.j. Werner(1) , Johanna M.a. Pijnenborg(2) , Roy I. Lalisang(1) , Johan Bulten(2) , Ane G.z. Eriksson(3) , Kristina Lindemann(3) , Heleen J. Van Beekhuizen(4) , Hans Trum(5) , Petronella. O. Witteveen(6) , Khadra Galaal(7) , Alexandra Van Ginkel(8) , Vit Weinberger(9) , Sanne Sweegers(2) , Camilla Krakstad(10) , Willem Jan Van Weelden(2) , Rianne Fijten(11) , Andrea Romano(1) , ENITEC-consortium(12)

1. Maastricht University Medical Center+, Maastricht, The Netherlands
2. Radboud university medical center, Nijmegen, The Netherlands
3. Oslo University Hospital, Oslo, Norway
4. Erasmus Medical Center Rotterdam, Rotterdam, The Netherlands
5. Netherlands Cancer Institute, Amsterdam, The Netherlands
6. University Medical Center Utrecht, Utrecht, The Netherlands
7. Royal Cornwall Hospital NHS Trust, Truro, United Kingdom
8. Rijnstate hospital, Arnhem, The Netherlands
9. Masaryk University and University Hospital Brno, Brno, Czech Republic
10. University of Bergen, Bergen, Norway
11. GROW School for Oncology and Reproduction, Maastricht, The Netherlands
12. ENITEC: European Network Individualised Treatment Endometrial Cancer, Maastricht, The Netherlands

Introduction
There is no clear guidance for systemic treatment in patients with advanced/recurrent endometrial cancer (EC). Hormonal therapies can be considered in a palliative setting, yet there is a lack of biomarkers to predict a therapeutic response to the drug. This study aimed to identify effective biomarkers from tumor transcriptomics and develop artificial intelligence (AI) models which can predict the therapeutic response of patients to hormonal drugs.

Methods
The PROMOTE study population was previously described (van Weelden et al, AJOG 2021) and included patients with advanced stage/recurrent EC treated with hormonal drugs. Tumor samples from a total of 61 patients (out of the full cohort of 102 eligible patients) with sufficient isolated RNA were subjected to RNA-seq (Illumina). Patients were grouped according to their response to Clinical Benefit Rate (CBR: complete response, partial response and stable disease) and Response Rate (RR: complete response, partial response) were computed. Univariate analysis based on DESeq2 method and multivariate analysis based on principle component analysis and recursive feature elimination were applied using R Studio.

Results
A total of 97 differentially expressed genes were identified for CBR and 16 (10 upregulated and 6 downregulated) showed a fold-change >4; 103 differentially expressed genes were identified for RR with 24 (16 upregulated and 8 downregulated) showing a fold-change higher than 4. Interestingly, genes involved in the steroid hormone metabolism like HSD17B3, AKR1C2 were differentiallyexpressed in relation to response to hormonal drugs. Prediction models were developed either using transcriptomic data only or after combining transcriptomics with clinical features (age, stage, grade etc.). CBR and RR could be predicted with a good accuracy on the training and test data sets.

Conclusion
Based on RNA seq data on pretreatment tumor biopsies the response rate to hormonal drugs can be predicted with a good accuracy.

Senior coassistent categorie

The (in)effectivity of prolonged antibiotic prophylaxis in total breast reconstruction with AFT: a retrospective cohort study

Maud E.P. Rijkx (1,2), **Emmy J.M. Schiebroek (1),** Juliette E. hommes (1,2), Sander van Kuijk (3), Esther Heuts (4,5), Suzan van Mens (6), Andrzej A. Piatkowski (1,2)

1. Department of Plastic, reconstructive, and hand surgery, Maastricht University Medical Center+, Maastricht, The Netherlands (NL).
2. NUTRIM School for Nutrition, and Translational Research in Metabolism, Maastricht University, Maastricht, The Netherlands (NL)
3. Department of Clinical Epidemiology and Medical Technology Assessment (KEMTA), Maastricht University Medical Center, Maastricht, The Netherlands (NL)
4. Department of General surgery, Maastricht University Medical Center+, Maastricht, The Netherlands (NL).
5. GROW Research institute for oncology and reproduction, Maastricht, The Netherlands (NL).
6. Department of Medical Microbiology, Infectious Disease and Infection Prevention, Maastricht University Medical Center+, Maastricht The Netherlands (NL).

Introduction
Autologous fat transfer (AFT) is increasingly adopted as another method for total breast reconstruction. The aim of this study is to investigate the (in)effectivity of prolonged antibiotic treatment on the onset of surgical site infections in patients treated with AFT for total breast reconstruction.

Methods
This retrospective cohort study was conducted on the patients of the BREAST-II study and included patients who received AFT for total breast reconstruction, with antibiotic prophylaxis during their (multiple) AFT procedure(s) from 9 December 2020 to 10 October 2023. Patients were divided into two groups according to their prophylactic antibiotic regimen.

Results
769 surgeries in 204 patients were analysed. 628 surgeries were performed on 168 patients, who were administered perioperative antibiotic prophylaxis in combination with post-operative antibiotic prophylaxis (group 1). 141 surgeries were performed on 36 patients who solely received perioperative antibiotic prophylaxis (group 2). The relative risk (RR) was 0.67 (95%CI 0.14 – 3.30) of a surgical site infection (SSI) when receiving peri- and postoperative antibiotic prophylaxis in comparison to treatment with only perioperative prophylaxis. The absolute risk reduction (ARR) was 0.46% (95%CI -1.63 – 2.56) with a number needed to treat (NNT) of 216 patients.

Conclusion
There was no statistically significant or clinically meaningful reduction in surgical site infections of the reconstructed breasts in patients who received prolonged antibiotic treatment in comparison to single shot antibiotic prophylaxis following total breast reconstruction with AFT.

Senior coassistent categorie

The acceptance and satisfaction of the levonorgestrel intrauterine device in preventing recurrent postmenopausal bleeding in obese women

van Erp, M.A. (1), Oderkerk, T.J. (1,2,3), Leemans, J.C. (1), Bongers, M.Y. (1,2,3), Geomini, P.M.A.J. (1)

1. Department of Obstetrics and Gynaecology, Máxima Medical Center, the Nederlands
2. Department of Obstetrics and Gynaecology, Maatricht University Medical Center+, the Netherlands
3. GROW- School for Oncology and Reproduction, Maastricht University, the Netherlands

Introduction
Postmenopausal bleeding affects approximately 10% of all postmenopausal women and is caused by either benign or malignant conditions. Obese women are at greater risk of postmenopausal bleeding due to elevated levels of endogenous estrogen, which can cause an increase in endometrial proliferation. A levonorgestrel intrauterine device is a safe and effective treatment in preventing proliferation of the endometrium in pre-menopausal women with heavy menstrual bleeding. A levonorgestrel intrauterine device could hypothetically prevent endometrial proliferation and therefore uterine bleeding in postmenopausal women. This study aims to explore the acceptability and satisfaction of the levonorgestrel intrauterine device in obese women with postmenopausal bleeding.

Methods
This prospective, observational study with a twelve-month follow-up was conducted in three hospitals in the Netherlands. Women with postmenopausal bleeding, an endometrial thickness of four mm or more, a BMI above or equal to 30 kg/m2 and benign pathology, who opted for treatment with a levonorgestrel intrauterine device, were included. The primary outcome was satisfaction with the treatment at twelve months after insertion. Secondary outcome measures were treatment continuation rate, number of bleeding days, side effects, number of outpatient visits, additional diagnostic procedures and malignancy.

Results
Thirty-one obese postmenopausal women were qualified for analysis. At twelve months after insertion, 65.2% (15/23) of the women were overall satisfied ("very satisfied" or "satisfied") with the treatment and 71% (22/31) of the women continued with the levonorgestrel intrauterine device treatment. The main reasons for removal were persistent vaginal bleeding (100%) and abdominal pain (44.4%). Moreover, 22.7% (5/22) of the women who continued with the treatment still experience bleeding at twelve months. Additional diagnostic procedures were performed in 39.1% (9/23) of women who visited the outpatient clinic within the twelve-month follow-up. One (11.1%) premalignant lesion was identified.

Conclusion
A levonorgestrel intrauterine device is an acceptable and feasible treatment to prevent recurrent postmenopausal bleeding in obese women. The effectiveness in preventing recurrent postmenopausal bleeding at twelve months after insertion seems to be promising. Further research is recommended.

Senior coassistent categorie

Enhancing Operative Decision-Making in Recurrent Urinary Incontinence: the predictive value of ultrasound

P. Abbing, Prof Dr. v. Koeveringe

No affiliations

Introduction
The aim of this study was to evaluate the predictive value of transvaginal ultrasound parameters and clinical factors for the success of surgery in recurrent stress urinary incontinence in females. We hypothesised that deviations in these parameters could guide the choice between different surgical options, improving treatment outcomes for patients with recurrent SUI.

Methods
A retrospective research project was conducted on 48 women who underwent synthetic sling surgery (n=11), autologous sling surgery (n=8), or artificial urinary sphincter (n=29) placement for recurrent SUI at Maastricht University Medical Centre between 2010 and 2024. Patients were included for an analysis of pre-collected transvaginal images in which urethral length, pubic-urethral distance, vaginal-urethral distance, pubic-meatal distance, bladderneck-pubic distance, the bladderneck angle, and tapebladderneck distance were determined and compared.

Results
Uncorrected univariable analysis revealed the distance of bladderneck to vaginal wall as a possible predictor of surgery success in the AUS subgroup with a p-value of 0.046, and an OR of 2.310 with a 95%CI of 1.013 - 5.263. Furthermore, multivariable analysis showed a significant association with surgery success for a larger distance from the urethra to the pubic bone with a p-value of 0.044, and an OR of 1.4 (95%CI 1.009-1.973), and a smaller distance from meatus to the pubic bone rim with a p-value of 0.049 and an OR of 0.77 (95%CI 0.599-0.999). A predictive model created with the results from this multivariable analysis showed good discrimination capability [AUC = 0.839, 95%CI 0.705-0.973]. The model was not validated with a testing set.

Conclusion
Our study suggests that preoperative TVU measurements can offer valuable insights into anatomical factors associated with surgical success in RUI treatment. While the predictive power of these measurements varies across different surgical techniques, they hold promise for improving preoperative planning and patient selection. However, the study's limitations, including the number of patients without TVU data, co-interventions, differences in operating techniques and baseline characteristics, and the small sample size, should be taken into consideration when interpreting the results. Further research with larger, prospective studies is needed to validate these findings and enhance their clinical applicability.

Senior coassistent categorie

Financial impact of VBHC implementation in birth care at CZE

Dings, T. (**1**), Kuppens, S. (2), Tielemans, S. (2)

1. Maastricht University. Faculty of Health, Medicine and Life Sciences
2. Catharina Hospital Eindhoven

Introduction
The Value-Based Healthcare (VBHC) concept aims to provide patients with thebest possible care relative to the cost of care. The obstetric department of Catharina Hospital Eindhoven (CZE) has changed its care path since 2018 according to the VBHC principles resulting in fewer emergency C-sections, lower postpartum hemorrhage, and fewer obstetric anal sphincter ruptures. However, the cost side of the equation is still unknown. Costs, both in terms of monetary and resources such as time or energy, are more informative when they are weighed against the effects, which are clinical outcomes in this research. An economic evaluation can be conducted to map the financial impact next to the clinical outcomes. The purpose of this research is therefore to calculate the cost difference in treatment costs of the obstetric department of CZE between the full year 2019 compared to the full year 2022 accountable to the novel approach of birth care and postpartum care.

Methods
Data was extracted from an existing database at CZE, which comprises data on predefined maternal and neonatal outcomes of all women giving childbirth in CZE. This study compromises data of N=1309 women who gave labor clinically in 2019 and N=1403 women who gave labor clinically in 2022. Cost data were obtained from the financial department of CZE as standardized internal costs of care activities for the year 2022. Unpaired t-tests and Chi-square tests were conducted using IBM SPSS Statistics to compare both periods (2019 vs 2022). Finally, standardized internal costs were multiplied by the amount of delivered care activities.

Results
412 in 2019 to €2318 2022. Hospital time of the mother (both before and after delivery), number of newborns in an incubator, epidural analgesia, and number of total ruptures are the top five cost drivers.

Conclusion
This study examined the difference in treatment costs of the obstetric department of Catharina Hospital Eindhoven between the full year 2019 compared to the full year 2022 accountable to the novel approach to birth care and aftercare. The hypothesis, that there is a benefit for 2022 compared to 2019, is met with a cost decrease of 3.9% based on average cost per patient. Additionally, the top cost drivers are successfully identified and recommendations are offered to reduce costs. This study can be useful to clinicians working in obstetrics, researchers, and policymakers. Moreover, the results can be translated to other hospitals.