Dansk Selskab for
Gastroenterologi og Hepatologi

Danish Society for Gastroenterology and Hepatology

6. årsmøde

31/8-1/9 2018

på

Hotel Munkebjerg, Vejle

Indholdsfortegnelse

DSGH-årsmøde - Fredag 31. august 2018	
09.30 - 10.00	**Registrering og kaffe**
10.00 - 10.15	**Velkomst** *Formand Henning Glerup & næstformand Inge Nordgaard-Lassen*
10.15 - 10.25	**Legat** *Nye modtagere samt sidste års legatmodtagere*
10.25 - 10.40	**Æresmedlem**
10.40 - 11.35	**Levertema:** **NAFLD: How should we screen, diagnose and treat NASH patients?** Prof. Guruprasad Aithal, Notthingham *Chair: Henning Grønbæk & Maja Thiele*
11.35 - 12.20	**ePosterpræsentation (talk-no-walk á 2 min)** *Chair: Mette Munk Lauridsen og Mette Kjær*
12.20 - 13.05	**Guideline: Gastro-øsofageal refluks (GERD)** *Chair: Lise Lotte Gluud*
13.05 - 14.00	**Frokost og besøg på udstilling**
14:00 - 14.05	**UEG update** *Jakob Seidelin & Johan Burisch*
14.05 - 14.50	**Guideline: Endoskopisk fjernelse af kolonpolypper** *Chair: Anne Lund Krarup*
14.50 - 15.20	**ePosterpræsentation (talk-no-walk á 2 min)** *Chair: Jacob Bjerrum & Konstantin Kazankov*
15.20 - 16.00	**Kaffe og besøg på udstilling**
16.00 - 17.30	**Foredragskonkurrence** *Chair: Henning Grønbæk & Søren Schou Olesen*
17.30 - 18.00	**DSGH-generalforsamling**
19.00 - …	**Festmiddag** *Band: Bleak*
DSGH-årsmøde - Lørdag 1. september 2018	
9.15 - 10.00	**Selv-monitoring og IBD på tværs af landet** Ebbe Langholz, Johan Burisch, Birgit Larsen *Chair: Jakob Seidelin*
10.00 - 10.45	**Microbiomets betydning for gastroenterologiske sygdomme** Sofie Halkjær og Andreas Munk Pedersen *Chair: Henriette Ytting*
10.45 - 11.00	**Kaffe og Pause**
11.00 - 11.30	**Leverinteresse-gruppen, en kort orientering** Annette Dam Fialla *Chair: Lise Lotte Gluud*
11.30 - 12.15	**IBD-tema** **Stopperegler for biologisk terapi** Jens Dahlerup, Bent Jacobsen *Chair: Jakob Seidelin*
12.15 - 14.00	**Sandwich to go** **Mulighed for udvalgsmøder**

Abstract-oversigt 2018

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Abstracts 2018

Foredrag (7 + 2 min)

1)

Caspase-cleaved cytokeratin-18 (M30) predicts hepatic inflammation in asymptomatic patients with alcoholic liver disease

K. H. Thorhauge[1], M. Thiele[1], B. S. Madsen[1], J. F. Hansen[2], S. Detlefsen[3], Steen Antonsen[4], L. M. Rasmussen[5], A. Krag[1]

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Background and Aims: Alcoholic liver cirrhosis is preceded by years of subclinical progressive fibrogenesis driven by hepatic inflammation. Consequently, we need biomarkers to detect and monitor alcoholic hepatic inflammatory activity. M30 is a commercial marker of caspase-cleaved cytokeratin-18 that reflects hepatocyte apoptosis. It is not known whether M30 can detect subclinical liver inflammation in asymptomatic patients or how it performs compared to AST:ALT ratio and ActiTest; another commercial inflammation biomarker. We aimed to investigate the correlation of M30, ActiTest and AST:ALT ratio with histological inflammatory activity in asymptomatic alcoholic liver disease patients.

Method: Biopsy-controlled, single-center, prospective study in outpatients with an ongoing or prior excessive alcohol intake. Same-day blood sampling and liver biopsy were performed. M30 Apoptosense® (VLV bio, Sweden), ActiTest (Biopredictive, France) were analysed. We scored biopsies using the semiquantitative NAFLD Activity Score and graded hepatic inflammation by the sum of ballooning (0-2) and lobular inflammation (0-3).

Results: We included 260 patients from 2013 to 2016. Mean age 56±14.5, 73% males, 52% not drinking at inclusion, 23% severe fibrosis or cirrhosis and 48% steatosis. The distribution of inflammatory activity (0-5) was 67/61/60/35/24/13. M30, ActiTest and whether patients were actively drinking at inclusion independently predicted increasing grade of hepatic inflammation, while AST:ALT ratio did not. M30 diagnosed the presence of severe hepatic inflammation (score 4-5) with excellent accuracy (M30 AUROC 0.90, 0.85-0.94), significantly better than ActiTest and AST:ALT ratio (AUROC 0.77 and 0.74; $P<0.001$).

Conclusion: M30 detects severe alcohol-related hepatic inflammation with excellent accuracy and increase for every grade of hepatic inflammatory activity.

2)

High dose vitamin D treatment enhances the anti-inflammatory effect of infliximab in patients with Crohn's disease: A placebo controlled, double blinded randomized clinical trial

Bendix M[1,2], Dige A[1], Jørgensen SP[1] ,Dahlerup JF[1], Bibby BM[4], Deleuran B[3,5] and Agnholt J[1].

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Introduction: Crohns disease (CD) patients with disease activity may benefit from vitamin D treatment. Here we investigated whether high dose vitamin D treatment alone or combined with infliximab decrease inflammation markers and disease activity in CD patients.

Methods: Forty CD patients with disease activity were included and randomized: 1) infliximab and vitamin-D, 2) infliximab and placebo vitamin-D, 3) placebo infliximab and vitamin-D, 4) placebo infliximab and placebo vitamin-D. Infliximab was given at week 0, 2 and 6 and 5 mg Dekristol was given at week 0 followed by 0.5 mg/day up to 7 weeks. Disease activity was evaluated with Crohn's disease endoscopic index of severity (CDEIS), Harvey Bradshaw Index (HBI), C-reactive protein (CRP), faecal calprotectin and leukocytes. During follow up patients were treated with infliximab and assembled into 2 groups: vitamin D (group 1 and 3) or placebo-vitamin D (group 2 and 4).

Results: During 7 weeks of intervention only group 1 reduced the CDEIS score compared with group 4 (p = 0.04). During intervention, group 3 decreased in number of leukocytes compared to placebo but not calprotectin, HBI and CRP. During 31 weeks of follow up high-dose vitamin D treated patients had 2.9 times lower faecal calprotectin (p = 0.03), and 2.2 times lower CRP (p = 0.04) compared to placebo vitamin D.

Conclusion: Initial high dose vitamin D treatment was associated with improved anti-inflammatory effect in combination with infliximab treatment: reduced CDEIS score week 7 and lower faecal calprotectin and CRP levels during 31 weeks follow up.

3)

A prospective validation study: 7α-hydroxy-4-cholesten-3-one is superior to Fibroblast Growth Factor-19 stimulated with a meal plus chenodeoxycholic acid for diagnosing bile acid diarrhoea

Christian Borup[1], Signe Wildt[1,7], Jüri J. Rumessen[2], Jesper Graff[3], Trine B. Andersen[4], Anna Zaremba[4], Lars Vinter-Jensen[4], Camilla Nøjgaard[3], Hans B. Timm[3], Tine Gregersen[5], Søren P. G. Jørgensen[5], Pierre N. Bouchelouche[1], Dominique Rainteau[6], Sarah Layani-Moreno[6], Lars K. Munck[1,7]

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Introduction: Bile Acid Diarrhoea (BAD) affects 1% of the population and ~30% of patients with diarrhoea-predominant irritable bowel syndrome. Limited availability of the SeHCAT retention-test warrants biochemical tests. 7α-hydroxy-4-cholesten-3-one (C4) is a good alternative to the SeHCAT-test. Fibroblast Growth Factor-19 (FGF19) has insufficient diagnostic strength, however, stimulation with chenodeoxycholic acid (CDCA) plus a defined meal could improve FGF19. We aimed to validate C4 and stimulated FGF19 with the SeHCAT-test (NCT03059537).

Methods: We recruited patients prospectively referred for SeHCAT at Holbæk/Køge, Hvidovre, Aalborg, and Aarhus hospitals. We sampled plasma at fasting and 90, 120, and 150 minutes after ingestion of the meal plus 1250 mg CDCA (Xenbilox®, Sigma-tau Rare Disease Ltd., independent grant). We analysed FGF19 with enzyme-linked immunosorbent assay and C4 with high-performance liquid chromatography-tandem mass spectrometry. SeHCAT ≤ 10% defined BAD; > 10% defined idiopathic diarrhoea. We show medians with interquartile ranges and compare data with the Mann-Whitney U-test.

Results: Of 71 subjects, 26 had BAD. FGF19 peaked at 150 minutes without difference between BAD and idiopathic diarrhoea except at fasting; $p<0.01$. Fasting C4 cut-off < 15.4 ng/mL categorised 40 subjects test-negative for BAD (36/40 true negative). Fasting C4 cut-off ≥ 45.1 ng/mL categorised 12 subjects test-positive (10/12 true positive). Ten of the 19 subjects with an inconclusive C4 result had SeHCAT ≤ 10%.

Conclusion: Neither fasting nor meal plus CDCA stimulated FGF19 suffice for a diagnostic test for BAD. C4 may qualify as a screening test for BAD and an alternative to the SeHCAT-test. This needs validation in a placebo-controlled treatment trial.

4)

Serum markers of macrophage activation CD163 and sMR predict transplant-free survival in Primary Sclerosing Cholangitis

Lars Bossen[1] and Mette M. Vesterhus[2,3], Johannes R. Hov[2,4,5,6], Holger J. Møller[7], Kirsten M. Boberg[2,4,5,6], Tom H. Karlsen[2,4,5,6], Henning Grønbæk[1]

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Background: Primary sclerosing cholangitis (PSC) is a progressive and remarkably variable liver disease characterized by bile duct inflammation and fibrosis. Biomarkers predicting outcome are currently not established. Soluble CD163, a specific macrophage activation marker, is associated with disease severity and outcome in other liver diseases but has not been investigated in PSC. We aimed to evaluate the prognostic utility of the macrophage activation markers sCD163 and sMR in patients with PSC.

Methods: Plasma samples were available from 138 large-duct primary sclerosing cholangitis patients recruited 2008-2012. The median follow-up time was 2.2 (range 0-4.3) years. Specific biomarkers of macrophage activation (sCD163 and sMR) were assessed. The Enhanced Liver Fibrosis (ELF) Test and PSC specific Mayo risk score were assessed for comparison.

Results: Both markers showed incremental elevation in groups of PSC patients with increasing disease severity as defined by either Mayo score or ELF test ($p<0.001$). Four-year transplant-free survival was significantly higher in patients with high baseline plasma levels of sCD163 or sMR compared with patients with low baseline plasma levels whether divided into groups defined by tertiles, optimal cut-off value defined by Youden, or established cut-off values ($p<0.001$). AUC-ROC analysis showed good discrimination for both sCD163 and sMR between PSC patients with and without endpoints (death or liver tx) after 4 years follow-up, with AUC for CD163 of 0.814 (95% CI; 0.741-0.887) and sMR 0.754 (95% CI; 0.666-0.842), respectively.

Conclusions: Specific markers of macrophage activation are elevated according to disease severity in PSC patients and show good discriminatory abilities.

5)

Fecal microbiota transplantation (FMT) is superior to both fidaxomicin and vancomycin alone for recurrent Clostridium difficile-associated disease

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Introduction: Fecal microbiota transplantation (FMT) is used for recurrent Clostridium difficile infection (rCDI), but its clinical effect relative to that of new antibiotic treatments is unknown. We investigated the clinical and microbiological effects of FMT, fidaxomicin, and vancomycin.

Methods: This was a single-centre, randomized, controlled, open label clinical trial. We randomized 64 adult patients with rCDI to 10 days of either vancomycin 125 mg qd (n=16), fidaxomicin 200 mg bd (n=24), or vancomycin followed by one FMT applied by colonoscopy or NJ tube (n=24). Primary outcome was clinical and microbiological resolution at 8 weeks. Secondary endpoints included clinical resolution week 8.

Results: All 64 patients received the allocated treatment. Combined clinical and microbiological resolution was achieved in 3 (19%, 95% confidence limits 4% - 46%) of 16 with vancomycin, 8 (33%; 16% - 55%) of 24 with fidaxomicin, and 18 (75%; 58%-93%) of 24 with vancomycin plus FMT (vancomycin vs FMT p=0.0005; fidaxomicin vs FMT p=0.004; vancomycin vs fidaxomicin p=0.31). Clinical resolution was obtained in 4/16 (25%, 7% - 52%) with vancomycin, 8/24 (33%; 16 – 55%) with fidaxomicin, and 23/24 (96%, 79% - 100%) with vancomycin plus FMT. One serious adverse event could be related to FMT. No deaths occurred.

Conclusions: FMT was superior to both fidaxomicin and vancomycin for recurrent Clostridium difficile infection, both with regard to combined clinical and microbiological resolution and clinical resolution alone. Serious adverse events were observed but occurred infrequently.

6)

Effects of propranolol on liver and spleen-stiffness measured by MR-elastography in patients with cirrhosis

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Introduction: Our knowledge of the effects of non-selective beta-blockers (NSBBs) on liver- and spleen-stiffness measured with MR-elastography (MRE) is incomplete. We hypothese that NSBBs reduce the liver- and spleen-stiffness because of a reduction in blood flow in the portal system. The purpose of this study was to evaluate MRE as a potential non-invasive diagnostic tool in patients with cirrhosis and to assess if MRE can be used to register the NSBB response.

Method: Fourteen patients (5 women and 9 men) with cirrhosis and indication for NSBB treatment underwent MRE, liver vein catheterisation (LVC), and registration of clinical and biochemical characteristics.

The response to NSBB was defined as a reduction of the hepatic venous pressure gradient (HVPG) ≥ 10%, or to HVPG < 12mmHg after intravenous propranolol administration during LVC. 6 patients were non-responders to NSBB.

Results: NSBB treatment reduces the mean liver-stiffness with 25,3 kPa and the mean spleen-stiffness with 26,9 kPa.

The reduction in HVPG after NSBB administration was associated with a reduction in spleen-stiffness after NSBB (***Spearman's*** $r=0.7$ $p<0.05$) but there was no significant associations with changes in liver-stiffness (NS).

There was no significant association between the severity of cirrhosis (Child Pugh Score) or degree of portal hypertension and the liver-stiffness (NS) or spleen-stiffness (NS).

Conclusions: NSBB treatment reduces liver and spleen-stiffness, but the reduction in HVPG after NSBB is primarily associated to the spleen-stiffness. However, liver- and spleen MRE cannot be used to distinguish severity of cirrhosis. Our results emphasize the importance of considering betablocker treatment when interpreting MRE results.

7)

Indirect costs of inflammatory bowel disease in a Danish population-based inception cohort after ten years of follow-up.

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Introduction: The magnitude of indirect costs of patients with inflammatory bowel disease (IBD) remains unknown. The aim of this study was to assess the indirect cost in a population-based cohort with 10 years of follow-up.

Methods: Patients diagnosed with Crohn's disease (CD) (213) and Ulcerative Colitis (UC) (300), 2003-2004 in a well-defined area were followed prospectively. Employment status, sick-leave and social benefits were registered and compared with the background population. Using multiple regression models, associations between indirect cost and multiple variables were assessed.

Results: 139(65%) CD and 181(60%) UC patients had at least one paid sick-leave with a median length of 8.4(2.6-19.8) months for CD and 5.1(1.6-15.9; *p=0.2)* for UC. The cost for CD was 10,300(3,900-32,100) and 8,800(2,400-28,500) EUR for UC. Regarding unemployment, 123(58%) CD and 156(52%) UC were unemployed at least once. In CD, the median length was 5.3(2.3-12) and 6.6(2-14.8; p=0.55) months in UC. The cost was 17,900(4,700-55,800) for CD, and 14,600(3,100-47,100) EUR for UC patients(p=0.5). Loss of tax income was 6,900(2,200-17,000) EUR. The total cost accounted for 19.7 million EUR(CD:9.1, UC:10.6). No associated factors were found in CD. In UC, age 17-40 years(1.5[1.0-2.1]), and smoking(1.3[1.1-1.6]) at diagnosis were associated with the indirect cost. No difference was found compared with the background population.

Conclusion: In this population-based cohort with ten years of follow-up, indirect cost of IBD did not differ from the background population. No difference was found between CD and UC patients. These data indicate that current treatment strategies keep patients with IBD on the job market.

8)

Transient elastography for screening of liver fibrosis: cost-effectiveness analysis from 7 prospective cohorts in Europe and Asia

Maja Thiele, Miquel Serra-Burriel, Isabel Graupera, Llorenç Caballeria, Dominique Roulot, Wai Sun, Neil Guha, Núria Fabrellas, Rosario Hernández, Grace Wong, Sarwa Darwish Murad, Aleksander Krag, Paolo Angeli, Anita Arslanow, Pere Torán, Castera Laurent, Vincent Wong, Pere Ginès, Frank Lammert

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Introduction: Nonalcoholic fatty liver disease (NAFLD) and alcoholic liver disease (ALD) challenges healthcare systems due to a large number of at-risk patients. We therefore aimed to explore the cost-effectiveness of transient elastography (TE) as a screening method to detect liver fibrosis in the general population and primary care.

Methods: Cost-effectiveness analysis using individual patient data from seven prospective cohorts (five European and one Asian). Conditional inference trees, logistic regression and Heckman sample-selection models to explore the relationship between liver stiffness, socio-demographics, comorbidities and hepatic fibrosis; the latter assessed by liver biopsy in a subset of 295 patients. We compared TE with standard care (transaminase levels) by a difference in quality-adjusted life years (QALY) as incremental cost-effectiveness measure.

Results: The data set encompassed 6,295 participants, mean age 55±12 years, BMI 27±5 kg/m2, TE 5.6±5.0 kPa. A 9.1 kPa TE cut-off provided the best accuracy for the diagnosis of significant fibrosis (≥F2) in general population settings, whereas a threshold of 9.5 kPa was optimal for populations at-risk for ALD. Screening with TE was cost-effective with mean incremental cost-effectiveness ratios ranging from 1,990 €/QALY (95% CI 1,869 – 2,110) for a population at-risk for alcoholic liver disease (age ≥45 years) to 6,549 €/QALY (95% CI 6,212 – 6,886) in general population. There was even a 12% chance of TE screening being cost-saving across countries and populations. We observed the largest survival effect of screening when diagnosing F2-3, compared to F0-1 or F4.

Conclusions: Screening for liver fibrosis with transient elastography in primary care is a cost-effective intervention and may be cost-saving.

9)

The Risk of Second Primary Colorectal Adenocarcinomas is not Increased among Patients with Gastroenteropancreatic Neuroendocrine Neoplasms – A Nationwide Population Based Study

Tobias Stemann Lau[1], Gitte Dam[1], Peter Jepsen[1, 2], Henning Grønbæk[1], Klaus Krogh[1], Tine Gregersen[1, 3]

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Introduction: Second primary colorectal adenocarcinomas (SPCA) may occur with a higher frequency in patients with gastroenteropancreatic neuroendocrine neoplasms (GEP-NENs). In a nationwide population based study, we investigated the risk of SPCA in GEP-NEN patients and compared it to the general population.

Methods: Using the nationwide Danish registries, we identified 2,831 GEP-NEN patients (median age 63 years (IQR 50-73 years), 53 % women) diagnosed in 1995-2010. We used Cox regression to compare the incidence of SPCA in GEP-NEN patients relative to a gender- and age-matched general population sample of 56,044 persons.

Results: We observed 20 SPCAs among the 2,831 GEP-NEN patients with a total time of risk of 14,003 years (incidence = 143 per 100,000 person-years) and 770 colorectal adenocarcinomas in the general population of 56,044 persons with a total time of risk of 466,801 years (incidence = 165 per 100,000 person-years). The hazard ratio (HR) of SPCA from GEP-NEN diagnosis to end of follow up was 1.22 (95% CI: 0.78-1.92) in GEP-NEN patients compared to the general population. This nonsignificant association was the result of a strong positive association in the first 6 months after diagnosis of GEP-NEN (HR = 9.43 (95 % CI:4.98-17.86)) followed by a negative association in the remainder of the follow-up period (HR = 0.50 (95 % CI:0.20-1.21)).

Conclusions: In this population based study, there was no increased risk of SPCA among GEP-NEN patients. The clinical work-up in newly diagnosed GEP-NEN patients likely explains the positive short-term association followed by a negative association.

Poster abstracts 10-43

10)

Spot urine sodium validly estimates 24-hour urine sodium excretion in patients with ileostomies

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Introduction: Sodium deficiency in patients with ileostomies is associated with chronic dehydration and can be difficult to detect. We aimed to investigate if sodium concentration in a single spot urine sample can be used as a proxy for 24-hour urine sodium excretion.

Methods: In a prospective observational study with eight ileostomates and eight subjects with intact intestines, we examined the correlation and agreement between spot urine sodium concentration and 24-hour natriuresis. Spot urine samples were drawn from every micturition during the 24 hours, and all participants documented their food and fluid intakes.

Results: There was high and statistically significant correlations between 24-hour natriuresis and urine sodium concentrations in both morning spot samples ($n = 8$, $\rho = 0.78$, $P = 0.03$) and midday spot samples ($n = 8$, $\rho = 0.82$, $P = 0.02$) in the ileostomates. The agreement between methods was fair (Bias = -3.88, Limits of Agreement = - 35.61 to 27.86). The correlation was weaker and not statistically significant for evening samples and in volunteers with intact intestines.

Conclusion: A spot urine sodium sample obtained in the morning or midday is a valid estimate of 24-hour urine sodium excretion in patients with ileostomies and provides an easy method to identify sodium depletion. This approach does not apply to healthy volunteers.

11)

An iso-osmolar oral supplement increases natriuresis and does not increase stomal output in ileostomates: a randomised, double-blinded, active comparator, crossover intervention study

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Introduction: Patients with ileostomies often experience fluid and electrolyte depletion because of gastrointestinal loss. This study aimed to evaluate how an iso-osmolar and a hyperosmolar oral supplement affect ileostomy output, urine production, and natriuresis as proxy measurements of water-electrolyte balance.

Methods: In a randomised, double-blinded, active comparator, crossover intervention study *(ClinicalTrials.gov identifier: NCT03348709)*, we included eight adult patients with ileostomies who were independent of parenteral support. We investigated how an iso-osmolar (279 mOsm/kg) and a hyperosmolar (681 mOsm/kg) oral supplement affected ileostomy output mass, urine volume, and natriuresis. In addition to their habitual diet, each participant ingested 800 mL/day of either the iso-osmolar or hyperosmolar supplement in each of two study periods. Each period started with 24-hour baseline measurements, and the supplements were ingested during the following 48 hours. All measurements were repeated in the last 24 hours. Ileal biopsies were collected and examined by light microscopy.

Results: No statistically significant changes in ileostomy output were detected following the intake of either oral supplement (median (range) 67 (-728 to 290) g/day, p=0.38) despite increased fluid intake. Compared with the hyperosmolar supplement, the iso-osmolar supplement induced a statistically significant increase in urine volume (470 (0 to 780) mL/day, p=0.02) and natriuresis (36 (0 to 66) mmol/day, p=0.02). No changes in epithelial mucosal morphology were observed.

Conclusion: Intake of the two oral supplements did not affect ileostomy output. Ileostomates may benefit from increasing their ingestion of iso-osmolar fluids as natriuresis increased following intake of the iso-osmolar supplement compared to ingesting the hyperosmolar supplement.

12)

Cardiac dysfunction in cirrhosis: a 2-year longitudinal follow-up study using advanced cardiac imaging

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Introduction: The temporal relationship between progression of cirrhosis, development of cardiac dysfunction and survival remains unsettled. The aim of this study was to investigate the development of structural and functional cardiac changes over time in cirrhotic patients and the association with disease severity and outcome.

Methods: We included 63 cirrhotic outpatients (Child class: A=9, B=46, C=8) and 14 healthy controls. Cardiac assessments were performed at 0/6/12/18/24 months in the patients. The investigations included cardiac MRI with extracellular volume (ECV) quantification, speckle tracking echocardiography, ECG, and assessments of biomarkers. Patients were followed-up for a median of 30 months with registration of acute decompensations (AD), liver transplantation (LT), and death.

Results: Patients had structural and functional cardiac abnormalities at baseline. Limited development in cardiac dysfunction was seen in patients who remained stable in cirrhosis. Patients who progressed, underwent LT, or died showed signs of more pronounced cardiac dysfunction including structural myocardial changes and left atrial enlargement. During follow-up 25 patients developed AD, 4 underwent LT, and 20 died. Mean arterial pressure was the only cardiovascular parameter associated with death in a univariate analysis (P=0.037); however myocardial ECV was independently associated with the combined endpoint of LT/death (P=0.001). In AD patients a low cardiac index was independently associated with death (P=0.014).

Conclusion: Patients with stable cirrhosis have limited progression in cardiac dysfunction over a 2-year period with modest impact on survival. However, cardiac function seems to deteriorate in relation to progression in cirrhosis and may influence survival in AD patients.

13)

Incidence and prevalence of autoimmune hepatitis in England 1997-2015. A population-based cohort study.

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Introduction: There are only few population-based studies of the incidence of autoimmune hepatitis over long time periods. The burden of the disease and how it has changed over time has therefore not been fully explored. We conducted a population-based cohort study on the incidence of autoimmune hepatitis in England, 1997–2015.

Methods: From English healthcare registries, we identified all patients diagnosed with autoimmune hepatitis between 1997 and 2015. We followed the patients through 2015 and calculated the sex- and age- standardised incidence and prevalence of autoimmune hepatitis. We examined trends and variation in incidence by sex, age, calendar year, geographical region, and socioeconomic status. We calculated incidence rate ratios with Poisson regression.

Results: We included 882 patients with autoimmune hepatitis. The overall standardised incidence rate was 2.08 (95% confidence interval 1.94-2.22) per 100,000 population per year, higher in women than in men, higher in older age, and independent of region of residence and socioeconomic status. The point prevalence on 31 December 2015 was 19.24 (95% confidence interval 18.08-20.41) per 100,000 population. The incidence doubled from 1.27 (95% confidence interval 0.51-2.02) per 100,000 in 1997 to 2.56 (95% confidence interval 1.79-3.33) per 100,000 population per year in 2015.

Conclusion: This population-based study showed a high incidence of autoimmune hepatitis in England, particularly in older women. The incidence and prevalence of autoimmune hepatitis in England doubled over an eighteen-year period but was similar across all regions of England and independent of socioeconomic status.

14)

Colon Crohn: Har rygning ved debut effekt på sygdomsforløbet?

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Baggrund og formål: Mb Crohn og Colitis Ulcerosa har mange fællestræk, men rygning har diametralt modsat effekt på de to sygdomme: ved Colitis Ulcerosa har rygning generelt positiv effekt, mens rygning ved Mb Crohn øger risiko for opblussen og operation. Formålet med denne undersøgelse var at undersøge om rygning havde en forskellig effekt på colon Crohn (CC) patienter, end på Crohn patienter med anden sygdomslokalisation (CAL)

Materiale og Metode: Afdelingen for Medicinske Mave- Tarmsygdomme, Aalborg Universitetshospital har i samarbejde med Zitelab udviklet en database for patienter med kronisk inflammatorisk tarmsygdom (Gastrobio®). Alle patienter i Region Nord diagnosticeret med kronisk inflammatorisk tarmsygdom siden 1977 er registreret i denne database. Patienter med mb Crohn diagnosticeret mellem 1.1.2007 og 31.12.2016 indgik i undersøgelsen. Rygning ved debut samt maksimale sygdoms udbredning blev registreret. Det blev endvidere registreret om patienterne havde gennemgået operation, og om de havde modtaget biologisk behandling. Der blev testet for forskelle i observerede hyppigheder med Chi-square test.

Resultater: Patienterne sammensætning, rygeoplysninger og øvrige data fremgår af tabellerne. I alt 694 patienter indgik i undersøgelsen. 121 udgik pga. manglende oplysninger om rygning ved debut og 177 pga. manglende oplysninger om udbredelse. 396 blev analyseret, heraf 197 med CC. 95 patienter (24,0%) var rygere. Rygning forekom lige så hyppigt hos kvinder som mænd (NS), og var lige så udbredt hos CC som hos CAL patienter. Operation var blevet udført på 149 patienter (37,6%). Operation blev foretaget lige så hyppigt på CC som CAL patienter, og rygning påvirkede ikke operationsraten. I alt havde 233 patienter fået biologisk behandling (58,8%). CC patienter behandledes lige så hyppigt med biologisk terapi som CAL patienter, og rygning havde ikke effekt på denne rate.

Konklusion: Resultaterne tyder på at rygning ved debut hos patienter med colon Crohn ikke har modificerende effekt på sygdomsforløbet, samt at operationsraten og anvendelsen af biologisk behandling er ens for colon Crohn patienter og mb. Crohn patienter med anden sygdomslokalisation.

Patienter med CD						
	Total	**Rygere**	**Mænd**	**Rygere**	**Kvinder**	**Rygere**
Colon lokalisation	**197**	**47 (23,9%)**	**91 (46,2%)**	**18 (19,8%)**	**106 (52,8%)**	**29 (27,3%)**
Anden lokalisation	**199**	**48 (24,1%)**	**96 (48,2%)**	**26 (27,1%)**	**103 (51,8%)**	**18 (17,4%)**

Patienter med CD						
	Total	**Rygere**	**Mænd**	**Rygere**	**Kvinder**	**Rygere**
Colon lokalisation	**197**	**47 (23,9%)**	**91 (46,2%)**	**18 (19,8%)**	**106 (52,8%)**	**29 (27,3%)**
Anden lokalisation	**199**	**48 (24,1%)**	**96 (48,2%)**	**26 (27,1%)**	**103 (51,8%)**	**18 (17,4%)**

Biologisk behandling og rygning ved CD						
	Total	**Rygere**	**Mænd**	**Rygere**	**Kvinder**	**Rygere**
Colon lokalisation	**123 (62,4%)**	**27 (22,0%)**	**54 (43,9%)**	**11 (20,4%)**	**69 (56,1%)**	**16 (23,2%)**
Anden lokalisation	**110 (55,3%)**	**30 (27,3%)**	**53 (48,2%)**	**14 (26,4%)**	**57 (51,8%)**	**16 (28,1%)**

15)

Optimized thiopurine therapy before withdrawal of anti-TNFα in patients with Crohn's disease: 1-5 year follow-up

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Introduction: The risk of relapse is high after withdrawal of anti-TNFα; approximately 40-60 % 1-5 years after withdrawal, in patients with Crohn's disease (CD)[1–3]. The aim of this study was to evaluate relapse rates in CD when thiopurine therapy was optimized before anti-TNFα withdrawal.

Methods: An observational study including patients with CD who achieved clinical remission with optimized thiopurine therapy before anti-TNFα withdrawal. We defined optimized thiopurine therapy as 6-thioguanine levels of ≥150 nmol/mmol Hb (~ 300 ρmolx10^8 RBC) and clinical remission as Harvey Bradshaw Index ≤ 5 and faecal calprotectin ≤ 200 µg/g.

Results: We included 33 patients (median age 31 years, 55 % males, median disease duration 7 years) followed for a median of 36 months. 3 patients (9%) relapsed during the first year and 6 patients (in total 27%) relapsed after 2 years. After 2 years no additional patients relapsed. Relapse was not predicted by: disease duration, the duration of anti-TNFα treatment nor faecal calprotectin levels at baseline. However, relapse at year 2 was predicted by faecal calprotectin levels ≥ 180 µg/g at year 1.

Conclusion: Optimized thiopurine therapy leads to maintained remission in 73% of patients with CD 2-5 years after withdrawal of anti-TNFα. Additional prospective evidence is needed to confirm the findings.

16)

AmbuIBD. Webbaseret kontrolforløb for patienter med IBD - Når patienten inddrager sundhedsvæsenet

Birgit Furstrand Larsen, Charlotte Weiling Appel

Introduction: Patientrapporterede oplysninger (PRO) benyttes i stigende grad til at inddrage patienterne, øge behandlingskvaliteten samt erstatte rutinekontroller. PRO har kun i begrænset omfang været benyttet i behandlingsforløbet af patienter med IBD.
Formålet er at beskrive erfaringer med udvikling af PRO-spørgeskemaer og udviklingen af et webbaseret patientforløb.
Methods: PRO-spørgeskemaet blev udviklet ud fra eksisterende spørgeskemaer (SCCAI, HBI, SHS mm.) omdannet til PRO og afprøvet via semistrukturerede patientinterview og spørgeskemaer til gastroenterologerne på Regionshospitalet Silkeborg. En tværfaglig gruppe har udviklet arbejdsgange, beslutningsalgoritme og informationsmateriale for patientforløbet.
Results: Der er udviklet et forløb hvor patienterne besvarer et generisk PRO-spørgeskema med spørgsmål om tarmsygdommen, generelt helbred, træthed og medicinbivirkninger mm. via et webbaseret system (AmbuFlex). Der tages individuel stilling til, hvor ofte patienten skal besvare PRO-spørgeskemaet både forud for fremmøde og som erstatning for kontrol. Patienten kan ligeledes besvare ved behov. Sygeplejersker vurderer besvarelserne via EPJ ud fra en algoritme i forhold til om patienten skal kontaktes eller ej.
Januar 2017 - maj 2018 visiterede vi 498 patienter svarende til 81 % af IBD-patienterne i klinikken. Gennemsnitsalderen er 46 år (16-85 år) og 60 % er kvinder. Størstedelen af patienterne har besvaret PRO-skemaet en gang (64 %), og af 537 besvarelser er 189 (35 %) af patienterne kontaktet. Både klinikere og patienter er tilfredse og finder kontaktformen relevant.
Conclusions: AmbuIBD kan på sikker og tilfredsstillende vis erstatte og supplere den vanlige kontaktform for en stor del af patienterne med IBD. Der indsamles fortsat data for at evaluere den patientoplevede, kliniske og organisatoriske kvalitet.

17)

Essential Liver Functions Measured by PET in Mini-pigs with Radiation-induced Liver Fibrosis

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Introduction: Using radio-labelled conjugated bile acid [N-methyl-11C]cholylsarcosine ([11]C-CSar) and galactose analog [18F]fluro-2-deoxy-D-galactose ([18]F-FDGal), we have developed PET/CT methods to quantify hepatobiliary and hepatocytosolic function, respectively.

The aim of the present study was to use these PET methods to functionally and histologically characterize a novel pig model for hepatic fibrosis, induced by stereotactic body radiation therapy (SBRT).

Methods: We used 10 Göttingen mini-pigs (25-30 kg); 5 pigs were investigated 4-6 weeks subsequent to CT-guided SBRT of the whole liver (14 Gy), and 5 were used for reference. All pigs underwent dynamic [11]C-CSar and [18]F-FDGal PET scans of the liver with simultaneous sampling of blood and flow measurements, followed by collection of tissue samples.

PET and blood data were analyzed by kinetic modelling as developed and validated in previous studies.

Results: All pigs exposed to whole-liver irradiation displayed significant perivenous fibrosis. Hepatobiliary function measured by [11]C-CSar PET/CT was unaffected when compared to control pigs, with regards to uptake across the hepatocyte membrane (PS(mem); $P>0.3$) and flow-independent clearance of bile acids (Cl(int); $P>0.3$). Bile flow (1/min) was reduced, although not statistically significant ($P=0.11$). Metabolic clearance of [18]F-FDGal (K(met)) was slightly increased in mini-pigs with radiation injury ($P=0.24$).

Conclusions: We introduce a novel large animal model of hepatic fibrosis induced by SBRT. Irradiation of the liver in mini-pigs thus successfully induced pathological injury. These structural changes affected biliary excretion but not uptake of bile acids from blood, as measured by [11]C-CSar. Hepatocytosolic function measured by [18]F-FDGal was increased as previously observed in other studies on regenerating liver tissue.

18)

Portal vein thrombosis is not associated with elevated plasma levels of the macrophage activation markers soluble CD163 and soluble Mannose Receptor

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Introduction: Macrophages are involved in liver inflammation, fibrosis and portal hypertension. Soluble CD163 (sCD163) and soluble mannose receptor (sMR) are specific macrophage activation markers associated with portal hypertension. Whether these markers are elevated in patients with portal vein thrombosis is unknown. We aimed to investigate the association between macrophage activation markers, portal hypertension and portal vein thrombosis in patients with and without cirrhosis.

Methods: In a cross-sectional design, we studied plasma levels of sCD163 and sMR in 30 patients with idiopathic portal hypertension, 34 patients with non-cirrhotic portal vein thrombosis, 17 patients with cirrhosis without portal vein thrombosis and 31 patients with cirrhosis and portal vein thrombosis. Clinical and biochemical data was obtained for all patients.

Results: No difference was observed between the plasma levels of sCD163 or sMR in patients with idiopathic portal hypertension and patients with non-cirrhotic portal vein thrombosis (P=0.135 and P=0.133). Similarly, there was no difference between plasma levels of sCD163 or sMR in the cirrhotic patients with or without portal vein thrombosis (P=0.203 and P=0.360). However, plasma levels of sCD163 and sMR were significantly higher in the patients with cirrhosis compiled or as individual groups (P<0.001 for all cases). Adjusting for P-creatinine, P-albumin and Child Pugh score did not influence results.

Conclusions: Portal vein thrombosis was not associated with an increase in circulating levels of sCD163 or sMR. This was apparent both for patients with and without cirrhosis. As expected plasma levels of sCD163 and sMR was increased in patients with liver cirrhosis, regardless of thrombosis.

19)

Metabolic syndrome is the strongest predictor of fibrosis severity in early alcoholic liver disease

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Introduction: A quarter of the adult world population has fatty liver, which is classified as strictly alcoholic or non-alcoholic. Yet, it is unclear how concomitant metabolic risk factors impacts the severity of alcoholic liver disease. We therefore aimed to investigate the impact of the metabolic syndrome and its components on histological lesions in pre-cirrhotic, asymptomatic alcoholic patients.

Methods: Biopsy-controlled study in patients with an ongoing or prior alcohol overuse. We excluded cirrhosis to avoid bias from changes in weight, blood pressure, insulin sensitivity and lipids induced by liver dysfunction. Liver biopsies were centrally scored using the NAS-CRN system. We evaluated the association between histology and the metabolic syndrome (MetS), adjusting for age, gender, smoking, alcohol history and whether patients were actively drinking or abstinent at inclusion.

Results: We included 268 patients; 74% male, age 54±11 years, 25% MetS, 47% abstaining from alcohol at inclusion, 8% severe fibrosis, 28% steatohepatitis. Patients on average exhibited two metabolic risk factors. In multivariable ordered logistic regression analysis, MetS was the strongest predictor of higher fibrosis stages (OR=2.03, 95% CI 1.19-3.46, p=0.009), followed by age ≥50 years (OR=1.93, 1.26-3.22, p=0.012) and ongoing drinking (OR=1.56, 0.99-2.47, p=0.056). MetS, age and ongoing drinking were all independent predictors of higher NAFLD activity score (OR=1.73, OR=1.03, OR=4.30).

Conclusions: Metabolic syndrome is common and the strongest predictor of fibrosis severity in alcoholic liver disease patients. Excessive drinking combined with the metabolic syndrome may represent a distinct phenotype with high risk of advanced liver disease.

20)

Soluble (s)CD163 and mannose receptor (sMR) as markers of liver disease severity and long term prognosis in patients with primary biliary cholangitis

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Introduction: In primary biliary cholangitis (PBC) activated macrophages are involved in liver inflammation and fibrosis. The macrophage activation markers soluble (s)CD163 and sMR are associated with liver disease severity and prognosis in other chronic liver diseases. However, sCD163 and sMR have never been investigated in PBC patients.

Methods: We included 202 patients with PBC from the Italian PBC Study Group cohort. Blood samples from the inclusion were used to estimate correlation between the macrophage activation markers and ALP, ALT and bilirubin. Further, the patients were followed from inclusion until they experienced an event or censoring at the last known hospital visit. Events were defined as follows: (1) death from a liver-related cause, meaning liver failure, variceal haemorrhage, or hepatocellular carcinoma (HCC); or (2) LT for PBC. Twenty-three patients had no follow-up time after blood sampling, hence they were excluded from the follow-up analysis.

Results: Ninety-three percent were women and median age was 62 (IQR 53-71) at enrolment. Median sCD163 was 3.43 mg/L (IQR 2.48-5.35) and median sMR was 0.35 mg/L (IQR 0.28-0.45). There was a significant increase in sCD163 and sMR with increasing ALP, but not with increasing ALT or bilirubin. The 179 patients in the follow-up analysis were followed for a median of 2.5 years, and sCD163 and sMR independently predicted long-term risk of LT or liver related death.

Conclusion: The macrophage activation markers correlate with ALP in PBC patients and are prognostic markers of liver related death or LT.

21)

Fibrosis Markers are Associated with Decline in Renal Function following Peptide Receptor Radionuclide Therapy in Patients with Neuroendocrine Tumors

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INTRODUCTION: Peptide Receptor Radionuclide Therapy (PRRT) is a well-established treatment for patients with neuroendocrine tumors (NETs). However, some NET patients experience reduced renal function following PRRT due to fibrosis. We investigated non-invasive specific fibrosis biomarkers for evaluation of renal damage following PRRT.

METHODS: We included 38 NET patients (median age 69 years (IQR: 61-73), 50 % male) who had all finished PRRT treatment. In serum- and urine samples, we measured the levels of three different fibrosis markers, C3M (MMP-9 mediated type III collagen degradation), PRO-C3 (type III collagen formation) and PRO-C6 (type VI collagen formation). We determined the renal function of each patient by the Cr-EDTA clearance test. Using regression analysis, we analyzed the association between the fibrosis markers and the standard-glomerular filtration rate (standard-GFR).

RESULTS: Among the 38 NET patients, the median standard-GFR was 68 ml/min (IQR: 55-77) and 29 % had reduced standard-GFR. We found a positive linear association between the urinary C3M and standard-GFR (coefficient: 0.014 (95% CI: 0.007-0.021), r^2=0.304, p=0.0003) and a negative linear association between the serum PRO-C6 and standard-GFR (coefficient: -0.007 (95% CI: -0.015- -0.0004), r^2=0.113, p=0.04). There was no association between the other fibrosis markers and standard-GFR although there was a trend for a negative linear association between the urinary PRO-C6 and standard-GFR (p=0.096).

CONCLUSION: We found an association between the urinary fibrosis marker C3M and renal function, and between the serum fibrosis marker PRO-C6 and renal function. In the future, these markers might be used as biomarkers of renal fibrosis in NET patients before and after PRRT treatment.

22)

Is revision of cut-off values needed when using CD3 immunohistochemical staining for intraepithelial lymphocytes in histopathological diagnosis of lymphocytic colitis?

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Introduction: Lymphocytic colitis (LC) and lymphocytic colitis incomplete (LCi) are common causes of chronic watery diarrhea. The diagnostic histopathological criteria of LC are based on hematoxylin and eosin (HE) staining. Supplementary immunohistochemical staining highlighting the intraepithelial lymphocytes (IELs) in borderline cases is now widely used. Applying identical diagnostic criteria on HE and CD3 staining may incorrectly diagnose patients with LC and LCi.

Methods: IELs were estimated independently by two pathologists and categorized in intervals of 0-4, 5-9, 10-19, 20-29, 30-39, 40-49 or > 50 per 100 epithelial cells based on HE vs. CD3 and frequencies were compared using a two sided Fisher's exact test. Patients with biopsies of normal colon mucosa (n = 19), colon mucosa with nonspecific reactive changes (n =24), LCi (n = 24) and LC (n = 40) were included. The number of IELs was compared with clinical symptoms.

Results: The number of IELs was higher with CD3 stain compared to HE stain in 73% of cases, unchanged in 26% of cases and lower in one case. The number of IELs detected was higher using the CD3 stain in 53%, 79%, 79% and 75% of cases included as normal colonic mucosa, non-specific reactive changes, LCi and LC, respectively. Based on CD3 stain 58% of the cases with non-specific reactive changes fulfilled the HE criteria for LCi and 79% of the cases with LCi fulfilled the HE criteria for LC.

Conclusions: Our data support considering increased cut-off values for LCi and LC when assessed in CD3 stained specimens.

23)

Treatment of high output intestinal stomas (HOS)

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Introduction: HOS follows surgery with enterostoma in 15%. Patient number and age is increasing. HOS increases risk of dehydration, loss of renal function, hypomagnesaemia, malnutrition and re-admission to hospital. A minority has persisting intestinal failure.

Methods: Controlled trials are sparse and is supplemented by knowledge of the normal intestinal function including absorption and secretion along the gastrointestinal tract and adaptation.

Results: The therapeutic goal is to reduce stoma output and maintain fluid balance and nutritional status. Management requires accurate observations and prompt correction in case of loss of fluid balance, provided by a multidisciplinary team including nurses, clinical dieticians, physicians and surgeons. Patients and their home caretakers are key participants and need instructions.

Abdominal sepsis is eagerly assessed and treated. The remaining small intestine is meticulously characterised with regard to length, segment and health. Monitor fluid balance, biochemistry including magnesium level, weight and urine sodium. Assess nutritional status. Restrict oral hyper- and hypotonic fluid intake and separate fluid from meals. Consider oral rehydration solution. A diet high in calories, protein, and salt is recommended. Avoid fibres as they induce osmotic secretion. Proton pump inhibitors reduce secretion and further anti-secretory treatment is seldom needed. Loperamide delay transit. Opiods are sedative, disallow driving and should be avoided if possible. IV fluids can usually be tapered but intestinal adaption is variable. Magnesium substitution is sometimes needed.

Conclusions: Rational treatment of patients with high output stomas depends on a firm organisation, precise observations and respect of basal physiological principles.

24)

Muscle wasting measured by Dexascan is not and independent risk factor of mortality in cirrhosis. A cohort study of 318 patients.

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Introduction: The most common complications in cirrhosis are ascites, hepatic encephalopathy and hepatorenal syndrome, which all predict a poor prognosis. Muscle wasting has been suggested as an independent risk factor in cirrhosis, with a negative impact on hospitalization and survival. We assessed the impact of muscle wasting on mortality in patients with cirrhosis.

Methods: Cirrhotic patients, undergoing liver vein catheterization and dexascan between 2006-2014 were included. Hemodynamic parameters, complications to cirrhosis and biochemistry were collected prospectively. Time and cause of death was collected retrospectively. We performed cox regression analysis on disease severity, portal hypertension, biochemistry, and muscle wasting (lean body mass, appendicular muscle mass) in comparison to mortality.

Results: 318 patients with cirrhosis (Child A, N=109, B, N=101 and C, N=108) were assessed. Up until October 2017, 117 patients had died. 169 patients had ascites, 200 patients had esophageal varices. Mean portal venous pressure was 14.5 ± SD 5.9. Patients with ascites had an increased risk of early death (HR 2.27, 95% CI 1.53-3.37, p=>0.001). Child class, MELD-Na (HR 1.77, 95% CI 1.44-2.23, p=>0.001 and HR 1.1, 95% CI 1.06-1.14, p=>0.001), and portal hypertension were associated to mortality (HR 1.66, 95% CI 1.28-2.16, p=>0.001). Lean muscle mass and appendicular muscle mass was not (HR 1.02, 95% CI 0.99-1.04, p=0.19 and HR 0.99, 95% CI 0.97-1.00, p=0.13).

Conclusion: Ascites, Child and MELD score as well as portal hypertension are established prognostic markers in cirrhosis. Muscle wasting indicated by dexascan is not a useful tool as an indicator of survival. Further measures of sarcopenia should be assessed as prognostic markers in cirrhosis.

25)

Patienter behandlet med peroral 5-aminosalicylsyre for inflammatorisk tarmsygdom har en bedre compliance ved dosering én gang dagligt fremfor flere gange dagligt

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Introduktion: Peroral 5-aminosalicylsyre (5-ASA) anvendes som remissionsbevarende behandling hos mange patienter med inflammatorisk tarmsygdom (IBD). En relativ stor del af patienterne har dog en lav compliance. Det er tidligere vist, at 5-ASA givet som engangsdosis er lige sa effektivt som flergangsdosering. Dette studie undersoger om patienter i behandling med peroral 5-ASA en gang dagligt har en bedre compliance end patienter i behandling fordelt over flere gange dagligt.

Metode: Patienter med IBD, der var i behandling med peroral 5-ASA og fulgt i gastroenterologisk ambulatorium, SUH Koge, per 1/10-2012 blev identificeret. Oplysninger om ordineret 5-ASA blev indhentet via journalopslag. Oplysninger om receptindlosninger blev indhentet via Dansk Receptdatabase. Medication Possession Ratio (MPR), som er forholdet mellem antal dage med indlost medicin i perioden og forventet antal dage med medicin i perioden ved 100 % compliance, blev anvendt som mal for compliance. Patienter med MPR≥80% defineres som kompliante. Compliance er undersogt i perioden 1/10-2012 til 31/12-2013.

Resultater: I alt 507 patienter var i behandling med peroral 5-ASA. MPR blev udregnet for 373 patienter. De ovrige havde kun en eller ingen receptindlosninger i perioden. Patienter med engangsdosering (n=159) havde en hojere MPR end patienter med flergangsdosering (n=214), median = 1.0 (100%), IQR = 0.8-1.1 *vs*. median = 0.9 (90%), IQR = 0.6-1.1, p = 0,001. Blandt de engangsdoserede patienter kunne 75% klassificeres som kompliante (MPR ≥80%) mod kun 60% af de flergangsdoserede, p = 0,003.

Konklusion: IBD-patienter behandlet med peroral 5-ASA har en bedre compliance ved dosering én gang dagligt fremfor flere gange dagligt.

Studiet er støttet af Tillotts Pharma.

26)

Dissociated hepatocellular functional consequences of non-alcoholic fatty liver disease

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Introduction: Non-alcoholic fatty liver disease (NAFLD) is a major health concern affecting 25% of the world's population. While it is generally held that there are no functional consequences to non-cirrhotic fatty liver, recent studies suggest this may not be true. However, quantitative measurements of metabolic liver functions have not been systematically performed. Therefore, we studied selected metabolic hepatocellular functions in patients with NAFLD.

Methods: Twenty-five non-diabetic, biopsy-proven NAFLD patients (simple steatosis: 12; nonalcoholic steatohepatitis (NASH): 13) and ten healthy controls were included in a cross-sectional study. Hepatocyte cytosolic function was assessed by the galactose elimination capacity (GEC), mitochondrial-cytosolic metabolic capacity by the functional hepatic nitrogen clearance (FHNC), microsomal function by the aminopyrine breath test, and excretory liver function by indocyanine green (ICG) elimination.

Results: GEC was 20% higher in NAFLD than in controls [3.15 mmol/min (2.9-3.41) vs. 2.62 (2.32-2.93); p=0.02]. FHNC was 30% lower in NAFLD [23.3 l/h (18.7-28.9) vs. 33.1 (28.9-37.9); p=0.04], more so in simple steatosis [19.1 l/h (13.9–26.2); p=0.003] and non-significantly in NASH [27.9 l/h (20.6–37.8); p=0.19]. Aminopyrine metabolism was 25% lower in simple steatosis [8.9% (7.0–10.7)] and 50% lower in NASH [6.0% (4.5–7.5)] than in controls [11.9% (9.3–12.8)] ($p<0.001$). ICG elimination was intact.

Conclusions: In NAFLD, hepatocellular metabolic functions were altered in a dissociated fashion. Some changes were more marked in NASH, others in simple steatosis. Thus, NAFLD has widespread consequences for metabolic liver function, even in simple steatosis. The importance of these findings for the course of NAFLD merits attention.

27)

Sofosbuvir-based direct-acting antiviral therapy of chronic hepatitis C - Effects on macrophage activation, metabolic liver function, and clinical endpoints

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Introduction: Patients with chronic hepatitis C virus (HCV) are generally cured with sofosbuvir-based direct-acting antiviral (DAA)-therapy. However, it is unclear if liver-related complications improve after the treatment. We aimed to investigate the effects of DAAs on macrophage activation, metabolic liver function, liver stiffness, reaction time, and clinical end-points in HCV patients with advanced liver disease.

Methods: We assessed 71 Danish HCV patients with advanced liver disease before, during, and after 12-24 weeks of sofosbuvir-based DAA-therapy. Macrophage activation was assessed as serum sCD163 levels and quantified by in-house ELISA. Metabolic liver function was estimated by galactose elimination capacity (GEC), liver stiffness by FibroScan or acoustic radiation force impulse (ARFI)-scans, and reaction time as continuous reaction time (CRT). Clinical end-points were defined as the presence of varices, bleeding, ascites, hepatic encephalopathy, hepatocellular carcinoma (HCC), and/or death.

Results: All patients achieved sustained virologic response, except one patient with reinfection. The sCD163 level decreased during the study in parallel with liver stiffness ($p<0.00001$). Metabolic liver function improved at follow-up ($p<0.01$) and the CRT tended to improve ($p=0.16$). Of 22 patients with follow-up gastroscopy, five improved their variceal status, whereas 3 progressed. There was one incident of acute variceal bleeding. Two patients developed recurrent HCC and five patients de novo HCC; one of those patients died.

Conclusions: Successful DAA-treatment of chronic HCV proves beneficial in advanced liver disease and leads to reduced macrophage activation, improved metabolic liver function and liver stiffness with no apparent unexpected clinical end-points.

28)

Improved liver stiffness, portal hypertension, and macrophage activation after successful direct-acting antiviral therapy in chronic hepatitis C patients with cirrhosis

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Introduction: Direct-acting antiviral (DAA) treatments of chronic hepatitis C virus (HCV) cure >95% of affected patients. However, it is unclear if DAAs improve the underlying liver damage. We aimed to investigate changes in liver stiffness and portal hypertension with DAA treatment in HCV cirrhosis and relate the findings to changes in macrophage activation.

Methods: Between 2015-2017, we evaluated 16 Danish HCV patients with cirrhosis before, immediately after and one year after DAA-therapy for 12-16 weeks. Liver stiffness was evaluated as transient elastography (FibroScan) or with acoustic radiation force impulse (ARFI)-scans. Portal hypertension was estimated as the hepatic venous pressure gradient using lever vein catheterisation. Macrophage activation was assessed as serum sCD163 levels and quantified by in-house ELISA.

Results: All patients, who completed treatment, achieved sustained virologic response (SVR). The median liver stiffness decreased to 68% of baseline at 12-weeks (p=0.004) and 61% of baseline at one year (p=0.05). Three patients experienced increased liver stiffness at follow-up.

At the end of treatment, the hepatic venous pressure gradient was not significantly improved (11.5 mmHg (IQR 5.0) vs. 12.0 (8.5), p=0.12), however one year after treatment a significant decrease was observed (n=5, 8.5 (4.0), p=0.04). The median sCD163 level normalized from 6.2 mg/L (6) to 3.1 (3.7/1.8) at the end of treatment and one year later.

Conclusions: Successful DAA-treatment leads to reduced liver stiffness. Portal hypertension seems to be improved one year after treatment with parallel effects on macrophage activation. These results indicate short- and long-term beneficial effects of DAA-therapy in HCV cirrhosis.

29)

Colon polyp detection and classification based on image recognition with deep learning neural networks

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Introduction: A high rate of polyp detection in screening colonoscopies is essential for the quality of screening programmes. We here present a pilot study in which we have developed a computerised algorithm that can detect and predict histological classification of polyps seen during colonoscopy.

Methods: Our data was collected as anonymised image sets of colon polyps and normal mucosa from patients undergoing colonoscopy. All polyps were routine histologically examined. A convolutional neural network model was constructed using a pretrained generic image recognition model (Xception). The convolutional kernels were kept with pretrained weights for transfer learning, but the top layers were reinitialized and trained on a subset of our data. We validated the predictive performance on a separate validation set of image sets from lesions not used for training. We divided the predictive task in two: 1) detection of images with lesions 2) prediction of the histological classification of a lesion.

Results: In total 291 image sets were collected comprising a total of 1216 images. Of those, 79 sets were of normal mucosa, 153 of adenomas, 29 of hyperplastic polyps, 20 of sessile serrated polyps and 10 of adenocarcinomas. In the validation data set we obtained a sensitivity for polyp detection of 97% but with a rate of false positives of 19% and false negatives of 21%. The prediction of the histological classification (adenoma vs. sessile serrated polyp vs. hyperplastic polyp) was correct in 67% of the validation images with a further improvement to an accuracy of 80% when we reduced the problem to discrimination between adenomas and sessile serrated polyps. The computation time of a single prediction was < 50 ms on a standard desktop computer.

Conclusions: We here demonstrate the ability of computer-assisted detection and classification of colon polyps in endoscopic images with neural network algorithms. Our models had modest predictive performances, possibly reflecting the rather small and unbalanced data set used for training. The computation time for each prediction was low and could be integrated in a real-time polyp detection system running on a normal desktop computer.

30)

FMT capsules decreases Fecal Calprotectin and improves symptoms in Ulcerative Colitis patients – A pilot study

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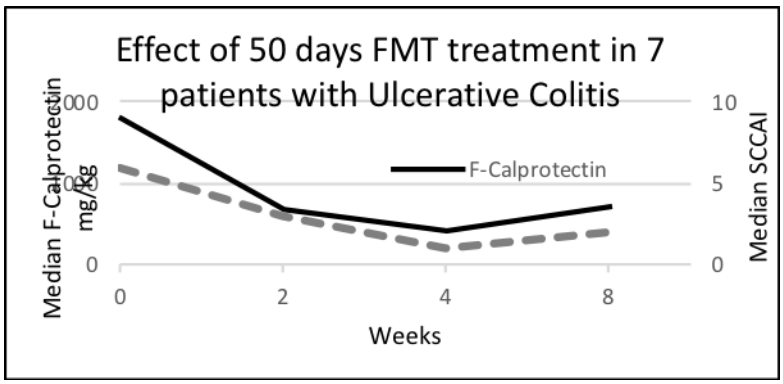
Introduction: Growing evidence indicates that gut 'dysbiosis' is a factor in the pathogenesis of Ulcerative Colitis (UC). FMT (Fecal Microbiota Transplantation) appears to be promising in UC remission induction.

Methods: Seven patients, aged 27 to 51 years, with UC, a Simple Clinical Colitis Activity Index (SCCAI) ≤4 and ≤10, and F-Calprotectin > 250 mg/kg were treated with 25 multi-donor FMT capsules, from four healthy donors, daily for 50 days as a supplement to their standard treatment.
Participants were followed with fecal samples, Inflammatory Bowel Disease Questionnaire (IBDQ) and SCAAI at regular visits for 8 weeks. Mann-Whitney U tests were used to compare F-Calprotectin, IBDQ and SCAAI levels at each time point after baseline with the levels at baseline.

Results: From a median SCAAI of 6 at baseline all participants lowered their SCAAI and there was a significant decrease in median SCAAI after 4 and 8 weeks of, respectively, 5 (p = 0,001) and 6 (p = 0,001). Median F-Calprotectin at baseline was ≥1800 mg/kg and decreased significantly after two weeks and stayed lowered compared to baseline, however non-significant after 8 weeks (p = 0,275) Median IBDQ increased significantly at all time points compared to baseline. The patients' fecal microbiota α-diversity did not increase in the study period compared to baseline. All participants completed the treatment. No serious adverse events were registered.

Conclusions: 50 days of daily multidonor FMT-capsules were safe and significantly improved symptoms and health related life quality of patients with active UC throughout the study period without changing α-diversity.



31)

Effects of potassium deficiency on liver protein and urea synthesis in rats

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Introduction: Potassium deficiency decreases protein gene expression and synthesis, and growth in plants, bacteria, rodents and humans. However, the effect of hypokalemia on liver protein synthesis is scarcely described. Early studies have established an association between hypokalemia and hyperammonemia in chronic liver disease. We investigated the effects of potassium deficiency on synthesis of liver proteins including urea cycle enzymes and the regulation of urea synthesis in rats.

Methods: Female Wistar rats were fed a K+-free diet for 13 days. Half of the rats were repleted with K+ for one week following depletion. K+-depleted and -repleted rats were compared to free-fed and pair-fed controls. We examined the urea cycle enzyme mRNAs and proteins in liver tissue, the in vivo Capacity of Urea-Nitrogen Synthesis (CUNS) and plasma ammonia levels Also, we measured hepatic albumin gene and protein expressions, and potassium levels in plasma, liver, kidney and muscle tissues.

Results: The diet induced hypokalemia of 1.9±0.4 mmol/L compared to pair-fed controls (3.6±0.2 mmol/L). Blood ammonia was elevated to 235 (194;287) µmol/L whereas control rats were within the interval of 28-40 µmol/L. CUNS was reduced by 33%, and gene expression of albumin and two urea cycle enzymes were moderately decreased. Protein expressions of albumin, urea enzymes, and glutamine synthetase were normal. Muscle and kidney tissue potassium concentrations were decreased, but unchanged in liver tissue. Repletion of potassium normalized the changes.

Conclusions: Dietary potassium depletion markedly increased blood ammonia levels. The capacity for urea synthesis was impaired, but only moderately so and further studies are needed to fully explain the causes of hyperammonemia.

32)

Patient characteristics and clinical outcomes during admission to a specialized intestinal failure unit: an observational cohort study

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Introduction: Intestinal failure (IF) implies a need for parenteral nutrition which carries a risk for catheter-related blood stream infection (CRBSI). The optimal organisation of care for inpatients with IF is debated. We evaluated characteristics and clinical outcomes in patients during their first admission to a newly established IF unit.
Methods: This was an observational cohort study. We consecutively included patients who were admitted and documented demographic data and key clinical outcomes. Outcome categorization and collection of supplementary data was carried out retrospectively. Outcome variables included classification of IF, length of stay, CRBSI rates, and dependency on home parenteral nutrition (HPN) following discharge.
Results: In total, 236 adult patients were admitted from 1 January 2013 to 31 December 2017. Of these, 133 (56%) had short bowel syndrome, and 123 (52%) had type 2 IF with metabolic instability. Mean length of stay declined from mean 33 days in 2013 to 15 days in 2017 ($p<0.0001$, ANOVA). Of 91 who had a central venous catheter (CVC) on admission, CRBSI was present in 8 (9%). During the first admission, CRBSI occurred in two (1.0%) patients of 202 who received parenteral nutrition or fluid during admission. Seventyfour (31%) of all patients were discharged with HPN, and this fraction was constant during the study period.
Conclusion: Patients with IF have multiple morbidities, dominated by short bowel syndrome. Length of stay is longer than in most medical wards and may be shortened during implementation of an IFU. CRBSI at admission is common, and a low inpatient CRBSI rate may be achieved.

33)

Mikrobiologisk agens i Leverabscesser i Region midtjylland 2013-2017

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Introduction: Leverabscesser er sjældne I Danmark sammenlignet med især 3. verdenslande. Der er regionale og etniske forskelle på mikrobiologisk agens og årsager til leverabceser. Denne opgørelse undersøge mikrobiologisks agens og infektionskilder hos leverabscespatienter behandlet på et højt specialiseret regionalt center i Danmark.

Methods: Patienter behandlet på Hepato- gastroenterologisk afdeling på Aarhus universitetshospital i perioden 2013 til 2017 blev identificeret vha. diagnosekoder, gennemgang af røngtenprocedurekoder og udtræk fra den lokale mikrobiologiske database. Journalerne på de relevante patienter er blevet systematisk gennemgået.

Results: 64 journaler blev gennemgået, af disse blev 44 patienter med leverabsces(er) identificeret. 39 pt ud af 44 fik foretaget dyrkning fra abscesvæsken, af disse havde 26 (66,7%) vækst af bakterier. 16 ud af 44 (36%) havde vækst i blodet og 27% havde den samme bakterie i blod og absces. De almindeligste bakterier dyrket fra abscesserne var Escherichia coli 33,3%, Streptococcus anginosus gr. 29% Klebsiella pneumoniae 17%, Enterococcus faecium 8% Der var ingen patienter der havde amøbeabcesser. Ved behov for efterfølgende abscesdyrkning var de hyppigste årsager til fortsat infektion/kolonisering Enterococcus faecium 5 ud af 9, Klebsiella pneumonia 4 ud af 9, Candida spec 4 ud af 9. Kilden til leverabscesserne kunne sandsynliggøres i 66% af tilfældene, og fordeler sig med 25% galdegangene, 21% spredning via v.porta, 16% kræft i leveren og 4% andre årsager. Hos 34% af patienterne var årsagen til leverabscesserne kryptogen.

Conclusions: Escherichia coli, Streptococcus anginosus og Klebsiella pneumoniae udgør ca. 80% af de primært fremdyrkede bakterier fra leverabscesser, senere i forløbet dominere kolonisering med Enterococcus faecium, Klebsiella pneumonia og Candida spec.

34)

The CLIF-C AD-score predicts mortality in patients with non-decompensated cirrhosis.

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Introduction: The CLIF-C AD-score has been developed to predict mortality in patients with cirrhosis and acute decompensation. Based on the face-validity of the score, the CLIF-AD may also predict mortality in cirrhotic patients without acute decompensation. We therefore analyzed 296 patients with cirrhosis from a prospective database including patients undergoing liver vein catheterization at Hvidovre Hospital from 2002 to 2016.

Methods: The portal venous pressure, cardiac output, and standard laboratory values were registered prospectively. Data are summarized using means ± Standard Error of the Mean. Mortality data were gathered from electronic patient records. Stata 15 was used for the statistical analyses. Survival data were analyzed using Kaplan Meier with log-rank. The predictive ability of the CLIF-AD score was assessed using ROC curves and results presented as C-index with 95% confidence intervals (Area under the ROC curve) with P-values.

Results: 75.3% of patients were male, the mean age was 58.5 years, and 77.0% had alcoholic liver disease (mean MELD 11.09 ±3.73, MELD-Na 13.81 ±4.49, Child-Pugh score 7.16 ±2.30, and CLIF-C AD-score mean 49.57 ± 6.55)The CLIF-C-AD score predicted 90 day-mortality (0.710; 95% CI 0.591-0.829), Child-Pugh 0.733 (95% CI 0.592-0.873), MELD 0.658 (95% CI 0.464-0.873) and MELD-Na 0.696 (95% CI 0.524-0.868). Similar results were identified for 360-day mortality (0.730 for the CLIF-C AD-score, 0.709 Child-Pugh, 0.673 MELD, and 0.741 MELD-Na).

Conclusion: This study shows that the CLIF-C AD-score predicts short term and long term mortality in cirrhosis. Further studies with larger study populations are needed to validate these results.

35)

Disease course and prognosis of incident patients with microscopic colitis – one year follow-up results from the European pro-mc collaboration

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Introduction: The long-term prognosis of patients with microscopic colitis (MC) is unknown.

Methods: In this European registry for incident cases of MC were followed prospectively in 15 European centres. Disease activity, quality of life and treatment strategies were registered at baseline and after 3, 6 and 12 months.

Results: By March 2018, 71 of 318 patients included had been followed for 12 months. Mean age 64 years; 70% females; 52% collagenous colitis, 39% lymphocytic colitis and 8% incomplete MC. At baseline 59% presented with active disease according to Hjortswang criteria2, 28% were in remission due to budesonide initiated before baseline and 12% were in spontaneous remission. Patients were classified according to disease behaviour during the first year, see Table. Quality of life (Short Health Score) improved significantly from baseline visit to week 52 in patients with mild/quiescent disease (p=0.02, Wilcoxon) and not in patients with chronic-relapsing disease.

Conclusions: The prognosis for MC after one year appears good. The majority of patients with MC have a quiescent or mild disease course.

1 www.emcg-ibd.eu

2 Hjortswang et al, IBD 2009;15:1875-81

36)

Fækal Mikrobiota Transplantation: Etablering af en donorfæcesbank ud fra Vævslovens kriterier

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Introduktion: Fækal Mikrobiota Transplantation (FMT) er en ny behandlingsmulighed til især recidiverende *Clostridium difficile*-infektion, men praktisk implementering af FMT er udfordrende. Her beskrives etableringen af en frossen donorfæcesbank.

Metode: Fæcesdonorer rekrutteres blandt bloddonorer, der bedes donere fem gange indenfor en måned. Ved rekruttering gennemgås et screeningsskema med en læge, ligesom blod- og fæcesprøver udføres ved første donation. Alt gentages efter sidste donation. Donationerne afgives i hjemmet og transporteres straks til laboratoriet. 50 g filtreret fæces opløses i NaCl og 20 ml glycerol optil 170 ml. Materialet nedfryses med et tildelt batchnummer ved -80°C indenfor to timer efter defækation.

Inden materialet frigives til brug gennemses dokumentation og prøvesvar. Materialet gemmes i op til et år. Metoden er baseret på den Europæiske Vævslov, selvom der aktuelt ikke er dansk lovgivning om FMT.

Resultater: Fjorten donorer fandtes egnede ved første screening. Én donor blev ekskluderet grundet *Helicobacter pylori*. Èn træk sig pga. tidsnød og én blev ekskluderet pga. gentagne donationer <50 g. De øvrige (n=11) donerede 5 gange. Én donation måtte destrueres pga. tidsmangel. Hver donation gav 1-6 portioner (median 2,0). En donor havde taget NSAID inden en donation og materialet herfra blev destrueret. Gentagen screening og testning af blod og fæces var herudover uden abnorme fund. 166 portioner blev fremstillet, men 15 destrueret, jf. ovenstående. I alt 151 portioner kunne frigives til klinisk brug.

Konklusion: Rekruttering af fæcesdonorer blandt bloddonorer er et effektivt alternativ til familiedonation. Etablering af en donorfæcesbank med frossen prætestet materiale sikrer en effektiv og hurtig tilgang til FMT.

37)

Fecal Microbiota Transplantation alters gut microbiota in Patients with Irritable Bowel Syndrome: Results from a randomized, double-blind placebo controlled study

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Introduction: Irritable bowel syndrome (IBS) is associated with an intestinal dysbiosis and fecal microbiota transplantation (FMT) has been hypothesized to have a positive effect in patients with IBS. We performed a randomized, double-blind placebo-controlled trial to investigate if FMT resulted in an altered gut microbiota and improvement in clinical outcome in IBS patients.

Methods: We performed this study in 52 adult patients with moderate to severe IBS. At the screening visit, clinical history and symptoms were assessed and fecal samples were collected. Patients were randomized to FMT or placebo capsules for 12 days and followed for 6 months. Study visits were performed at baseline, 1, 3 and 6 months, where patients were asked to register their symptoms using the IBS-severity scoring system (IBS-SSS) and IBS specific quality of life (IBS-QoL). Prior to each visit, fecal samples were collected.

Results: A significant difference in improvement in IBS-SSS score was observed 3 months after treatment ($p=0.012$) favoring placebo. This was similar for IBS-QoL data after 3 months ($p=0.003$) favoring placebo. Patients receiving FMT capsules had an increase in fecal microbial biodiversity while placebos did not.

Conclusions: In this randomized double-blinded placebo controlled study, we found that FMT changed gut microbiota in IBS patients. But patients in the placebo-group experienced greater symptom relief compared to the FMT-group after 3 months. Altering the gut microbiota is not enough to obtain clinical improvement in IBS. However, different study designs and larger studies are required to examine the role of FMT in IBS.

38)

Diagnostic yield of small-bowel video capsule endoscopy In real-world community setting, a retrospective study

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Introduction: Indications and diagnostic yield for small-bowel video capsule endoscopy (SB-VCE) are communicated in European Society of Gastrointestinal Endoscopy (ESGE) guidelines (Endoscopy 2015;47:352–376). However, guidelines are based mainly on relative few, small, selection-biased studies at expert centers. Accordingly, we lack information on SB-VCE performance in real-world community setting. The objective of this study was to evaluate indications and diagnostic yield of SB-VCE in our community setting.

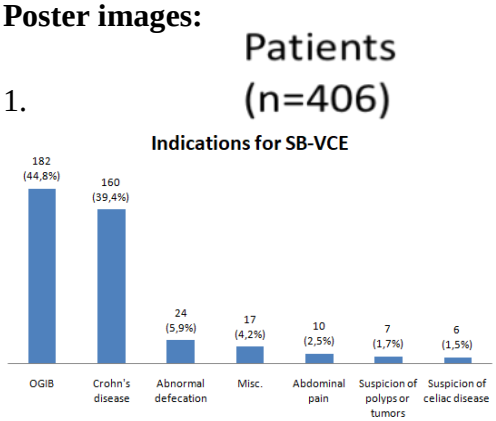
Methods: Our local VCE clinical database was used to identify patients undergoing SB-VCE over a 6-year period (2011-2017). Patients were broadly referred and underwent SB-VCE using PillCam™ SB3 capsule system. We retrospectively reviewed all medical reports and gathered data regarding indications and findings. Diagnostic yield was considered positive if SB-VCE visualized any type of clinically significant pathological finding.

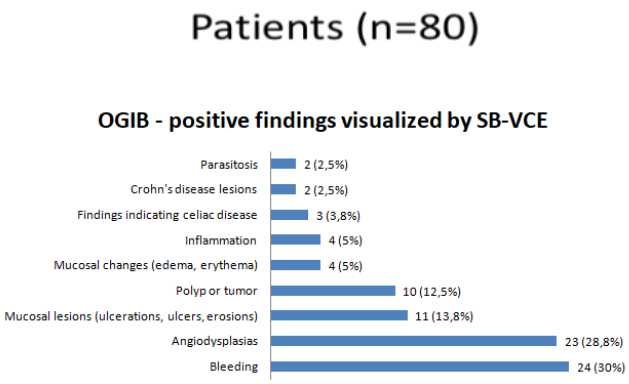
Results: 406 SB-VCE reports were included in the final assessment. Patient mean age was 50±20 yrs. with even female/male ratio (200:206). The overall rate of positive findings was 43% (176/406). The two main indications were obscure gastrointestinal bleeding (occult/anemia or overt/active, OGIB) of 45% (182/406) and definite/suspected Crohn's disease (CD) of 39% (160/406). Positive SB-VCE findings were obtained in 44% (80/182) of patients referred with OGIB and in 53% (85/160) of patients referred with CD.

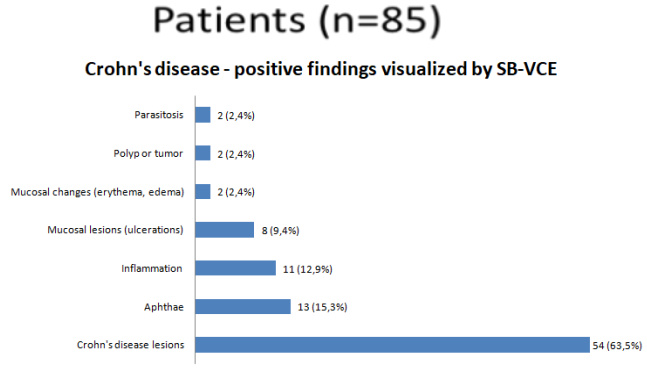
Conclusions: The main indications for SB-VCE were in line with ESGE guidelines. Positive findings for these indications appeared lower than reported in ESGE guidelines. In conclusion, indications are largely appropriate but with less diagnostic yield in our real-world community setting. These differences may be real or reflect patient and study selection bias and confounders.

Poster images:

1.







39)

The ProC3 marker of type III collagen formation accurately reflects hepatic inflammation and fibrosis stage in asymptomatic alcoholic liver disease patients

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Introduction: Non-invasive testing in alcoholic liver disease often includes liver fibrosis markers. However, currently available markers are static and fail to reflect the drivers of fibrogenesis. We therefore aimed to assess whether neoepitopes – extracellular matrix protein fragments that reflect collagen formation and degradation – correlate with alcoholic liver fibrosis and inflammatory activity.

Methods: Prospective study from 2013 to 2016 with liver histology as semiquantitative reference (fibrosis stage F0-4, ballooning 0-2, lobular inflammation 0-3, steatosis 0-3). We recruited two cohorts of asymptomatic, compensated alcohol patients; one from primary care (n=132, 6% prevalence of ≥F3) and one from secondary healthcare (n=172, 35% prevalence) and compared them to 50 healthy controls, matched 1:6 for age and gender.

Results: We screened 12 neoepitope markers. The N-terminal pro-peptide of type III collagen formation (ProC3) correlated strongest with fibrosis, steatosis and hepatic inflammatory activity. ProC3 also correlated with non-invasive markers of fibrosis: Enhanced Liver Fibrosis test (r=0.750), FibroScan (r=0.552) and FibroTest (r= 0.534). Similarly, ProC3 correlated with inflammation markers: ActiTest (r= 0.203), cytokeratin-18 markers of cell-death (M30, r= 0.516 and M65, r= 0.533). ProC3 was lowest in the control population (median 8.4±2.1), increased in patients with fibrosis stage 0-1 and inflammation grade 0-1 (11.1±5.1; P<0.001; n=121) and further increased step-wise (average 3.4±0.3; P<0.001) for every fibrosis stage or activity grade. We measured the highest ProC3 values in patients with both advanced fibrosis and high inflammatory activity (64.8±26.6; n=27).

Conclusions: ProC3 accurately reflects fibrosis stage and hepatic inflammation grade in alcoholic liver disease patients. The marker may therefore be suited as tool to monitor disease progression.

40)

Medical Evaluation on Suspicion of Non-Alcoholic Steato-Hepatitis (NASH): Real World Outcome from a Community NASH Clinic

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Introduction: NASH carries a risk of developing end-stage liver disease. In line with recent international guidelines we established a multi-disciplinary NASH clinic.

Methods: During 2017 patients with suspicion of NASH based on having at least two of the following factors: BMI≥25 kg/m^2, diabetes, or persistent ALT>50 U/l were referred.

Patients were offered appointment, liver function tests, ultrasound and us-guided liver biopsy.

NAFLD activity, fibrosis and FIB-4 scores were calculated. Numbers of patients, percentages of total (%), medians (upper range-lower range) and means ± standard deviation are reported.

Results: 55 adult patients were referred on suspicion of NASH. 12 patients were found to have non-NAFLD CLD (including alcoholic hepatitis and hepatitis B/C). 30 patients accepted medical work-up on suspicion of NASH: mean age was 56±13 years, 53% were female. Comorbidity included 27% with hypertension, 33% with diabetes, 85% with dyslipidemia and 85% with overweight.

Liver biopsy was performed in 63%. Histopathology revealed simple steatosis in 26%, NASH ±mild fibrosis(F0-F1) in 32%, NASH with moderate to severe fibrosis (stage F2-3) in 37% and NASH with cirrhosis (stage F4) in the remaining 5%. NAFLD median activity score was 5 (3-8) in F0-F1 vs 6 (3-7) in F2-3 NASH patients; NAFLD mean fibrosis score was -2.2±0.4 in F0-F1 vs -0.9±2 in F2-3 NASH patients; and FIB-4 mean index was 1±0.6 in F0-F1 vs 2.5±3 in F2-3 NASH patients. No complications were reported following biopsy.

Conclusion: 25% of referred patients were diagnosed with NASH and half of these patients had different stages of fibrosis requiring management.

41)

Case series of successful treatment with fecal microbiota transplant (FMT) oral capsules mixed from multiple donors even in patients previously treated with FMT enemas for recurrent Clostridium difficle infection

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Introduction: Studies have shown tha fecal microbiota transplantation (FMT) is a safe and highly efficient treatment for recurrent Clostridium difficile infection (rCDI). However, it is still unkown if one versus multiple donors or enemas versus capsule FMT are most efficient

Methods: 10 patients with at least 3 episodes of CDI were offered treatment with FMT capsules. 9 patients decided to participate. Age range 25-86 years.

From October to November 2016 the patients were treated with oral fecal microbiota capsules, with mixed donor feces from 4 donors with high microbiota diversity. All patients received treatment with vancomycin prior to the capsule regimen.

Results: Patients had previous recurrences from 2-10 times. All 9 patients were succesfully treated without recurrence after 180 days foolow-up, even 2 patients previously treated with FMT enemas.

Conclusions: FMT capsules based on multiple donors are highly efficient in patients with rCDI.

42)

The use of Biologically-based complementary medicines (BB-CMs) including herbal, vitamin, mineral and nutritional supplements in Patients with Neuroendocrine Tumours

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Background: The use of Biologically-based complementary medicines (BB-CMs) including herbal, vitamin, mineral and nutritional supplements by patients with cancer is prevalent. However, few data are available in patients with neuroendocrine tumors (NET). We aimed to investigate the use BB-CMs by NET patients.

Methods: In a cross-sectional study of NET patients, we measured weight and height and the Nutritional Risk Score (NRS) was determined by NRS-2002. The use of BB-CMs was assessed by a questionnaire.

Results: We included 186 patients (51% women), median age 66 years. We observed that 123 (66%) used BB-CMs and 79 (42%) used at least 2 supplements. The most popular BB-CM category was vitamin and mineral supplements, some with herbal ingredients (N= 88/47%).Thirty six (19%) used fish oil/cod liver and 63 (34%) calcium and vitamin D. Some of the supplements e.g. calcium and vitamin D were probably prescribed at the hospital. The use of of BB-CMs and the use of 2 or more supplements were associated with female gender (48% vs 37%, $p<0.05$). The use of 1 or 2 supplements was more frequent among patients with an RS score $\geq$ 3, (60% vs 76%), (39% vs 49%) and in patients with impaired level of function (58% vs 76%), (38% vs 53%), ($p<0.05$, all). In patients reporting change in food intake the use of BB-CMs was more frequent than in patients with no change in food intake (61% vs 77%), ($p<0.05$).

Conclusions: BB-CMs use by NET patients was popular with 66 % reporting use of BB-CMs and 42 % used at least two different supplements. The use of of BB-CMs was associated with an NRS score $\geq$ 3, impaired level of function, change in food intake and female gender. Vitamins, minerals, calcium, vitamin D, fish oil and vitamin and minerals with herbal ingredients were the most popular supplements.

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