SMW
Established in 1871

Swiss Medical Weekly

Formerly: Schweizerische Medizinische Wochenschrift
An open access, online journal • www.smw.ch

Supplementum 232
ad Swiss Med Wkly
20187;148
September 13, 2018

Annual Meeting
Swiss Society of Gastroenterology (SGG-SSG)
Swiss Society of Visceral Surgery (SGVC-SSCV)
Swiss Association for the Study of the Liver (SASL)
Swiss Society of Endoscopy Nurses and Associates (SVEP-ASPE)

Interlaken (Switzerland), September 27/28, 2018

EMH Media
SCHWEIZERISCHER ÄRZTEVERLAG
EDITIONS MEDICALES SUISSES

Oral presentations

Posters gastroenterology

Index of first authors

Impressum

All communications to:
EMH Swiss Medical Publishers Ltd.
Swiss Medical Weekly
Farnsburgerstrassse 8
CH-4132 Muttenz, Switzerland
Phone +41 61 467 85 55
Fax +41 61 467 85 56
office@smw.ch

Cover photo:
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Submission to this journal proceeds totally on-line: www.smw.ch

ISSN printed supplement: 1661-6855
ISSN online supplement: 2504–1622

printed in switzerland

Differences in diagnostic and treatment practice for Eosinophilic Esophagitis in children and adults in Switzerland O1

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Background: Actual guidelines for eosinophilic esophagitis (EoE) recommend similar diagnostic and management approaches for adults and children. In an ongoing international study, the ESPGHAN EGID Group aims to compare their implementation in daily practice of gastroenterologists treating adults and pediatric patients. **Methods:** A multiple choice questionnaire exploring physician's demographics, diagnosis and management strategies was provided to gastroenterologist caring either for adults or children. **Results:** In Switzerland, 86/250 adult (AG) and 21/25 pediatric gastroenterologists (PG) completed the survey. AG took esophageal biopsies significantly less frequently then PG when there were no macroscopic findings independent of symptoms of dysphagia (without 25% vs 95%; $p < .001$, with dysphagia 96% vs 100%; $p < .01$) as well as in cases with gastroesophageal reflux symptoms and distal esophageal erythema (32% vs 100%; $p < .001$). When EoE is suspected, gastric and duodenal biopsies were also done significantly less often by AG then PG (78% vs 100%; $p < .01$). There was a trend to high dose PPI as first treatment choice in AG compared to PG (70% vs 48%, $p = .06$). Food elimination diet was not part of first line treatment regimens in both groups. AG and PG followed treatment success mostly endoscopically (83% vs 87%; $p = .2$). AG and PG are aware of international guidelines, but still would find national guidelines helpful in EoE. **Conclusions:** There are significant differences in the approach to EoE patients between AG and PG. These may affect rate of diagnosis and transition from pediatric to adult care.

A Gut Microbial Mimic that Hijacks Diabetogenic Autoreactivity to Suppress Colitis. O2

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Background: The intestine is populated by a community of commensal bacteria that, under healthy conditions, are beneficial to the host. Some evidence suggests that a dysregulated gut microbiota influences autoimmunity. Recently, we have identified, for the first time, a microbiome-antigen that acts as a molecular mimic of a diabetogenic autoantigen and drives protection against colitis in *in vivo* animal models. Methods: We performed monocolonisation experiments of germ-free (GF) mice with bacterial strains lacking (*Bacteroides distasonis* or wild-type *Bacteroides thetaiotaomicron*) or expressing (*Bacteroides vulgatus* or wild-type *B. thetaiotaomicron*) an $IGRP_{206-214}$ homologous sequence found in transposable integrase/tyrosine recombinase proteins, called integrase. Results: Integrase protein is encoded by *Bacteroides* species present in the gut microbiotas of rodents and humans. Mice harbored higher numbers of effector and central memory diabetogenic $CD8^+$ T cells into the intestine in presence of integrase-expressing *Bacteroides*, compared to mice colonized with integrase-negative bacteria. Moreover, the integrase-expressing *B. thetaiotaomicron* colonized mice showed less colitis activity score in an integrase-specific $CD8^+$ T cell response. Conclusions: These data suggest that gut microbial antigen-specific cytotoxic T cells may have therapeutic value in inflammatory bowel disease and reveal molecular mimicry as a novel mechanism by which the gut microbiota can regulate normal immune homeostasis.

Recombinant Hepatitis E Viruses Harboring Tags in the ORF1 Protein O3

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Background: Hepatitis E virus (HEV) is believed to be the most common cause of acute hepatitis and jaundice in the world. Current understanding of the molecular virology and pathogenesis of hepatitis E is limited, especially due to the lack of appropriate functional tools. Here, we report the development of tagged HEV genomes as a novel tool to investigate the viral life cycle.

Methods: A selectable subgenomic HEV replicon was subjected to random 15-bp sequence insertion using transposon-based technology. Viable insertions in the open reading frame 1 (ORF1) protein were selected in a hepatoblastoma cell line and identified sites were tagged with different reporters.

Results: Functional insertion sites were identified downstream of the methyltransferase domain, in the hypervariable region and downstream of the helicase domain of ORF1. HEV replicons harbouring an HA tag, GFP or the NanoLuc® luciferase in the ORF1 protein were found to be functional. Full-length HEV genomes harboring HA or NanoLuc® tags allowed for the production of infectious viral particles. The HA tag allowed to localize HEV replication complexes in infected cells and the NanoLuc® allowed to quantitatively monitor HEV infection and replication by luciferase assay.

Conclusion: The development of tagged functional HEV genomes should allow to track and characterize viral replication complexes in live cells as well as to investigate the cellular structures and host factors involved in viral replication.

Efficacy and safety of treatment for recent occlusive portal vein thrombosis (ROPVT) O4

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Background: We aimed to evaluate efficacy and safety of different therapies for ROPVT in our experience. **Methods:** 32 ROPVT patients selected from our prospective database wereretrospectively analyzed. **Results:** Included patients characteristics: age 56 years (IQR 50-69), 81% male, 31% cirrhosis, 31% positive pro-thrombotic screening and 28% intra-abdominal inflammation. Symptoms present in 78%: abdominal pain (72%), *de novo* ascites (44%) and/or fever (19%). PV trunk was involved in 81%, splenic vein in 41% and mesenteric veins in 69%. All received anticoagulation (AC) (start of therapy: day 1 of diagnosis (IQR1-6)), and maintained long-term (DOAC in 66%, VKA in 31%, LMWH in 3%). 25% had an intervention (4 TIPS, 3 surgery, 1 TIPS&surgery). During follow-up (21 months; IQR 8-30), 63% (54% of AC and 88% of TIPS/surgery and AC) achieved complete recanalization. Splenic and mesenteric thrombosis resolved in >90%. Ascites at diagnosis associated with higher recanalization ($p=0.02$), independently of cirrhosis. Six patients had minor complications of AC (minor bleeding, heparin-induced thrombocytopenia). Cirrhosis ($p=0.019$), platelets $<150 \times 10^9$/L ($p=0.019$) and varices ($p=0.01$) associated with AC complications. Two patients died due to causes unrelated to PVT or AC. **Conclusions**. Among patients presenting with ROPVT, 54% on AC alone and 88% after TIPS/surgery&AC achieved recanalization. Current treatment modalities of ROPVT were not associated with major complications.

NAFLD-HCC is associated with female sex and lower rates of advanced fibrosis in a prospective cohort of HCC patients

O5

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Background and Aims: There is conflicting data regarding the epidemiology and natural history of HCC-NAFLD. We aimed to assess the natural history and epidemiology of all patients with NAFLD-HCC in the canton of Geneva diagnosed between 2011-14.

Methods: All HCC cases resident in the canton of Geneva diagnosed between 2011-14 were extracted from the Geneva cancer registry. Clinical information was retrospectively collected from the cancer registry documents or Geneva University Hospital database. NAFLD-HCC was diagnosed when specifically stated or when other causes of liver disease were excluded.

Results: 181 patients were diagnosed with HCC in the canton of Geneva between 2011-14. Major etiologies of underlying liver disease were alcohol (57%), HCV (29%), NAFLD (19%), HBV (15%), median follow-up was 19 months (IQR 4-48 months), 69% died during follow-up. The 34 NAFLD-HCC subjects were significantly older, more commonly female, had higher rates of obesity, arterial hypertension and diabetes compared to non-NAFLD-HCC subjects (**Table 1**). NAFLD-HCC subjects had less F3-F4 fibrosis and were non-significantly less likely to have undergone HCC screening in the 12 months prior to the HCC diagnosis (9% vs 28%, p=0.063). NAFLD-HCC subjects had similar tumor stage compared to non-NAFLD subjects and similar survival after diagnosis of HCC (HR = 0.72, 95%CI 0.45-1.2, p=0.18).

Conclusions: In a prospective cohort of HCC subjects diagnosed over 4 years, NAFLD-HCC subjects accounted for 19% of all HCCs. NAFLD-HCC patients were older, more comorbid and more commonly female. Only 9% of NAFLD-HCC subjects had HCC screening prior to diagnosis possibly because over half of subjects had no advanced fibrosis. This study underlines the specific clinical characteristics of NAFLD-HCC which must guide future recommendations and research.

Variable	All patients	Non-NAFLD	NAFLD	p-value (NAFLD vs non-NAFLD)
Age at HCC diagnosis	67.7 (58.8-75.5)	66.8 (58.4-74.1)	74.4 (67.1-82.1)	0.003
Female sex	42 (23%)	26 (18%)	16 (47%)	0.001
Obesity	37 (24%)	25 (19%)	12 (43%)	0.013
Diabetes	61 (36%)	42 (31%)	19 (58%)	0.005
Cirrhosis	94 (71%)	85 (80%)	9 (35%)	<0.001
Advanced fibrosis (F3/F4)	103 (78%)	91 (86%)	12 (46%)	<0.001
TNM stage 3 or 4	65 (40%)	53 (41%)	12 (40%)	1.0

Table 1: Characteristics of patients. P-value, Wilcoxon test or Fisher's Exact test.

Mortality Related to HEV Infection Acquired in Switzerland

O6

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Background: Data on mortality related to autochthonous hepatitis E virus (HEV) infection is limited. In this ongoing study, we aim to document mortality associated with HEV infection acquired in Switzerland, characterize affected patients and identify risk factors to predict mortality.

Methods: Swiss gastroenterologists and hepatologists were contacted by e-mail and asked to report any death potentially linked to HEV infection. A standardized questionnaire was completed retrospectively.

Results: Three patients with PCR-proven acute hepatitis E acquired in Switzerland and a fatal outcome have been recorded so far. Two of these had been included in our previous study on HEV as a cause of acute hepatitis acquired in Switzerland. Two patients were men; median age was 74 years (range, 66-80 years). Median time from inital presentation to death was 2.5 weeks. Genotyping was successful in one patient and confirmed genotype 3 infection. Median peak ALT was 2610 U/l (range, 705-3134 U/l). Liver function was heavily altered (median total bilirubin 414 µmol/l, INR 2.6 and albumin 24 g/l). All patients developed severe kidney dysfunction with median eGFR 24 ml/min/1.73m^2 (range, 22-25 ml/min/1.73m^2). Transjugular liver biopsy performed in the three patients demonstrated preexisting cirrhosis associated with hallmarks of alcoholic or nonalcoholic steatohepatitis. Two patients were treated with corticosteroids. Ribavirin therapy was attempted in all three patients shortly before death.

Conclusion: Autochthonous acute hepatitis E can lead to acute-on-chronic liver failure (ACLF) and death in patients with preexisting liver cirrhosis. Histology did not point to viral hepatitis. Hence, PCR testing for HEV RNA should be considered in patients presenting with otherwise unexplained ACLF or decompensation of cirrhosis.

Maternal microbiota drives B cell development in the fetal liver

O7

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Background: Mammalian embryonic immune system development occurs in the absence of live bacterial exposure, although the developing fetus is exposed to microbial products from the maternal microbiota. In fact, the maternal microbiota, during the pregnancy educates the neonatal intestinal tissue in spite of the new born success to control their endogenous colonisation[1]. However, the potential impact of the maternal microbiota on the fetal liver development and their function of the offspring are not clearly understood.

Methods: Germ-free (GF) mice were transiently colonised with bacteria during the pregnancy by oral gavage with an auxotrophic *Escherichia coli* strain HA107. Liver tissue of the offspring were analysed by flow cytometry, histology and RNA sequencing (Illumina Hiseq3000 technology) at different embryonic and postnatal days.

Results: We observed that fibrosis associated and B cells differentiation genes are preferentially expressed in the neonatal liver in the absence of maternal microbiota and antibodies. However, maternal microbial exposure drives gene expression profile to cell adhesion, cell cycle regulation and the lipid and retinol metabolism pathways. Flow cytometry analysis illustrated that gestational colonization enhances B2 cell differentiation whereas in the absence of maternal microbial exposure B1 cells are predominant in fetal liver. Moreover gestational colonization prevents fatty liver and enhances tissue proliferation in the neonates.

Conclusions: Our results suggest that the microbiota and antibodies from the mother impact on fetal liver development and in its hematopoietic function.

[1] Gomez de Agüero, M.*, Ganal-Vonarburg, S.C.* et al. Science. 2016.

Gut-vascular barrier in liver cirrhosis: Entry site for bacterial translocation from the gut to the liver independent from portal hypertension and lymphatic route.

O8

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Background and aims: Pathological bacterial translocation (PBT) in liver cirrhosis (LC) is the pathophysiological hallmark for spontaneous bacterial infections. The role of mucus barrier and the so-called gut vascular barrier (GVB)[1] however, has not been delineated ***Results:*** Intestinal-loop-experiments in bile-duct-ligated (BDL) and CCl4-induced cirrhotic but not in control and/or pre-hepatic portal-hypertensive (PVL) mice revealed pathological translocation of FITC-dextran and GFP-*E.coli* from the small intestine to the liver. This phenotype was not affected by prior thoracic duct-ligation. Ileal vascular extravasation and inter-epithelial leakage of large-sized 150kDa-FITC-dextran was enhanced in BDL and CCl4-mice but not in PVL-mice. Under standardized gnotobiotic conditions BDL and CCl4- but not PVL-mice presented with reduced mucus-thickness and MUC2-expression. ***Conclusions:*** Portal hypertension *per se* does not lead to PBT. Liver cirrhosis however, impairs the endothelial and epithelial barrier in the small intestine sufficient to give access into the portal-venous circulation for large-sized dextrans and living bacteria independent from the lymphatic route.

Robot-Assisted Single-Site compared with laparoscopic single-incision cholecystectomy for benign gallbladder disease: results of a single-blinded randomized controlled trial. O9

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Background: Recent advances in robotic technology suggest that da Vinci Single-Site cholecystectomy (dVSSC) is safe, feasible and reduces the stress of the surgeons compared to single-incision laparoscopic cholecystectomy (SILC). However, evidence needed to objectively assess differences based on high-quality comparative data is missing to date.
Methods: This single centre, single-blinded controlled trial included 60 patients with benign gallbladder disease which were randomly assigned to dVSSC (n=30) or SILC (n=30). The primary endpoint surgeon's physical and mental stress load was assessed using the validated Local Experienced Discomfort (LED) and Subjective Mental Effort Questionnaires (SMEQ). Secondary endpoints included operating time, conversion rates, additional trocar placement, blood loss, length of hospital stay, costs, health-related quality of life, cosmesis and complications. Patients and ward staff were blinded until 12 months postoperatively.
Results: The dVSSC-group showed a significant reduction of mental stress load of the surgeon compared to SILC (SMEQ: median 25.0 vs. 42.5 points; p=0.002) and a trend toward reduced physical stress load (LED: median 8 vs. 12 points; p=0.088). The rate of postoperative complications that required a re-intervention (Dindo-Clavien ≥IIIa°) was similar in both groups (SILC n=2 vs dVSSC n=0, p=0.492). Overall hospital costs were higher for dVSSC (9831 vs. 6900 CHF; p=0.001).
Conclusions: dVSSC provides significant benefits over SILC in terms of surgeon's stress load, matches the standards of the laparoscopic single-incision approach with regard to patients´ outcomes but increases overall expenses.
Clinicaltrials.gov trial-no: NCT02485392.

Outcome of revisional bariatric surgery for insufficient weight loss after laparoscopic Roux-en-Y Gastric Bypass O10

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Background: Insufficient weight loss or secondary weight regain with/without recurrence of co-morbidity can occur years after laparoscopic Roux-en-Y gastric bypass (LRYGB). In selected patients increasing restriction or adding malabsorption may be a surgical option after failed conservative measures.
Methods: Retrospective analysis of prospectively collected data from a cohort of 1150 LRYGB patients. Between 01/2009 to 05/2017, 54 patients, who had undergone revisional bariatric surgery after LRYGB for insufficient weight loss with a minimal follow-up of one year were included. Patients with insufficient weight loss and signs of dumping syndrome and lacking restriction were offered a non adjustable band around the pouch (banded-group, n=34), patients with sufficient restriction, excellent compliance and adherence were offered a revision to laparoscopic bilio-pancreatic diversion (BPD-group, n=20).
Results: Mean BMI at the time of the LRYGB was 41.7±6.1 kg/m² in banded-group and 45.2±8.0 kg/m² in BPD-group; at the time of revisional surgery 31.4±5.4 kg/m² in banded-group and 40.8±6.5 kg/m² in BPD-group. The mean BMI one year after revisional surgery was 30.1±5.0 kg/m² in banded-group and 34.1±5.2 kg/m² in BPD-group. In the banded-group, 11 patients (32,4%) needed removal of the band, 3 (8,8%) were later converted to BPD. In the BPD-group, 2 patients needed revision for severe protein malabsorption.
Conclusions: In carefully selected patients with insufficient weight loss following LRYGB, revisional procedures like banding or BPD can achieve satisfactory results concerning additional weight loss and complications.

Outcomes of 84 consecutive transanal total mesorectal excisions for low rectal cancer O11

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Background: Transanal total mesorectal excision (taTME) is an alternative to conventional TME owing to its reported superior ability to achieve clear resection margins in low rectal cancers.

Methods: Consecutive patients with low rectal cancer treated by taTME were prospectively included. Patients who required a partial mesorectal excision were excluded. Perioperative outcomes were reported as median & interquartile range (IQR).

Results: 84 patients (60 men : 24 women) with a low rectal cancer (6.5 cm to anal verge, IQR 5.2-8) underwent a taTME. Age and body mass index were 65.5 years (IQR 57-76) and 26 kg/m^2 (IQR 22.2-29.1). 56 (67%) patients had neoadjuvant radiochemotherapy. Surgery time was 350 minutes (IQR 309-410), including an ileostomy in all patients. Performing taTME in a 2-team technique saved 77 minutes or 19% operating time (p=0.009, t-test one-team (n=32, 399 minutes, IQR 336-432) vs. 2-team (n=51, 322 minutes, IQR 288-364). Dissection of the mesorectum was excellent (93.9% Quirke 3) and all distal and circumferential margins were clear. Median T stage was 3 (IQR 2-3). 22 patients had positive lymphnodes (median 26, IQR 20-38). 30-day morbidity amounted to 34.1% minor complications (Dindo Clavien I-II) and 26.8% major complications (Dindo Clavien III-V), including 9 anastomotic leaks (11.5%) and 3 reoperations (3.9%). Most of the leaks could be managed endoscopically and the ileostomy reversed at last. Median length of hospital stay was 11 days (IQR 9-14).

Conclusion: Transanal total mesorectal excision allows good surgical and oncologic quality to the expenses of a reasonable surgery time and morbidity.

Clinical Outcomes of Laparoscopic Major Hepatectomy – A First Case Match Analysis Two Years after Introduction O12

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Background: The Second International Consensus conference on laparoscopic liver surgery 2015 recommended the introduction of laparoscopic major hepatectomies (LAPH) at experienced centers. Aim is a clinical audit of outcomes and comparison to the entire 10-year institutional experience with open major hepatectomies (OH).

Methods: From 2008-2017, a prospectively maintained database was analyzed. Outcomes of interest were operating time (OT), estimated blood loss (EBL), major complications (Dindo-Clavien), mortality and length of stay (LOS). Mann-Whitney test for non-parametric data was used.

Results: In 10 years 245 liver resections were performed, 121 were major hepatectomies. Perihilar cholangiocarcinomas and rare primary malignancies were excluded (n=6). Among 115 patients, 19 received LAPH from 2015-2017. Groups did not differ in age, gender and distribution of disease type. Outcomes analysis showed no difference in EBL (LAPH *vs.* OH 300(IQR200-900) cc *vs.* 400(200-900), p=0.44), >IIIA complications (21% *vs.* 22%, p=0.99) and 90-day mortality (5% vs. 7%). OT was longer in LAPH (431(IQR318-475) minutes *vs.* 275(212-366), p<0.001), while LOS was shorter in LAPH (9(6-14) days *vs.* 14(10-15), p=0.005). The conversion rate to open procedure was 16% (3/19) in the LAPH group.

Conclusion: Analysis of an initial experience with major LAPH shows no difference in blood loss or complications compared to OH, but prolonged procedure time and reduced length of stay for major LAPH. While the small cohort analysis is exposed to type II error, it appears safe to continue with major LAPHs.

Evaluation of High-Resolution Anoscopy as a Screening Tool for Anal Intraepithelial Neoplasia (AIN): a Comparison to the Gold Standard Anal Mapping Biopsies

O13

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Background: High-resolution anoscopy (HRA) is the recommended screening tool for anal intraepithelial neoplasia (AIN). However, its diagnostic accuracy is unclear and has never been compared to a gold standard.

Methods: Evaluate HRA as a screening tool for AIN in comparison to anal mapping biopsies (AMB) in a cohort of consecutive patients at risk for AIN. Histological findings of AMB were compared with HRA findings. The comparison was carried out by inspection and description of lesions as a whole (lesion-based analysis) and for each field (field-based analysis). For the field-based analysis, the anal region was divided into 28 fields, which were assessed (HRA) and biopsied separately.

Results: Twenty-nine patients (20 male, 9 female) with AMB were analysed. Of the 20 male patients, 11 were HIV positive and 14 practiced MSM. All female were HIV negative. HRA identified 23 lesions suspicious for AIN. Twenty-two lesions (96%) were histologically confirmed as AIN. Anal mapping detected 26 AIN lesions. In HRA, the 22 confirmed lesions spread over 49 fields and 60 additional fields were detected by AMB (+122%). HRA shows in lesion-based analysis a sensitivity of 84.6%, specificity 87.5%, PPV 95.7% and NPV 63.6%. In field-based analysis, HRA shows a sensitivity of 45%, specificity 98.6%, PPV 83.1% and NPV 92%.

Conclusion: HRA is an effective screening tool for AIN in patients at increased risk. But their extent is underestimated by 122%, therefore sensitivity can be improved with AMB. Possibly the repeatedly observed high recurrence rate after AIN therapy is not only caused by overlooked lesions or due to their biological properties but also by underestimating their extent.

Long-term Prediction of Infliximab Response using CD-62L Shedding Assay: Longitudinal Data from 5-year Study in Inflammatory Bowel Disease.

O14

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Background: The mechanism of loss of response of anti-tumor necrosis factor alpha (TNFα) agents in inflammatory bowel disease (IBD) patients is poorly understood and long-term prognostic markers of therapeutic efficacy are required for ensuring successful clinical treatment. **Methods:** An *in vitro* blood assay was developed to predict patient response to the anti-TNFα agent infliximab. Crohn's disease (CD) and ulcerative colitis (UC) patients were then classified according to the shedding of an L-selectin (CD62L) from the surface of granulocytes in whole- blood. CD62L shedding was quantified by flow cytometry before and after infliximab administration. A 5-year (June 2015 to August 2017), prospective clinical study, comprised of blinded infliximab management, hospitalization, complication and surgery, was aimed at validating the long-term predictive value of this test.

Results: We identified 62 patients eligible for the study over a 2-month cycle of infliximab maintenance therapy at our infusion center at Bern University Hospital. 33 IBD patients, who consented to the study with at least one valid testing (fresh blood), were included. According to the *in vitro* test, 22 (17 CD and 5 UC) were predicted as *responders* (PR) and whereas 11 (8 CD and 3 UC) were predicted as *non-responders* (NR). Five years after study initiation, 72% of PR were still treated with infliximab (suggesting a stable response to infliximab treatment), whereas only 27% of NR remained on treatment ($p<0.05$), respectively. The median time spent under Infliximab therapy after CD62L shedding quantification was 45 (IQR 34.25 - 48.5) and 12 (IQR 3.5 - 35) months ($p = 0.019$), in PR and NR respectively. Seven patients (4 in the PR and 3 in the NR group) were lost to follow up. Thirty-five medico-surgical events occurred, 70% during the first 3 years. Median time to first event was 3 vs. 30 months ($p = 0.023$), respectively (Kaplan-Meier survival curve). Our assay was a better independent predictor of staying long-term on infliximab ($p = 0.056$) than any other clinical or biological patients' characteristics.

Conclusions: An assay-based in vitro test for functional blockade of TNFα (CD62L shedding) provides an excellent long-term (3-5 years) independent predictor of infliximab response in inflammatory bowel disease patients. Testing patients at the beginning of the infliximab maintenance phase could help therapeutic decision making to avoid complications, hospitalization and surgeries.

Clinical utility of vedolizumab trough levels in the management of inflammatory bowel disease

O15

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Background Although therapeutic drug monitoring is widely used for patients under anti-TNF agents, there are limited data on the utility of vedolizumab serum measurements during maintenance.

Methods We conducted a retrospective study of vedolizumab trough levels in IBD patients on maintenance vedolizumab treatment.

Results A total of 122 drug measurements in 75 IBD patients were analysed. Eighty two percent of patients were exposed to anti-TNF agents prior to vedolizumab treatment. We found significantly higher vedolizumab trough levels in responders versus non-responders (17.8 versus 10.8 ug/ml, p= 0.0001), in patients with leucocytes < 10 G/l (16.8 versus 11.2, p=0.016), normal calprotectin (25.9 versus 15.2 ug/ml, p= 0.027) and low CRP (17.3 versus 10.4 ug/ml, p= 0.0057).

Conclusion Our data suggest that vedolizumab trough level determination correlates with clinical, biological and mucosal remission.

Acute alcohol-induced microvesicular steatosis mimicking alcoholic hepatitis : a case-control study

O16

L.Spahr, N.Goossens, C.Oropesa, L.Rubbia-Brandt, E.Giostra. Gastroenterology, Clinical Pathology, HUG. Background : Acute microvesicular steatosis (MStea) may complicate acute alcohol intoxication, described as Zieve's syndrome when associated with hyperlipidemia and hemolysis. However, detailed patients characteristics and natural history of MStea are largely unknown. Patients/Methods : We conducted a case-control study of patients admitted with recent jaundice and heavy alcohol intake (>150gr/day), divided into 10 patients (M/F : 5/5, mean age 47.1 yrs) with biopsy-proven massive (>50%) microvesicular steatosis but no alcoholic hepatitis lesions, (group MStea) and 20 age and sex-matched control patients (M/F : 11/9, mean age 49.5 yrs) with the full histological spectrum of alcoholic hepatitis lesions but no or marginal microvesicular steatosis (group ASH). Patients FU was 3 months. Results : *mean ± SEM, Wilcoxon,Fisher exact tests*

Variable	MStea (n=10)	ASH (n=20)	p value
MELD score	16.9 ± 3.16	21.3 ± 1.27	0.05
HVPG (mmHg)	11.1 ± 1.7	17.3 ± 0.7	0.001
ALT (IU/L)	73.2 ± 16	39 ± 3.9	0.02
GGT (IU/L)	1507 ± 440	405 ± 111	0.0002
Triglycerides (mmol/L)	6.97 ± 2.3	1.31 ± 0.16	0.0004
Cholesterol (mmol/L)	8.91 ± 2.38	3.09 ± 0.39	0.002
Alive/Dead	6/4	14/6	NS
Cause of death	Infection(2),cardiac(1), renal(1)	Infection(1),cardiac(1),liver(4) renal(1)	NS
OH relapse	2/10 (20%)	2/20 (10%)	NS
Delta-MELD	-5.3	-5	NS

In the MStea group, 5 patients had extensive liver fibrosis and 5 no of focal fibrosis. Severity of steatosis on biopsy ranged from 50% to 90%. Hemolytic anemia was not observed. All patients received supportive care, plus steroids in the group of ASH. Conclusions: Acute alcohol-induced microvesicular steatosis may mimic severe ASH and is associated with marked derangements in lipid metabolism. This acute, non inflammatory impairment in liver function carries a poor short term prognosis, possibly in relation with mitochondrial damage. (Supported by FLAGS)

Micro-Elimination of Chronic Hepatitis C in Switzerland: Modelling the Swiss Hepatitis Strategy Goals in Eastern, Western and Northern Regions

O17

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Background and Aims: Direct-acting anti-viral agents have revolutionized hepatitis C treatment. In 2014, the Swiss Hepatitis Strategy was developed to eliminate Hepatitis C virus (HCV) infection and the associated liver related morbidity and mortality by 2030. Though numerous national studies and assessments have identified a relatively low prevalence rate of 0.7% in the country, little has been done to identify the epidemiology of HCV on the regional, or micro, level. This study aimed to identify scenarios to achieve the Swiss Hepatitis Strategy by 2030 in an Eastern, Western and Northern regions in Switzerland.

Methods: Three Excel-based Markov disease burden models, grounded in hospital and regional specific data, were developed to forecast the current and future prevalence of HCV infection by fibrosis stage and liver disease stage through 2030. Two scenarios were developed to evaluate the disease burden in St. Gallen, Geneva and Zurich: a Base 2016 scenario, representing the current standard of care in each canton, and a second, potential scenario to achieve the Swiss Hepatitis Strategy goals.

Results: In 2015, the estimated viremic prevalence in St. Gallen was 0.5% (0.5% - 0.6%) corresponding to 2,800 (2,600 – 3,100) cases. In Geneva and Zurich, the estimated prevalence was slightly higher, with an estimated 0.7% (0.6% to 0.7%) viremic prevalence, or 3,300 (3,000 to 3,600) cases and 0.7% (0.7%-0.8%) viremic prevalence, or 10,800 (9,900-11,900) infections, respectively.

In order to achieve the Swiss Hepatitis Strategy goals of a 30% reduction in new infections, total viremic infections, liver transplants, and HCC cases by 2020 and a 90% reduction by 2030, all regions will need to increase the annual number of treated and diagnosed patients through 2030. In St. Gallen, an up-front investment to treat 430 patients annually by 2020, would be necessary, to achieve the 2020 goals. After 2020, treatment could be reduced to ~150 patients annually through 2030. The number of patients diagnosed, however, would need to be sustained at 130 annually after 2020. In Geneva, 235 patients need to be treated with 140 diagnosed annually between 2019 and 2030 to achieve both 2020 and 2030 goals. In Zurich, 850 patients will need to be treated annually in 2019 and 2020 and the number of diagnosed will need expand to 350 individuals annually by 2022.

Conclusions: Intensified screening for chronic hepatitis C and increased DAA access are necessary to meet the Swiss hepatitis strategy elimination goals over the next twelve years.

Treatment cascade of hepatitis C in a non-university hospital setting in Southern Switzerland.

O18

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Background and aims: Despite the introduction of DAA, the management of HCV still represents a public health challenge. The present study aimed at describing the cascade of care of anti-HCV positive individuals in a non-university hospital setting (Lugano) where a decentralized approach is used.

Methods: We performed a retrospective study by analyzing the database at Epatocentro Ticino dating back to 2007 till the end of 2017.

Results: A total of 1270 anti-HCV positive patients were identified, 1047 were included in data analysis. Median age at presentation was 42.0 years (IQR 31-54). A total of 949 (91%) patients had positive HCV RNA in plasma at baseline, 97 were HCV RNA negative, 1/3 of them had been treated before the first visit at the center. 387 patients (37%) had significant fibrosis at baseline, assessed by either liver biopsy (> stage F2), clinical signs of portal hypertension or liver transient elastography above 10 kPa. 101 patients (10%) were lost to follow up, 54% of whom had negative HCV RNA at last visit.

A total of 678 patients (71% of the patients with positive HCV RNA at baseline) had access to HCV treatment. 341 were treated by (peg)interferon and ribavirin, 500 were treated by DAA, of whom 170 received DAA as re-treatment after failure of (peg)interferon-based treatment. 528 patients (78%) (data on treatment outcome missing in 32 patients) were cured.

Conclusions: At least 21% of the estimated HCV population in Ticino achieved SVR in the last 10 years. Effectivity of our decentralized strategy needs to be carefully compared with other models.

DEPLETION OF PANETH CELLS IS ASSOCIATED WITH DECREASED PORTAL HYPERTENSION AND ANGIOGENESIS AFTER PARTIAL PORTAL VEIN LIGATION IN MICE

O19

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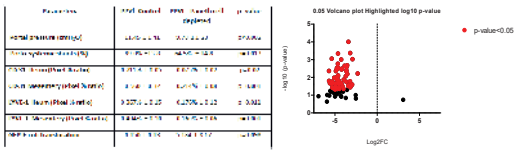
Background and Aims: Paneth cells may contribute to the regulation of splanchnic hemodynamics in response to microbial stimuli from intestinal flora. However, the detailed mechanistic links have not been elucidated yet.

Method: Math-1 Lox/LoxVilcreERT2 or control mice were injected three consecutive doses of tamoxifen and subsequently underwent PPVL or sham surgery. Hemodynamic analysis was performed 14 days after PPVL. Intestinal and mesenteric angiogenesis was also assessed by immunohistochemistry and RT^2 profiler PCR array in intestinal tissue. The results were validated with invitro experiments. Intestinal extravasation was also studied using 70KDa dextran. Bacterial translocation was assessed by intestinal loop experiment.

Results: Important results are summarized in below.



Conclusion: Portal hypertension was significantly decreased in mice lacking Paneth cells. The decreased density of blood and lymphatic vessels suggests that Paneth cell-derived factors may act on portal hypertension and angiogenesis.

Importance of Tight Junction Regulation for Liver and Disease

O20

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Background: Failure to regenerate after surgical resection is a major cause of death in advanced liver diseases. To improve the clinical outcome after intervention, it is crucial to first understand the basic mechanisms that initiate and regulate liver regeneration. Within this project, we studied tight junction proteins as potential triggers of regeneration following partial hepatectomy (PH).

Methods: Tight junction gene expression was evaluated by RNAseq and RT-PCR data and within GEO databases. Liver regeneration was induced using a mouse 70% PH model. Hepatic proliferation was quantified by pHH3 and Ki67 staining in regenerating livers of C57BL/6 mice and CLDN3 -/- or IL-22 -/- mice. Isolated human hepatocytes were stimulated with recombinant IL-22 protein.

Results: Murine and human liver express a distinct set of tight junctions, in particular mRNA of Cldn1, Cldn3, Cldn12, Tjp1, Tjp2, Jam-a, Ocln and Tric. In mice 6 hours after PH, we observed a significant down regulation of Cldn1, Cldn3, Tjp, Ocln mRNA followed by a restoration or up regulation by 24 hours. CLDN3 protein levels coincided with its observed mRNA expression. Immunofluorescent microscopy revealed localized CLDN3 expression in pericentral region and in bile canaliculi. CLDN3 -/- mice had significantly decreased hepatocyte proliferation and decreased cell cycle gene expression when compared to CLDN3+/+ control mice. The immune cell populations and cytokine secretion profile was aberrant in CLDN3-/- mice. IL-22-/- mice showed lower expression of Cldn1, Cldn3, Cldn12, Tjp1, Ocln and Jam-A levels at 24 h and 48 h after partial hepatectomy.

Conclusion: Tight junction gene expression is regulated during liver regeneration. CLDN3 -/- mice had decreased hepatocyte proliferation, indicating importance of tight junctions for normal liver regeneration. Mice lacking IL-22 had inhibited tight junction up regulation after partial hepatectomy, suggesting an involvement of cytokines for tight junction regulation in the liver

Comparison of new colonoscopy devices with standard forward viewing (SFV) high definition colonoscopes in daily practice. O21

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Introduction: For years efforts have been made to improve the quality of colonoscopy. Cap assisted colonoscopy has been shown in some studies to increase the adenoma detection rate (ADR). Full-spectrum colonoscopes (FUSE) with 330°angle of view showed by initial studies a significantly lower adenoma missrate and higher ADR. Our practice-based, randomized study compares the efficiency of the relatively inexpensive cap assisted, the FUSE or SFV colonoscopy.

Method: From March 2015 through February 2018 patients referred for ambulant colonoscopy were randomly allocated to either colonoscopy with high definition SFV Pentax i10 (n=958) or FUSE instruments (n=1552). The group of patients assigned to SFV endoscopy was since March 2017 examined with the additional use of Endocuff, making up another 339 patients. All procedures were performed by one experienced endoscopist.

Results: Baseline characteristics of the 2849 patients were similar within the three groups. Mean age was 64 (CI 63-66), BBPS score 7.23 (CI 7.2-7.3). Ileum intubation rate was 99% in all groups. With multivariate analysis male sex, diabetes and age were significant risk factors for more adenomas. Better bowel cleansing was also significantly associated with higher adenoma detection. ADR was 50% for FUSE, 54% for SFV and 47% for Endocuff (ns). Adenoma per colonoscopy (APC) were 1.1 in FUSE vs 1.2 in SFV vs 1 with Endocuff (ns). Time to ileum was 5.4 (FUSE), 5.5 (SFV) and 6.3 min (Endocuff); withdrawal time 16.3, 18.1 and 14.1 respectively (p =0.04).

Conclusion: Neither FUSE nor Endocuff could increase the ADR in a significant way. Key factor for a high ADR seems to be long withdrawal times. FUSE and Endocuff show significant shorter endoscopy times, Endocuff even significantly less medication for sedation.

Fecal microbiota transplantation in Lausanne O22

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Background: Fecal microbiota transplantation (FMT) is proposed in recurrent *Clostridioides difficile* infection (CDI) as a treatment of choice in both European and American recommendations. In this study we report our experience in Lausanne focusing on the last 12 months.
Methods: Between July 30, 2017 and May 2, 2018, thirteen patients were included. Among these, 11 can be evaluated with an 8 weeks follow up. Pretreatment with vancomycin was administered in all patients. FMT was performed through colonoscopy with fresh fecal transplant.
Results: Three women and 8 men were included; the mean age was 63 ± 23 years. The mean number of CDI recurrence prior to FMT was 4.4 ± 1.0 episodes. For the recurrence, 7 patients were previously treated with vancomycin, 2 with metronidazole,1 with fidaxomicin, and 1 unknown. The donor was unrelated in 6/11 cases.The quantity of stool instilled was 119 ± 76 g per FMT diluted in 500 mL of saline. Among the 11 evaluable patients, response was achieved in all patients at 8 weeks but two had a recurrence at 3 and 4 months post FMT, respectively.
Conclusions: FMT is a very efficient treatment for recurrent CDI. Our experience is consistent with the medical literature. FMT is considered as a drug in Switzerland under the pharmacist's responsibility. A current priority is to obtain regulatory approval by Swissmedic.

Real-world data on topical therapies and annual health resource utilization in hospitalized Swiss patients with ulcerative colitis O23

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Background: Topical treatment was shown to be highly effective in patients with ulcerative colitis (UC), while reducing the likelihood of systemic adverse effects. However, previous research has shown that topical treatment is clearly underused. We aimed to evaluate the use of topical therapy in the real-world setting in Switzerland.
Methods: This is an observational study based on Helsana claims data of 201 Swiss adult patients who were hospitalized for UC between 2012 and 2014 and who were followed for one year. A variety of factors presumably associated with topical treatment were examined. Annual healthcare utilization (UC-related medications, diagnostic procedures, consultations, and re-hospitalizations) of patients with versus without topical therapy was compared.
Results: Of the 201 hospitalized UC patients, 82 (40.8%) were treated with topical 5-ASA and/or topical rectal steroids. The main factors significantly and positively associated with receiving topical treatment were the use of topical treatment in the year prior to the hospitalization, receiving oral 5-ASA, and living in an urban area. The mode of administration was further related to the language area. Patients with topical therapy significantly more often received other UC-related medications, such as combinations with systemic steroids. They significantly more often underwent colonoscopies and calprotectin measurements, and more often consulted a gastroenterologist in the follow-up, while there was no significant difference regarding re-hospitalizations.
Conclusions: Topical treatment is underused in patients with UC, which stands in contrast to the current ECCO Guidelines. Patients' preferences and considerations need to be taken into account when prescribing medical therapy.

Colitis increased GPR35 expression by CX3CR1+ macrophages O24

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Background: Single nucleotide polymorphisms in *GPR35* are associated with ulcerative colitis and primary sclerosing cholangitis, but the function in mucosal immunity is not known. **Methods:** GPR35-expressing cells were identified with a novel GPR35-tdTomato reporter mouse line. Inhibition of forskolin-induced cyclic AMP release by potential ligands was detected in GPR35-transfected CHO-K1 cells. **Results:** Monocytes in spleen and peripheral blood are GPR35^{+} as shown by flow cytometric analysis of GPR35-tdTomato mice. As Ly6C^{high} monocytes enter in the intestinal lamina propria and differentiate into macrophages, they down-regulate GPR35. However, during colitis, colonic CX3CR1+ macrophages upregulate GPR35. Among the potential endogenous ligands of GPR35, CXCL17 and the phospholipid derivative lysophosphatidic acid (LPA) are able to activate the Gi-mediated G-protein coupled receptor signaling cascade in GPR35- transfected cells. Immunofluorescence staining of human intestinal biopsies from patients with inflammatory bowel diseases identified intestinal epithelial cells as source of CXCL17. Stimulation of the intestinal epithelial cell line HT-29 with IFN-γ induced the expression of *CXCL17*. *CXCL17* expression was also elevated in IBD patients with active disease compared to patients in remission. CXCL17 elicited migration of human peripheral blood mononuclear cells towards a CXCL17 gradient. **Conclusions:** Mononuclear phagocytes downregulate GPR35 after entrance in the lamina propria in the steady state. The intestinal epithelium is the cellular source of the GPR35 ligand CXCL17. Inflammation leads to increased expression of both proteins.

Endoscopic ultrasound -guided biliary drainage: techniques, feasibility and outcomes: a mono -centric experience. O25

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Background: Endoscopic ultrasound -guided biliary drainage (EUS-BD) has been emerging in the last decade as a promising solution when classic trans-papillary approach fails or is impossible. Different techniques are possible depending mainly on local expertise and anatomical specificities. We report here a 3 years experience in a tertiary center.
Methods: All patients with obstructive jaundice among which EUS-BD was performed in the Lausanne University Hospital, between December 2015 and March 2018, were included in this study.
Results: Data from 18 patients (77% female, mean age, 60 ± 10 years) were retrospectively analyzed. Principal etiologi es of obstructive jaundice were pancreatic neoplasia, hepatic metastasis and cholangio -carcinoma (respectively 44%, 39% and 11% of cases). 67 % of ERCP failed because of inaccessible papilla. Hepatico-gastrostomy was performed in 14 patients (78%), rendezvous technique in 2 patients (11%) and antegrade drainage in 2 patients (11%). Technical success (defined as successful metallic stent insertion) was obtained in 78% of cases. Among those patients clinical success (defined as a bilirubin rate decrease of more than 50%) reached 100%. Immediate severe adverse event were reported in 1 patient (stent migration) and 3 delayed complications (stent obstruction in all cases) with a favorable evolution after endoscopic treatment.
Conclusion: These data confirm that EUS-BD is a feasible and safe technique, providing a lasting biliary obstruction relief when technical success is obtained.

The Clinical Determinants affect Gut Microbial Profile of Inflammatory Bowel Disease Patients. O26

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Background: Alterations in gut microbial community of IBD patients still present inconsistency among the published studies and importantly did not completely allow for the unique identification of microbial signatures of CD and UC. We aimed molecularly to profile the intestinal microbiota of phenotypically and genotypically well-characterized Swiss IBD cohort (SIBDC) patients as well as newly recruited IBD patients in Bern as a local replica set including non-IBD subjects. **Method**: We deeply characterized the microbiota of UC and CD from 941 biopsy samples of 346 patients from the SIBDCS Cohort and 1254 of biopsy samples of total 397 IBD patients and non-IBD subjects from the Bern Cohort, thus building one of the largest cohorts covering sequence data generated. The microbiota composition at the site of biopsy was determined by 16S Amplicon sequencing on the Iontorrent platform. Data were analysed using the QIIME pipeline and correlated with the extensive long-term longitudinal clinical data (patients' disease trajectory) of the Swiss IBD cohort study.

Results: In PCoA plots, CD and UC disease groups clustered into two distinct groups mostly characterized by altered bacterial composition and lower diversity in CD patients compared to UC patients and non-IBD subjects. Significant differences in taxa representation between the disease groups of each cohort were identified using multivariate association with linear models. This microbial "fingerprint" based on the Swiss IBD cohort and Bern cohort data could then be used in a machine learning algorithm process to correctly predict the CD and UC disease groups with more than 83% success rate. Disease status, disease location/behaviour, and stool consistency were the critically important variables that have effects on shaping the gut microbiota of IBD patients, as assessed in both cohort. Steroids and Anti-TNF agents' responses, as well of surgery also induced several taxonomic changes, but not the response to thiopurines, methotrexate or 5-ASA.

Conclusion: Our findings revealed that CD and UC are two distinct intestinal disorders at the microbiome level, which could be differentiate based on the microbial profile. A loss of beneficial microorganisms is more associated with CD. However, the observed bacterial dysbiosis in IBD patients is not only associated with disease status itself, it is also directly linked to several clinical parameters associated with the disease trajectory of patients.

Treatment efficacy of a low FODMAP diet compared to a low lactose diet in IBS patients: a cross over design study O27

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Background: A diet low in FODMAPs has become a standard in treatment of patients with IBS, which is very demanding. A low lactose diet is less restrictive and possibly successful. We investigated the effects of a diet low in FODMAPs (LFD) compared with a low lactose diet (LLD), in a randomized, cross-over trial of patients with IBS. *Methods:* 27 patients with IBS (S3 guidelines) were randomly assigned to two groups receiving 21 days of either a LFD or LLD after a run-in, followed by a wash-out period of 21 days, before crossing over to the alternate diet. Professional diet instruction was given continuously. Daily symptoms were assessed using a VAS. An IBS Severity Scoring System (IBS-SSS) was filled out at four time points. *Results* IBS Patients on LFD had significantly less abdominal pain (median VAS difference to baseline -0.8 (-2.8 to 2.7, p= 0.04) and less flatulence (-0.5 (-4.1 to 3.4, p= 0.01). There were no significant differences between baseline and LLD regarding abdominal pain and flatulence. In the IBS-SSS patients reported less interference with daily life on LFD and LLD (p= 0.00). *Conclusion:* LFD but not LLD effectively reduced pain and flatulence in patients with IBS. However coping with IBS symptoms in daily life was improved on both diets.

Organoid Models of Human Liver Cancers Derived from Tumor Needle Biopsies O28

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Background: Hepatocellular carcinoma (HCC) is the most common primary liver cancer and the second cause of cancer-related mortality worldwide. Sorafenib is the only drug available for the first line treatment of advanced HCC. Due to the different backgrounds and the resulting heterogeneity of tumors, its efficacy greatly varies between patients and is further limited due to adverse effects and the development of drug resistance. Current *in vitro* models to study HCC fail to recapitulate key features such as tumor architecture, cellular heterogeneity and cell-cell interactions. We aimed to generate novel *in vitro* models that recapitulate the diversity and complexity of HCCs observed in patients.
Methods: Tissue specimens were obtained via ultrasound-guided biopsy of HCC lesions and paired non-tumoral liver tissue. The biopsies were further processed for 3D culture in basement membrane extract type 2 (BME2) and a growth factor-enriched culture medium. Histological analysis, whole exome sequencing and transcriptional profiling was performed on primary tumors and derivative organoids.
Results: We report the generation of long-term three-dimensional organoid cultures from tumor biopsies of HCC patients with various etiologies and tumor stages. HCC organoids retain the morphology and histological grading of the primary tumor as well as the expression pattern of HCC tumor markers. Moreover, whole exome sequencing analyses demonstrated that HCC organoids preserve the genetic heterogeneity present in their originating tumors. Finally, in proof-of-principle studies we show that liver cancer organoids can be used to test sensitivity to sorafenib.
Conclusions: Organoid models can be derived from needle biopsies of liver cancers, preserve the original tumor characteristics and provide a novel tool for developing tailored therapies urgently needed for a frequent malignancy with limited treatment options.

A genome-wide screen for functional inherited high-frequency genetic variants that affect survival of resectable pancreatic ductal adenocarcinoma. O29

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Background: The knowledge about inherited polymorphic genetic traits can be utilized to predict cancer-specific patient outcomes of pancreatic ductal adenocarcinoma (PDAC). However, little is known about the underlying functional mechanisms of such genetic variants, which limits their utility to guide personalised treatment strategies. Therefore, we perform a genome-wide screen for functional single nucleotide polymorphisms (SNPs) that can serve as predictive biomarkers in PDAC.
Methods: A prospective European PDAC cohort which comprised of 195 patients who underwent pancreatic resection was utilised as a discovery dataset. Cox proportional hazards models were used to screen for high-frequency polymorphic variants that affect tumour-related survival and either (i) result in an altered protein structure and function or (ii) reside in known regulatory non-coding genomic regions. The Cancer Genome Atlas (TCGA) database which included 136 PDAC patients was employed as an independent validation cohort.
Results: We identify and validate SNPs in non-coding, functional genomic regions that affect PDAC survival (up-to p=1.0e-08; HR=0.38), including variants in regulatory regions of the CHI3L2 (SNPrs684559) gene. We report on the putative regulatory changes introduced by the identified SNPs and describe the potential therapeutic implications of our findings.
Conclusions: The identified polymorphisms can serve as non-invasive, predictive biomarkers readily available at the time of PDAC diagnosis. The biological knowledge about these SNPs could help guide the development of individualized genomic strategies for PDAC therapies.

AXL-expressing immunoregulatory monocytes indicate disease severity in patients with advanced cirrhosis O30

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Background: Infection susceptibility in patients with advanced cirrhosis has been attributed to immuneparesis, whereas the underlying pathophysiology remains incompletely understood. TAM-receptors (Tyro-3/AXL/MERTK) have pivotal roles in dampening innate immunity. We sought to evaluate TAM-receptor expression on monocytes in patients with cirrhosis in relation to monocyte function and disease severity.
Methods: Blood samples were taken from patients with cirrhosis (Child A,n=34/B,n=25/C,n=12) at the Cantonal Hospital St. Gallen and University Hospital Basel and compared to healthy controls (HC,n=15). Ex vivo monocyte phenotyping, LPS-stimulated cytokine production and in vitro efferocytosis were assessed using flow cytometry. AXL was overexpressed in THP-1 cells.
Results: We observed a significant up-regulation of AXL on monocytes of patients with cirrhosis that was increasing with disease severity (HC 2.1%/ Child A 2.9%/ B 11.8%/ C 17.1%). AXL expression strongly correlated with disease severity scores (Child Pugh/MELD), and was associated with portal hypertension, ascites, HE, development of secondary infections and 1-year-mortality. Functionally, TNF-α/IL-6 production upon LPS treatment was impaired in cirrhosis compared to HC. AXL-expressing (AXL^+) monocytes produced significantly less TNF-α/IL-6 compared to AXL^- monocytes ex vivo; also proven in an AXL-overexpressing THP-1 cell line model in vitro. Up-regulation of AXL on monocytes could be induced by stimulation with selected TLR-ligands and efferocytosis of neutrophils in vitro.
Conclusions: A distinct population of immunoregulatory, AXL-expressing monocytes was expanded in patients with cirrhosis. It was associated with disease severity and complications and may serve as future immunotherapeutic target and prognostic marker.

High Resolution Imaging and Morphometry of Vascular Remodeling in a Murine Model of Non-Cirrhotic Portal Hypertension by Micro-Computed Tomography O31

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Background: Non-cirrhotic portal hypertension (NCPH) is a heterogeneous group of liver disorders of vascular origin, leading to portal hypertension with near normal HVPG. In contrast to portal hypertension in liver cirrhosis with vascoconstriction and abundant fibrosis as important contributors to portal hypertension, development of increased portal vein pressure in NCPH (often in the complete absence of fibrosis) remains unexplained and unexplored. Biopsies from NCPH patients often show malformed portal vein branches in the portal tracts. We therefore hypothesize that vascular remodeling with dedifferentiation of the pre-sinusoidal portal venous vessels is an important driver in the development of NCPH and represents the site of hemodynamic resistance.

Methods: In order to assess whether alterations in the hepatic vasculature are associated with NCPH, we used $Notch1^{-/-}$ mice, which develop NCPH within two months after knockout (Dill et al. Gastroenterology). Whole livers of these mice were perfused using a novel polymerizing contrast agent (μAngiofil®) and scanned by high-resolution micro-computed tomography (microCT). MicroCT-based 3D reconstruction was then generated to analyze the complete portal vein tree. Furthermore, filament tracer-based analysis (Imaris®) was used for quantitative and qualitative morphometry of the vasculature in NCPH vs. control mice.

Results: *Ex vivo* whole organ microCT-based imaging was technically feasible and allowed detailed imaging of the complete portal vein branches. Subsequent 3D visualization of the hepatic vasculature revealed a highly aberrant vascular network in NCPH mice. Filament tracer analysis indicated a reduction in the number of short vessels with small diameters due to reduced branching depth of the vascular tree compared to healthy control mice.

Conclusions: Whole organ microCT analysis of the portal vein allows detailed analysis of the complete vascular tree. NCPH mice show substantial alterations and vascular remodeling. This novel technique allows unexpected insight into the pathogenesis of non-cirrhotic portal hypertension.

Opioid intake is associated with disorders of the esophago-gastric junction O32

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Background: In this study, we aimed to analyze the effect of opioids on esophageal motility with a focus on disorders of esophago-gastric junction (EGJ).
Methods: Data of n=357 consecutive patients undergoing esophageal high-resolution manometry (HRM) were analyzed regarding EGJ disorders and opioid intake. Disorders of EGJ were defined based on HRM findings consistent with achalasia type I, II, III or esophago-gastric junction outflow obstruction (EGJOO) according to Chicago Classification v3.0 (CC v3.0). Patients not classifying for any of the above mentioned according to CC v3.0 were reevaluated according to test meal results based on recent results from our center.
Results: EGJ disorders were found in n=111 (31.1%) patients: Achalasia type 1, n=4; type 2, n=27; type 3, n=10; EGJOO, n=70. Prevalence of opioid intake was significantly higher in patients with EGJ disorders compared to patients without pathologic EGJ findings (13.6% vs. 4.5%, p=0.017), with the highest prevalence in patients with achalasia type III.
Conclusion: In this study, we demonstrated a significant association between EGJ disorders and opioid use. The exact pathomechanisms are currently under debate. A possible mechanism is the opioid-induced inhibition of nitric oxide realease, which may lead to higher distal contractile integral and tonicity of esophageal smooth muscles (e.g. lower esophageal sphincter). Unfortunately, reduction or withdrawal of opioids to assess potential underlying primary esophageal disease is rarely possible. To better characterize the esophageal effects of opioids, a prospective study with standardized opioid doses is needed.

Embryonic and Neonatal Skin Development Depends on Maternal Microbiota

O33

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Background: Neonates rely on skin barrier function to deal with the environmental challenges after birth such as microbial colonisation, chemicals, and physical stress. The microbiota plays a key role in host development and adaptation to the environment. Early life, even foetal exposure to microbial products is critical to set up the tissue baseline for following environmental challenges[1]. We hypothesize that maternal microbiota shapes skin barrier development to prepare the neonates.
Methods: Pregnant germ-free mice were reversibly colonized with a genetically modified *Escherichia* coli strain ("gestational colonisation")[1]. The embryonic and neonatal skin was analysed by flow cytometry, histochemistry and immunofluorescence.
Results: Histological analysis illustrated that embryos and neonates from gestationally colonized dams have thicker epidermis composed of more layers of keratinocytes and a tighter basement membrane compared to the offspring from germ-free dams. Gestational colonisation led to increased frequency of epidermal immune cells (Langerhans cells (LC) and $\gamma\delta$ T cells) in embryonic and neonatal skin. Advanced differentiation and maturation of LCs was also observed.
Conclusions: Our results show that maternal microbiota enhances embryonic and neonatal epidermal keratinocyte and barrier differentiation. Moreover, maternal microbiota accelerates epidermal LC and T cell population pre- and post-natally. The mechanisms underlying the maternal microbiota impact on neonatal cutaneous development will be addressed.

[1] M. Gomez de Agüero, S.C. Ganal-Vonarburg *et al*., Science 2016; 351 (6279): 1296-302

Autoimmune Colitis in Patients Undergoing Therapy with Immune Checkpoint Inhibitors: a Case Series

O34

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Introduction: Immune checkpoint inhibitors (ICPI) are increasingly becoming a standard oncological therapy. In addition to the intended anti-tumoral immune response, autoimmune effects such as colitis are observed.
Methods: Multicentre retrospective colitis case series in patients undergoing ICPI treatment. The substance used, duration to onset of colitis and severity of symptoms were evaluated. Diarrhea was described using a scale from G1(mild) to G5 (death).
Results: Between 2/2015 and 12/2017, 31 cases of ICPI induced colitis were documented. Twenty-one (68%) were male and 10 (32%) female. Median age was 62 years (24-88). Colitis was diagnosed after a median of 49 days (12-772) and after 3 cycles (1-23). Distribution of diarrhea severity was: G1:8 patients (32%), G2:12(38%), G3:11(34%), G4 or G5 were not reported. Twenty-six of 32 patients underwent colonoscopy. Affected intestinal segments were: rectum in 17 patients (65.4%), Sigmoid colon 16 (61.5%), left colon 11 (42.3%), ascending colon 2 (7.7%), pancolitis 1 (3.9%) and ileum 1 (3.9%). Prednisone or infliximab (IFX) were used for therapy. In group G1 3/8 (38%) received prednisone, 0 IFX; G2 9/12 (75%) prednisone, 0 IFX; G3 10/11 (91%) prednisone, 2 (18%) IFX.
Conclusion: ICPI-triggered enteritis is a new entity of autoimmune inflammatory bowel disease, which mostly affects the colon. Symptoms usually start after 2-3 cycles but can also arise after more than one year of therapy. The clinical course is usually mild to moderate and treatment with steroids is mostly sufficient.

Video sessions: Combined endoscopic and surgical resection of a gastric gastro-intestinal stromal tumor (GIST) using the non-exposed wall-inversion surgery (NEWS) technique

O35

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Background: GIST of the stomach represent a therapeutic challenge given their potential malignant behavior and subepithelial position. The main goal of resection is to preserve the anatomy with an en bloc complete resection, while minimizing peritoneal spillage. Non-exposed wall-inversion surgery (NEWS) with endoscopic hybrid resection is a promising technique for limited GIST under 40 mm in size, with extramural protrusion.

Methods: This video shows a hybrid endoscopic and laparoscopic resection of a 30 mm GIST, with a mitotic count < 5 / 50 HPF and situated on the great curvature of the stomach. Procedure starts with endoscopic cautery delimitation and submucosal lifting of the lesion, using NaCl 0.9% colored with indigo carmine. Under laparoscopy, a circumferential seromuscular incision with 1cm margin is made, keeping the mucosal layer intact. The lesion is then inverted into the gastric lumen using an intercalated spacer (hemostatic gauze) and the seromuscular layer is closed with a self-locking absorbable running suture. The transmural incision is completed endoscopically, by cutting the mucosa on the delimitation with monopolar cautery. The lesion is then retrieved perorally and the mucosa is closed using endoscopic clips. Free drinking and soft meal is allowed after 6 hours and the patient left the hospital the next day, without postoperative complications.

Conclusion: NEWS procedure allows gastric-sparing hybrid endoscopic and laparoscopic surgery, combining full-thickness resections without transmural communicationand unnecessary resection of unaffected gastric tissues.

Suppression of D-Lactic acidosis crisis via administration of probiotics

O36

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Introduction: Intestinal microbiota composition in children with short bowel syndrome (SBS) is a vital factor affecting clinical outcome. An increase of D-lactate producing bacteria can lead to D-lactic acidosis with severe neurological impairment in these patients. Antibiotic treatments offer often only short-term relief. Here, we present the case in which we monitored the stool bacterial composition in a pediatric patient with SBS and recurrent D-lactic acidosis during cycling antibiotics and probiotic treatment over time via 16S gene sequencing.

Method: Over 500 days, 54 stool samples collected from a pediatric patient with SBS. After bacterial DNA extraction from those samples, 16s rRNA approach was used to identify intestinal microbial changes in this patient longitudinally.

Results: Dramatic alterations of gut microbial profile in SBS patient upon probiotic administration led to disappearance of D-lactate producing *Lactobacillus plantarum* strain within a few weeks after probiotic introduction and this strain was no longer detectable the subsequent follow-up specimens. This suppression also increased the quality of life of this pediatric patient.

Conclusion: Probiotic treatment in SBS patients with D-lactic acidosis crisis can be extremely beneficial to stop and prevent the crisis by directly affecting the existence of D-Lactate producing bacteria. Monitoring the microbiota profile during treatment interventions will increase our knowledge for the regulation of the gut microbiota and eventually allow us to further improve our treatment strategies.

O37

EUS-guided pancreaticogastrostomy and transgastric peroral pancreatoscopy (tPOP) with EHL-therapy in a patient with chronic hereditary pancreatitis and several intraductal stones

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Chronic pancreatitis is a progressive inflammatory disease leading to intraductal stones in up to 90% of the patients. They can cause ductal obstruction with intraductal hypertension resulting in chronic pancreatic pain. Interventional endoscopy aims to alleviate pain through restoration of pancreatic flow by extracting pancreatic duct (PD) stones. However, success rates by endoscopic retrograde pancreatography (ERP) and mechanical lithotripsy are disappointing (~9%), especially if large stones are present. Here, we report the case of an 18-year-old woman with chronic hereditary pancreatitis (SPINK1 mutated). Given recurrent acute pancreatitis episodes, chronic pancreatic pain and PD stones in the prepapillary region, an ERP was attempted with incomplete stone extraction. Because of ongoing symptoms, 9 months later a duodenal preserving pancreatic head resection was performed. After 22 months pain and acute pancreatitis episodes recurred. Endoscopic ultrasound (EUS) showed a PD of 10mm with several intraductal stones distal to an anastomotic stricture. An EUS-guided pancreaticogatrostomy was performed inserting a 7F transgastric stent into the PD. Six weeks later, the access was dilated to allow placement of a 10F plastic stent. Two months later, a spyscope was advanced into the PD and a large intraductal stone was identified. Electrohydraulic lithotripsy (EHL) was used to completely fragment the PD stone, after which two 7F stents were placed to the prepapillary region. The subtotally strictured pancreatico-jejunostomy was also visualized and will be treated during the next intervention. Two months after this treatment, the patient remains asymptomatic. Overall, tPOP combined with EHL is a viable option to clear PD stones if they cannot be reached by ERP.

O38

Endoscopic sleeve gastroplasty (ESG): A novel minimal invasive, endoscopic bariatric procedure. First clinical experience from two referral centers in Switzerland.

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Background: Bariatric endoscopic techniques are minimally invasive and reduce gastric volume to treat morbidly obese patients. We report our first clinical experience with endoscopic sleeve gastroplasty (Apollo method with the Overstitch system) using an endoscopic suturing method directed at the greater curvature, assessing weight loss and safety.

Methods: Retrospective short-term analysis of three consecutive patients suffering from obesity, treated with ESG in November 2017. All patients underwent an interdisciplinary evaluation identical to the evaluation before a surgical bariatric procedure. Patient data was collected at baseline as well as 1, 3 and 6 months after the endoscopic procedure. Primary endpoints were change in BMI and excessive BMI-loss (EBMIL). Secondary endpoint was major complications.

Results: Three patients (age 39 ± 18 years, BMI 33.9 ± 2 kg/m^2) were treated with ESG in November 2017. At 1, 3 respectively 6 months mean BMI was 31 ± 2 kg/m^2 (EBMIL 2.5 ± 1.5), 30.6 ± 2.4 kg/m^2 (EBMIL 3.2 ± 1.3) and 29.9 ± 3.1 kg/m^2 (EBMIL 3.9 ± 1.7). No complications were observed, neither during nor after the procedure.

Conclusion: ESG seems to be an effective and safe alternative in obese patients, concerning short-term results. Prospective long-term studies are necessary to evaluate this technique and to compare it with laparoscopic sleeve gastrectomy.

O39

Endoscopic Vacuum Therapy (EVT) after Bariatric Surgery – outcome in 5 consecutive cases

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Background: Anastomotic leakage after primary laparoscopic sleeve gastrectomy (LSG) and Roux-en-Y gastric bypass (RYGB), as well as bariatric revisional surgeries, is associated with relevant morbidity and mortality rates. Endoscopic vacuum therapy (EVT) with our without stent-over-sponge (SOS) has been shown to be a promising therapy in foregut wall defects and may thus represent a safe and effective strategy especially in anatomically delicate localizations. **Methods:** We report the results of 5 consecutive patients (2/5 male, median age 51 years, median BMI 44.3kg/m^2) treated with EVT (80% in combination with SOS) for early postoperative leakages in close proximity to the esophago-gastric junction (EGJ) after LSG (n=2) and RYGB (n=3) from 05/2016 to 05/2018. The lesions' size ranged from 0,5cm^2 to 9cm^2 and were connected to large (max. 225cm^2) abscess cavities in 80% of the cases. **Results:** All patients were successfully treated without further signs of persisting leakage at the last gastroscopy. Median duration of treatment (=EVT in situ) was 24 days (range, 7-89). The number of endoscopic interventions ranged from 1 to 24 (median, n=7), with a median duration between vacuum sponge replacements of 4 days. No therapy related complications occurred. **Conclusion:** EVT is an effective and safe treatment for staple line leakage after bariatric surgeries. Early endoscopic intervention likely results in improved outcomes. Further studies with a greater number of patients are needed. However, due to the impressive success rate of EVT for large defects in close proximity to the EGJ and known mortality of revisional surgeries, prospective randomized placebo-controlled trials are hard to justify.

O40

Video sessions: Endoscopic Ultrasound (EUS) guided pancreas radiofrequency ablation of a benign insulinoma

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Background: Insulinoma is a rare pancreatic neuroendocrine tumor but a life-threatening condition if untreated. Endoscopic Ultrasound guided pancreas radiofrequency ablation (EUSRA) is actually an alternative therapy to surgical resection with fewer adverse events in recent data.

Methods: This video show the EUSRA of a 12 mm, well differentiated G2 (Ki 67 <2%), insulinoma located in the body of pancreas diagnosed by EUS after inconclusive MRI and DOTATATE PET CT, complicated by refractory seizures and low plasma glucose level. EUSRA was carried out using a 19G electrode needle from Taewoong Medical company. We applied 3 hits with a power of 50 watts during 10 seconds or until apparition of bubbles around the needle, in only one session. The exam was realized under general anesthesia with a total operative time of 26 minutes. The patient left the hospital the next day after a non-complicated observation. Transient fever and abdominal pain developed 3 days later, and was successfully treated in 5 days, by conservative way with analgesic and antibiotic. Complete symptomatic relief and biochemical normalization were observed thereafter, without residual lesion on control MRIs

Conclusion: EUSRA is a safe and curative procedure for treatment of neuroendocrine tumor of the pancreas.

G1

An unexpected cause of colonic polyposis: Pneumatosis intestinalis.

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Abstract: We describe a case of an elderly man with significant cardiopulmonary comorbidities without gastrointestinal symptoms at the time of the endoscopy and with an unremarkable family history undergoing colonoscopy during the work up of a persistent iron deficiency anemia. The macroscopic finding of multiple atypical polypoid lesions confined to the right colon was initially confusing. Histology demonstrated the presence of multinucleated foreign-body type giant cells exclusively in the basal edge of the submucosa and helped reach the diagnosis of pneumatosis intestinalis (PI) with minimal additional tests. Retrospective review of previous CT-Scan images confirmed intramural air inclusions. Our case stresses the high suspicion index required for PI in patients with relevant risk factors to avoid cumbersome and potentially dangerous endoscopic or even surgical interventions.

G2

EUS-guided pancreaticogastrostomy with subsequent transgastric peroral pancreatoscopy (tPOP) in a patient with chronic pancreatitis and impacted intraductal stones

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Background: Chronic pancreatitis with intraductal stones remains a challenging disease. Extracorporeal shock wave lithotripsy (ESWL) with subsequent fragment extraction by ERCP is well established. Recently, peroral pancreatoscopy (POP) with transpapillary intracorporeal lithotripsy has been described as alternative, but can be cumbersome in papillary or impacted pancreatic stones.

Case presentation: A 79-year old male was admitted with severe abdominal pain and a 10mm pancreatic duct with possible intraductal stones on ultrasound. After recovery, endoscopic ultrasound (EUS) showed several pancreatic duct stones with a 12mm stone impacted in the papilla. After a failed ERCP, an EUS-guided pancreaticogastrostomy was performed with inserting transgastrically a straight plastic stent into the pancreatic duct. Six weeks later, the 7F stent was extracted and a wire was passed transpapillary into the duodenum. The route was dilated until a 10F straight plastic stent could be placed across the stones creating a duodenopancreaticogastrostomy. Two months later, the stent was removed and a spyscope inserted, facilitating a transgastric peroral pancreatoscopy (tPOP). This showed only small remnants of the previously huge stones after the prolonged stent therapy.

Conclusion: Pancreaticogastrostomy is an alternative route to the pancreatic duct in patients with failed ERCP. This transgastric approach allows not only tPOP with guided biopsies, wire manipulation and stenotic dilatation, but offers also the potential for electohydraulic lithotripsy (EHL) given the large access route and stable scope position.

G3

EUS-guided pancreaticogastrostomy with rendezvous-ERP and mechanical lithotripsy in a patient with an impacted intraductal pancreatic stone

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Background: Intraductal pancreatic stones develop in up to 90% of patients with chronic pancreatitis and represent a major endoscopic challenge. Reported success rates of endoscopic retrograde pancreatography (ERP) with mechanical lithotripsy can be as dismal as 9%. Extracorporeal shock wave lithotripsy and pancreatoscopy are not widely available and can be quite cumbersome.

Case presentation: An 82-year old female with alcohol induced chronic pancreatitis presented with recurrent acute pain attacks. On endoscopic ultrasound (EUS) several large stones were seen in the prepapillary region with a pancreatic duct dilation of up to10mm. Cannulation and papillotomy by ERP were successful, however stone extraction was impossible and finally they impacted after failed stent placement. Therefore we performed an EUS-guided pancreaticogastrostomy by transgastric insertion of a straight plastic stent during the same session. After prolonged stent therapy for six months, only one obstructing stone was still identifiable. A guidewire was then placed through the transgastric stent into the duodenum. Finally, the stone was fragmented by rendezvous ERP with mechanical lithotripsy. An inspection using a spyscope showed only minimal residual stone fragments in the pancreatic duct.

Conclusion: The novel approach by pancreaticogastrostomy offers an alternative route to the pancreatic duct in patients with failed ERP and pancreatic duct stones. Rendezvous ERP with mechanical lithotripsy is a viable option for fragmenting an impacted stone. Pancreatoscopy provides potent means for further treatment and therapy control.

G4

Cutting edge technologies to predict treatment responder and non-responder in IBD patients

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Introduction:

As it has been shown so far, "-omics" alone cannot help solving the dilemma of IBD. Physiological intermolecular modulation spectroscopy (PIMS), a cutting edge technology, is able to reconcile these data with the clinic. PIMS is a label free technology through which dynamic molecular resonance of entire proteins and macromolecular assemblies in a given organ of an individual are recorded on real time as the temperature within the sample rises from -37 to 37°C. It discriminates the responders from non-responders to a given treatment.

Methods:

In a transversal clinical study, protein extracts of peripheral blood mononuclear cells (PBMC) of 47 outpatients (female = 16, mean age=40.8±16.4 years & men=31, mean age=41.5±18.6) diagnosed with UC or CD (UC=20, CD= 27) and treated with anti-TNFα were subjected to PIMS analysis. Patient's data were blinded. One µg of total protein from each patient's PBMC was challenged with 10ng of infliximab. After determination of base line the samples were frozen at -37°C. Dynamic changes in macromolecular interaction were registered from -37 to 37°C .Three CD patients from each group of responder and non-responder were subjected to Nematic protein Organization technique (NPOT) technology in order to identify the pharmacologically active interactome behind.

Results:

PIMS discriminated responder from non-responder profiles as follow: responder to infliximab CD 58% (n=15) versus 42% (n=12) non-responder as well as in UC, 65% (n=13) versus 35 % (n=7) non-responder. This prediction matched with 98% accuracy with corresponding clinical results with only two miss matches in CD. NPOT revealed the presence of proteins ITGA2B, TLN1, FLNA, HSN and SAMHD1 beside the TNF alpha receptor in responder groups whereas only FLNA and SAMHD1 were found in non- responder group.

Conclusions:

1. PIMS in a blinded transversal study is able to stratify patients into two distinct groups of responders and non-responders to infliximab
2. NPOT revealed the candidate protein interactors needed for benefic effects of infliximab. This could be of a high value for development of biomarkers.

Fecal MicroRNA's : a promising tool for colorectal cancer screening

G5

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Background:
Screening guidelines for the prevention and early detection of colo-rectal cancer (CRC) have evolved with a significant decrease in the prevalence and mortality CRC. In the Western countries < 65% of the eligible population is up-to-date with screening, while nearly 28% has never been screened.

Patients and Methods:

MicroRNAs (miRNAs) are short, endogenous, noncoding RNAs that regulate gene expression affecting various processes including angiogenesis and metastasis. There has been great interest in looking at the expression of various miRNAs for detection of CRC.Our preliminary study to detect aberrantly expressed miRNA in stools was conducted in the past two years and 48 patients were taken into consideration:20 CRC and 28 advanced adenomas (AD). Mi-RNA test in stools (Quiagen tests) was performed in all 48 patients and compared to a control group of 20 patients. Patients with CRC had a significantly higher stool miR-21 level ($p<0.01$) and miR-92a level ($p<0.0001$) compared to controls.

Results:

Mi-RNA test showed a 73% sensitivity (14 patients) in CRC and 58% (16 patients) in AD. 79% and 75% specificity was observed for CRC and AD.

While colonoscopy is still the dominant screening test, there is considerable interest in the development of accurate noninvasive screening markers with notable improvements in stool-based tests and mi RNA in particular which provides viable noninvasive options for average-risk persons.

Conclusions:

MiRNA would offer advantages over colonoscopy, including ease of completion, low cost, and low risk. Ongoing research of miRNA will quantify its uptake, adherence, cost-effectiveness, and appropriateness of the testing interval.

Lactose malabsorption by third generation hydrogen breath test: clinical context and differential sampling time

G7

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Background and Aim:
Hydrogen breath test (H_2 BT) has become a widely used procedure in the diagnostic workup of lactose malabsorption and lactose intolerance. We here scrutinize procedure and interpretation.
The aim of this study is to explore the potential of a simplified two-or three sample test of a third generation of H_2BT to reduce time, costs and staff resources all by maintaining sensitivity.

Patients and Methods:
Data from 34 patients (22 men,12 women) with a positive predictive value (PPV) for lactose intolerance by conventional 4 h lasting, nine-sample H_2BT were obtained. Patients were then stratified according to the degree of lactose malabsorption, the occurrence and type of symptoms. Sensitivity in the abbreviated H_2BT was tested taking into account two-sample tests (0 min and 120 min or 0 min and 210 min) or three-sample tests (0 min, 120 min and 180 min or 0 min, 120 min and 210 min).

Results:
Using a two-sample test (0 min and 120 min or 0 min and 210 min) the false-negative rate was 35.6% and 27.8%, respectively. With a three-sample test (0 min, 120 min and 180 min or 0 min, 120 min or 210 min), lactose malabsorption was diagnosed in 94.1% (32 of 34) patients and in 97.05% (33 of 34) patients, respectively. Of 20 patients with abdominal symptoms, 5 (26.6%) and 2 (12.2%) would have false-negative results with 0 min and 120 min or 0 min and 210 min two-sample tests, respectively. The three-sample tests, 0 min, 120 min and 180 min or 0 min, 120 min and 210 min, have a false-negative rate of 5.4% and 2.1%, respectively.

Conclusions: H_2BT is a inexpensive, useful, simple and safe diagnostic test in the evaluation of lactose malabsorption. The third generation quantitative detection of rare gases with the breath expiration with three-sample H_2BT is time-and cost-sparing without significant loss of PPV for the diagnosis both of lactose malabsorption and lactose intolerance, at least in the cohort reported here.

Comparison of three bowel preparations for colonoscopy Moviprep®, Citrafleet® and Eziclen® in daily practice

G6

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Background: The success of colonoscopy depends on bowel preparation. Low volume preps are increasingly used. In our study we evaluated 3 products in daily use of a gastroenterologist's practice. Eziclen, a new osmotically effective, 1l laxative with sodium, potassium and magnesium sulfat. Several studies have shown that Eziclen - not yet available on the Swiss market - has a high rate of success especially in the right colon.

Methods: We tested three types of bowel preparations in 2860 consecutive patients from February 2015 through March 2018 and its modifications (e.g. addition of X-Prep in known constipated patients or former lowperformers): CitraFleet (n=486), Citra Fleet and X-Prep (73), Moviprep (1471), Moviprep and X-Prep (296), Moviprep and Constella (112) and Eziclen (n=289). Due to the time schedule of the investigations we assessed two differrent ways of application: split or same day dosing. The regimes were judged according BBPS score.

Results: In multivariate analysis higher BBPS score was associated with higher adenoma detection rate. For Moviprep the mean score was 7.2, and 7.3 when added X-Prep. For Citra Fleet it was 7.1 and for CitraFleet plus X-Prep 7.2. Moviprep plus Constella reached a score of 7.5 and Eziclen one of 7.5. By comparison Eziclen was significantly better. Eziclen reached 2.5 points in each of the 3 colon segments. The overall satisfaction with prep was best with CitraFleet with 10 points on a VAS, 8.4 for Eziclen and 6.3 for Moviprep. The taste was rated best for CitraFleet with 9.2, 6.2 for Eziclen and 5.1 for Moviprep.

Conclusion: Our data revealed no clinically relevant difference for split or same day dosing but better cleansing for Eziclen in comparison with Moviprep and Constella. Still there is potential for better cleaning for only 42% of the patients reached a BBPS score ≥8. The taste of the preps could still be better and was best for CitraFleet.

EUS-guided choledochoduodenostomy (CDS) with rendezvous-ERC in a patient with complicated choledocholithiasis and failed ERC

G8

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Background: Endoscopic retrograde cholangiography (ERC) with sphincterotomy and stone extraction is the first-line treatment modality for symptomatic choledocholithiasis. Unfortunately, in up to 10%, biliary access cannot be achieved, while percutaneous transhepatic biliary drainage (PTBD) is the main rescue alternative.
Case presentation: An 82-year old woman presented with acute cholangitis and a past medical history of cholecystectomy. A CT scan showed choledocholithiasis with dilated bile ducts. At an outside hospital, an ERC was attempted, but failed due to a large duodenal diverticulum. EUS confirmed the dilated common bile duct (CBD) of up to 3cm, with multiple small hilar stones. To relieve cholestasis, we punctured the CBD transduodenally and tried unsuccessfully to pass a wire through the papilla. As a consequence, an EUS-guided choledochoduodenostomy (CDS) was performed using a fully covered lumen apposing metal stent (LAMS). Six weeks later, a rendezvous ERC with papillotomy was completed. The LAMS was extracted and four 10F papillary plastic stents were inserted to prevent any scarring around the previous CDS. Again six weeks later, all stents and the remaining stones were removed. The patient remains well ever since.
Conclusion: Transenteric, EUS-guided access to the biliary system is a novel alternative to ERC and PTC, especially in patients with altered anatomy. If the initial rendezvous maneuver fails, a LAMS can be placed to relieve symptoms and the procedure can be completed after patients' recovery.

Long-term observation of patients in a large German IBD Registry G9

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Background: Inflammatory bowel disease (IBD) is diagnosed in approximately 350000 patients in Germany with increasing incidence and prevalence. Although on-going inflammation can result in irreversible damage to the GI tract, under- treatment and reluctance to use immunomodulatory therapies earlier in the course of disease are present. On the other hand, costs for therapies, surgeries and hospitalization are high, once damage has occurred. In 2015 we therefore implemented an independent national IBD registry (CEDUR) to methodically collect real life data of IBD patients with regard to the usefulness and comparability of immunmodulatory strategies.

Methods: CEDUR is a web-based, descriptive registry of large tertiary IBD centers throughout Germany, using time sparing documentation. Patients with IBD have visits every three months and fill in questionnaires that are later-on completed and controlled by their physicians. Since 2015 data on phenotypes, therapeutic effects including efficacy, safety and economy, hospitalizations, surgeries, comorbidities, day-off-work and QoL are continuously collected in patients with IBD.

Results: So far, 1856 IBD patients (UC: 859, CD: 992, indeterminate colitis 5) were enrolled, 47% are men, 53% are women. In CD and UC, 62.9% were younger than 31 years. Age at first diagnosis was younger than 21 in 23.7%. In CD, biologics were used in 73.9% of patients, of those anti-integrins in 6.0% and IL-12/23 blockers in 5.6%. 31.4% of patients with TNF-blockers were treated for more than 4 years. 54.2 % of patients under infliximab received infusions every 7 to 9 weeks, 31.6% every 4 to 6 weeks. 49.5% of patients under adalimumab received injections of 40mg eow, and 38.4% at least 80mg eow. In UC, biologics were used in 59.0% of patients, of those anti-integrins in 12.05%. 24.8% of patients with TNF-blockers were treated longer than 4 years. 47.1% of patients under infliximab received infusions every 7 to 9 weeks, 36.9% every 4 to 6 weeks. 52.7 % of patients under adalimumab received injections of 40mg eow, and 37.9% at least 80mg eow.

Conclusions: We successfully implemented a large national IBD registry for the collection of real life data from tertiary IBD centers throughout Germany. As a first result we can present the data on the use of biologic therapy in more than 1800 IBD patients. IBD significantly affect patients in their young ages, biologic therapies seem to be necessary in much more patients than commonly assumed and standard treatment has to be adapted to higher doses in TNF- blockers in UC more than CD and in adalimumab more than infliximab. Our registry can serve as data base for a wide range of efficacy, safety and economy issues in IBD patients.

Case Report: Penetration of a gastroduodenal artery aneurysm as a rare cause in patients with recurrent episodes of haemo-dynamic relevant upper gastrointestinal haemorrhages G11

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Background: Patients presenting with signs of fulminant upper gastrointestinal haemorrhage usually undergo endoscopy after hemodynamic stabilisation. Peptic ulcers and esophageal varices are frequent endoscopic findings in such situations. Very rare, gastroduodenal artery aneurysms can be found as a bleeding cause by angiography and treated by endovascular coiling or open surgery.

Methods: We present the case of a 74-year-old patient suffering from recurrent upper gastrointestinal haemorrhages of unknown origin requiring multiple blood transfusions and hospitalisations.

Results: In his past medical history chronic alcohol abuse with liver cirrhosis and chronic pancreatitis were known. His current hospitalisation was caused by another hemodynamically relevant upper gastrointestinal haemorrhage followed by unconsciousness. Several blood transfusions were necessary to stabilize the patient. Obtained upper and lower endoscopy and initial abdominal CT scans could not show any evidence of active bleeding. Finally a CT angiography revealed a gastroduodenal artery aneurysm as the suspected cause of bleeding. Endovascular coiling was performed following a further gastrointestinal haemorrhage during current hospitalisation. After treatment, no signs of gastrointestinal bleeding were observed and the patient was discharged.

Conclusion: In patients with upper gastrointestinal bleeding of unknown origin with bland endoscopy and a history of chronic pancreatitis, gastroduodenal artery aneurysms should be considered and sought by CT angiography.

Case Report: Endoscopic submucosal resection (ESR) using partially insulated cutting devices – the Flat Adenoma Resection Instruments (FARIn) G10

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Background: The endoscopic resection of colorectal polyps (using EMR or ESD) is well established. Compared to EMR, ESD offers a higher rate of en bloc R0 resections as well as a better assessmen of the submucosal invasion depth (although the layer thickness which can be accomplished has to be assessed critically). Howeve ESD is much more time consuming and associated with a higher complication rate. The recently developed flat adenoma resection instrument (FARIn) with a special design (partially insulated cutting devices) is made to remove large, flat adenomas (up to 4 cm) nearby the muscularis propria layer, en bloc, within short time and without many thermical artefacts, leading to an endoscopic submucosal resection (ESR) which yields similar advantages as ar ESD but is less time consuming and probably safer.

Methods: We present a 51-year-old patient with a 30-mm large, sessile polyp in the distal rectum. Resection was performed using the FARIn (MICRO-TECH Europe GmbH, Düsseldorf, Germany). After submucosal injection (mixture of epinephrine, gelofusine and small amount of methylen blue) circumferential incision was safely performed using the FARIn Type U, a rhomboid-shaped device wit a small 1-mm cutting tooth at the distal tip. After this incision, the lesion was resected en bloc using the FARIn Type C, a 30-mm symmetric snare with a cutting wire length of 15 mm.

Results: The en bloc resection was succesful. The entire procedure was done in 15 minutes without any complications. The histopathological examination showed an adenoma with low grade dysplasia and an adherent submucosal layer to a depth of clearly more than 1000µm, especially underneath the lesion's central part.

Conclusion: ESR using FARIn allows en bloc resection of large (> 30 mm), sessile polyps with adherent submucosal layer (up to 200 µm), which meets the specimen requirements for pathological complete resection (R0). Compared to ESD it is much faster and probably also safer, at least for rectal lesions. Prospective studies have to corroborate this new technique.

Blue Light Imaging for Barrett's Neoplasia Classification (BLINC): A New Endoscopic Classification in Barrett's Oesophagus G12

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Aims: Neoplasia in Barrett´s can be subtle and difficult to identify. Blue light imaging (BLI) is a novel advanced endoscopic technology that provides high intensity contrast imaging for superior visualisation of mucosal surface and vessel patterns. This can improve the identification of Barrett´s neoplasia. There is no formal classification system yet that enables the characterisation of neoplastic and non-neoplastic Barrett's for BLI. The aim of our study was to develop and validate a classification to identify Barrett's neoplasia using BLI.

Methods: There were 3 phases to the study. In phase 1, 3 expert endoscopists identified descriptive component criteria pertaining to neoplastic and non-neoplastic Barrett's. Phase 2 involved the internal validation of these criteria by experienced endoscopists using 50 images to develop a classification system. In phase 3, 14 general endoscopists were trained to use BLINC and subsequently characterised the same set of images. Sensitivity, specificity and negative predictive value (NPV) of neoplasia identification were measured.

Results: Phase 1 and 2 led to the development of BLINC which utilised colour, pit and vessel pattern to characterise neoplastic and non-neoplastic Barrett´s. It had a sensitivity, specificity and NPV of 96.7%, 96.7% and 95.9% when validated by experienced endoscopists. The table below shows the results of Phase 3.

	Pre-BLINC training	Post-BLINC training
Sensitivity (95% CI)	85.8 (81.8-89.3)%	96.0 (93.4-97.8)%
Specificity (95% CI)	88.8 (85.0-92.0)%	82.6 (78.2-86.4)%
NPV (95% CI)	85.6 (82.1-88.5)%	95.4 (92.5-97.2)%

Conclusion: We developed and validated a new classification system (BLINC) for the diagnosis of Barrett's neoplasia using BLI. BLINC has successfully improved the sensitivity and NPV for detection of Barrett's neoplasia and is a useful tool for training in optical diagnosis in this area.

Blue Light Imaging For The Optical Diagnosis Of Small Colorectal Polyps: The Impact Of A Training Intervention

G13

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Aims: The advent of image enhanced endoscopic modalities have paved the way for better optical diagnosis of colorectal polyps. Blue Light Imaging (BLI) is a new technology that utilises powerful light emitting diode technology to enhance mucosal surface and vessel patterns. A specific BLI classification has recently been developed to enable better characterisation of colorectal polyps (BLI Adenoma Serrated International Classification - BASIC). The aim of our study was to investigate the diagnostic ability of BLI before and after training using this classification.

Methods: BLI images from 45 polyps were shown to 10 endoscopists (5 experts with experience of advanced endoscopic imaging and 5 non-experts). They independently classified each of the images as adenoma or hyperplastic initially without any focused training on interpretation of BLI images. A face to face classroom training session was then delivered on BASIC and the endoscopists repeated the image classification exercise. The sensitivity, specificity, negative (NPV) and positive predictive values (PPV) for adenoma detection were calculated.

Results: There was a significant improvement in sensitivity and NPV of adenoma detection (see table below, $p < 0.05$).

	Pre-training	Post-training
Sensitivity (95% CI)	79.1 (73.3-84.2)%	95.7 (92.2-97.9)%
Specificity (95% CI)	95.5 (91.8-97.8)%	91.8 (87.4-95.1)%
PPV (95% CI)	94.8 (90.8-97.1)%	92.4 (88.7-95.0)%
NPV (95% CI)	81.4 (77.3-84.9)%	95.3 (91.7-97.4)%

This improvement was mirrored in both expert and non-expert groups where sensitivity reached 97.4% (experts) and 93.9% (non-experts), NPV reached 97.3% (experts) and 93.2% (non-experts).

Conclusion: The use of a bespoke BLI classification system with adequate training can significantly improve the sensitivity and NPV of adenoma detection thereby enabling the full potential of this novel imaging technology to be realised.

THE « GARD™ FOR GORD/GERD»: A NEW ENDOSCOPIC MEDICAL DEVICE TO DIAGNOSE, MANAGE AND POSSIBLY TREAT GERD AND OBESITY.

G14

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Objective: Determine if a new medical device called the GARD™ for Gastro-esophageal Anti-Reflux Device placed in the esophagus through the mouth will stay in place at least 7 days, block reflux and could play a role first in diagnosing Refractory GERD with short term placement and at a second stage treat GERD/GORD and possibly obesity (mimicking a sleeve gastrectomy) when placed during longer periods of time.

Material and Method. The GARD™ is a new medical device consisting of an upper ring with a diameter corresponding to the diameter of the esophagus as determined with a new accessory called the calibration basket and a lower thin-walled tubular device that lets food pass freely from the mouth to the stomach but blocks reflux mechanically by folding with reflux back-pressure from the stomach into the esophagus. The GARD™ was tested in 8 pigs during 7 days and botulinum toxin was injected immediately above the GARD™ ring in order to block peristalsis locally. The GARD™ was placed in one human volunteer before anti-reflux surgery who had very severe reflux as tested by an esophageal pH-metric test, did not respond sufficiently to twice 40 mg daily of PPIs and accepted to have a pH metric study after placement of the GARD for 2 days before surgery.

Results: the GARD™ was placed in the esophagus of 8 pigs for 7 days. The GARD™ remained in place when carefully sized to the diameter of the esophagus and 100 Units of botulinum toxin was injected about 1 cm above the GARD™ ring around the perimeter. There was no migration in the stomach and removal of the GARD with standard forceps was easy. However, pigs have a strong lower esophageal sphincter and do not have reflux so effect of the GARD on GERD/GORD could not be evaluated. In a patient before surgery, pH metric studies first without PPIs for 10 days showed 63% of the time with a pH under pH 4 (normal less than 4% of the time under pH 4). After the patient was treated with esomeprazole 40 mg BID for 2 weeks while taking esomeprazole, the pH metric study showed 23% of the time under pH 4. After placement of the GARD, there was no reflux with 0% of the time under pH 4.

Conclusion: a new medical device called the GARD™ for Gastroesophageal Anti-Reflux Device was tested in 8 pigs for 7 days and showed no migration into the stomach when botulinum toxin was injected immediately above the ring of the GARD™. The pigs gained weight normally and removal at endoscopy was easy. In a volunteer patient who had very severe reflux (63% of the time with a pH under 4) the GARD™ was placed 2 days before surgery and was well tolerated and the pH metric study after GARD™ placement showed 0% of the time under pH 4, that is no reflux.

EUS-guided hepaticogastrostomy across a hilar stenosis in a patient with locally advanced gallbladder cancer and failed internal drainage of a right-sided PTBD

G15

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Background: Endoscopic retrograde cholangiography (ERC) - guided drainage is the gold standard to relieve benign or malignant biliary obstruction. If ERC fails, percutaneous transhepatic biliary drainage (PTBD) is usually considered the alternative treatment. However, PTBD is prone for adverse events in up to 77% and can significantly impaire quality of life.

Case presentation: A 79-year old woman presented with intrahepatic cholestasis secondary to a locally advanced gallbladder cancer extending into the hilar region. ERC failed because of a duodenal infiltration, therefore, we opted for a right-sided PTBD but only managed to place an intrahepatic drainage. However, contrast injection showed an unexpected tiny patency between the left and right sided biliary system. Given the unstable intrahepatic position of the PTBD, an EUS-guided transgastric hepaticogastrostomy (HGS) was performed two days later. A partially covered metal stent was placed across the hilar region to secure biliary drainage of both hepatic sides. Subsequently cholestasis resolved and the PTBD was removed.

Conclusion: Intrahepatic PTBDs are prone to dislocation and are often poorly tolerated by patients. In case of patent communication between the left and right biliary system, the PTBD can be converted to an EUS-guided HGS with transhilar metal stent placement allowing complete biliary drainage. This combined minimally invasive approach has the potential for long-term symptom control without impairment of patient's quality of life and should be considered in highly selected cases.

Therapeutic goals of adult patients with eosinophilic esophagitis

G16

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Background: We aimed to assess which therapeutic goals adult patients with eosinophilic esophagitis (EoE) consider to be relevant.

Methods: We created a patient brochure and a questionnaire to assess patients' choice of therapeutic endpoints. Patients ranked the effects (five levels) of a therapy on symptoms, quality of life (QoL), histologic inflammation and fibrosis, and endoscopic inflammation and fibrosis in the short-term run (next 3 months) and long-term run (≥1 year). The brochure and questionnaire were continuously refined during three psychologist-guided focus groups with EoE patients. The final brochure and questionnaire were sent to 148 patients.

Results: Patient response rate was 74% (109/148). Patients chose improvement of symptoms (93.5%) as most important therapy goal in the short term run, followed by QoL (90.7%), esophageal strictures (75.0%), endoscopic inflammation (72.9%), histologic fibrosis (64.1%), and histologic inflammation (61.7%). When selecting long term therapeutic goals, symptom improvement (95.3%) and QoL (93.5%) still represented the most important goals, however, when compared to short term endpoints, patients put more emphasis on the improvement of endoscopic inflammation (89.9% vs 72.9%, $p<0.001$), histologic inflammation (81.3% vs 61.7%, $p=0.002$), esophageal strictures (80.8% vs. 75.0%, $p=0.352$), and histologic fibrosis (79.3% vs. 64.1%, $p=0.018$). A total of 88% of patients considered it "very important" and "quite important" to control histologically active EoE in the long-term run even in the absence of symptoms.

Conclusions: This is the first report that sheds light on adult EoE patients' perceptions of therapeutic endpoints. In the short- and long-term run, the most important therapeutic goals were improvement of symptoms and QoL. Patients put more emphasis on improvement of biologic activity in the long term run.

Treatment preferences of adult patients with eosinophilic esophagitis G17

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Background: We aimed to assess the expectations of adult patients with eosinophilic esophagitis (EoE) towards different therapies (swallowed topical corticosteroids [STC]), diets, and dilation) and to evaluate their preferences towards a distinct therapy based on clinical vignettes.

Methods: We created a questionnaire (10 pages A4) to inform patients about EoE (diagnosis, prevalence, natural history, therapeutic options) and to evaluate expectations towards therapies (7 items), and choice of therapy based on clinical vignettes (14 items). The questionnaire was validated by patients through three psychologist-guided focus groups and the final questionnaire was sent to 165 EoE patients in Switzerland.

Results: Patient response rate was 50% (82/165). At the time of questionnaire completion, 31%, 73%, and 16% of patients were treated with proton-pump inhibitors, STC, and food elimination diets, respectively. In the past 12 months, 13% of patients underwent dilation. All EoE patients (100%) expected that EoE-related symptoms should improve upon STC, diets, and dilation. Improvement of EoE-specific quality of life was expected by 93%, 100%, and 75% of patients from STC, diets, and dilation, respectively. Improvement of microscopic inflammation was expected by 90%, 86%, and 12.5% of patients from STC, diets, and dilation, respectively. Improvement of endoscopic inflammation was expected from 92%, 79%, and 38% of patients from STC, diets, and dilation, respectively.

Conclusions: When choosing a particular therapy, more EoE patients expect improvement in symptoms and quality of life than that in endoscopic or histologic findings. As induction and maintenance treatment, patients treated predominantly with STC prefer STC over elimination diets. Knowledge about patients' perception is crucial for tailoring individual therapies and for ensuring patient adherence to EoE therapies.

Cohort update: The Swiss Eosinophilic Esophagitis Cohort Study (SEECS) G19

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Background and aims: Eosinophilic Esophagitis (EoE) is diagnosed with increasing incidence and has a current prevalence of 1 in 2,000 persons in Switzerland. The Swiss EoE Cohort Study (SEECS) is part of the Swiss IBD Cohort Study and collects, starting in 2016, longitudinal data on adult patients with eosinophilic esophagitis (EoE) and proton-pump inhibitor-responsive esophageal eosinophilia (PPI-REE) to better characterize natural history, long-term treatment outcomes, safety aspects, EoE-specific quality of life, and socio-economic impact.

Patients and methods: Patients are included using validated instruments for capture of symptoms, EoE-specific quality of life, endoscopic and histologic activity. A follow-up visit is performed once a year. A biobank (located at University of Bern) has been built up for storage of biopsies and blood samples. In addition to patients with EoE, samples of patients with gastro-esophageal reflux disease (GERD) and esophagus-healthy controls are collected as well. SEECS is supported by the Swiss National Science Foundation. Approval from the major Swiss IRB's has been granted. SEECS is not a population-based cohort.

Results: As of May 2018, 209 patients with EoE and PPI-REE, 20 with GERD, and 27 esophagus-healthy controls have been included. Recruitment performance is on track with anticipated 70 patients per year with EoE and PPI-REE. Biosamples have been provided to collaborators from pharmaceutical industry for evaluation of a novel therapeutic approach. Recruitment of pediatric EoE patients is planned in a second phase.

Conclusions: SEECS is on track with respect to patient recruitment targets. Data capture instruments can serve as a model for data acquisition in other countries and thereby foster international collaborations.

Both fibrotic and inflammatory endoscopic alterations contribute to symptom severity in adults with eosinophilic esophagitis G18

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Background: We aimed to evaluate if symptom severity in adults with eosinophilic esophagitis (EoE) is influenced by the degree of inflammation or the stage of remodeling or both.

Methods: We evaluated the relationship of endoscopic activity (graded according to EREFS) and symptom severity (using validated EEsAI PRO instrument) in 120 adult EoE patients (60.8% male, median age 40.5 yrs).

Results: The EREFS score positively correlated with EEsAI PRO score (spearman Rho=0.380, P-value<0.0001). Patients with both inflammatory and fibrotic alterations had higher median EEsAI PRO scores (34 [IQR 12-45]), when compared to EoE patients with normal esophagus (6 [IQR 0-14]), inflammatory features alone (27 [IQR 0-28]), or fibrotic features alone (27 [IQR 0-42]). When we stratified EoE patients based on the presence of extreme inflammatory and/or fibrotic findings, we found that the median EEsAI PRO values were higher in patients with extreme inflammatory findings alone (36 [IQR 32-41]), extreme fibrotic findings alone (47 [IQR 37-54]) and with both extreme inflammatory and fibrotic findings (49 [IQR 49-63]) than in patients without extreme endoscopic findings (27 [IQR 0-42]). Interestingly, patients with only fibrotic extremes as detected by EGD still had a median peak eosinophil count of 142 cells/mm^2 [IQR 99-381].

Conclusions: Fibrotic and, to a lesser degree, inflammatory alterations, especially severe ones, contribute to symptom generation in adult EoE patients. Knowledge about the way endoscopic abnormalities of various severity contribute to symptom generation in adults with EoE can help to identify patients at risk of experiencing severe EoE symptoms and tailor therapeutic interventions accordingly.

EUS-guided gastro-jejunostomy with subsequent ERC and stone-extraction in a patient with choledocholithiasis after Roux-en-Y gastric bypass (RYGB) G20

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Background: Endoscopic retrograde cholangiography (ERC) is the most established approach to extract symptomatic biliary stones. Given the worldwide increase in bariatric surgery, especially of gastric bypass procedures, efficient alternatives to ERC are desperately needed. Current alternatives are PTBD, overtube assisted enteroscopy, or laparoscopic assisted ERC, which are all cumbersome and time-consuming.

Case description: We present the case of a 49-year-old male with recurrent symptomatic choledocholithiasis and a past medical history of a RYGB with cholecystectomy. Endoscopic ultrasound (EUS) showed a fluid filled remnant stomach in close proximity to the efferent small bowel loop. An EUS-guided gastro-jejunostomy was performed by placing a lumen apposing metal stent (LAMS). Two months later the papilla could be reached by passing a duodenoscope through the LAMS. A regular ERC with sphincterotomy and complete stone clearance of the common bile duct (CBD) was feasible. After confirmed stone removal, the LAMS was removed and the gastrojejunostomy closed by an Over-The-Scope-Clip. After 12 months of follow up, the patient remains well, he didn't gain any weight, and had no further biliary colics.

Conclusion: EUS-guided gastro-jejunostomy by placement of a LAMS in patients post RYGB enables a standard ERC. Given the stable access to the papillary region, all regular endoscopic interventions are potentially feasible. This procedure offers a novel endoscopic access in patients with altered anatomy and non-emergent need for intervention.

EUS-guided hepaticogastrostomy (HGS) with transgastric cholangioscopy and balloon dilation of a biliary anastomotic stricture in a patient with chronic pancreatitis (CP) post duodenum-preserving pancreatic head resection (DPPHR)

G21

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Background: DPPHR is an established therapy for the treatment of symptomatic CP aiming to decompress the pancreatic duct. In cases of biliary obstruction, the common bile duct is surgically opened simultaneously inside the pancreatic head allowing free biliary drainage into the anastomosed small bowel loop. However, in cases of a recurrent stenosis at the level of the common bile duct (CBD), given altered anatomy, this stenosis is no longer amenable to conventional ERC with balloon dilation.

Case description: We report the case of a 64-year-old male with CP and a past medical history of a DPPHR (Berner technique) given chronic pain and biliary obstruction. Nine years later, he presented with cholangiosepsis caused by a distal stricture of the CBD at the level of the pancreatic head. Aside from antibiotic treatment, bile flow was immediately re-established through an EUS-HGS with placement of a fully covered self-expanding metal stent (SEMS). After recovery, the strictured anastomosis was re-opened by transgastric balloon dilations and secured with double pigtail stents. No suspicion of malignancy in the anastomotic region was found by transgastric cholangioscopy. Eventually, all the stents will be removed. No procedure related complications were seen.

Conclusion: EUS-guided HGS with treatment of biliary obstruction and transgastric cholangioscopy is also feasible and safe in patients with distal biliary anastomotic complications as for instance after DPPHR. It allows visualization of the stenosis and offers the possibility of a biopsy to rule out malignancy if needed. Surgical revision of the anastomosis remains the rescue therapy if endoscopic intervention fails.

How Lymphogranuloma venereum mimics inflammatory bowel disease – a case report

G22

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Background: Lymphogranuloma venereum (LGV) is an important cause of proctitis and proctocolitis. LGV is a sexually transmitted disease caused by Chlamydia trachomatis serovar L. Symptoms, endoscopic and histologic findings can resemble those of inflammatory bowel disease.

Case: A 49-year-old male patient presented with hematochezia, diarrhea and weight loss for two months. Physical examination revealed inguinal lymphadenopathy. Laboratory findings showed elevated CRP (22 mg/L) and elevated calprotectin (>1800 mg/kg). CT scan confirmed the inguinal lymphadenopathy and demonstrated a thickened rectal wall. Colonoscopy showed friable mucosa and multiple ulcers in the rectum. Rectal endosonography found multiple hypoechogenic lesions consistent with abscesses and two marginal pararectal lymph nodes. Rectal mucosal biopsies demonstrated chronic active proctitis with basal lymphoplasmacytic inflammation, prominent lymphoid follicles, acute cryptitis and crypt abscesses. Immunohistochemistry staining for CMV was negative. Rectal swab specimens were positive for Chlamydia trachomatis serovar L on nucleic acid amplification testing (NAATs). Concomitant infections were excluded (HIV, syphilis, gonorrhea, hepatitis B and C). Antibiotic therapy with doxycycline 2x100 mg daily was given for three weeks. Two months after therapy cessation a control swab test for Chlamydia was negative and endoscopy showed normal rectal mucosa.

Conclusion: Patients with signs or symptoms of proctitis should be tested for LGV by NAATs of rectal swab specimens. Doxycycline for three weeks is the treatment of choice.

Gut microbial changes in Swiss IBD Cohort patients with disease severity

G23

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Introduction: The gut microbiome plays a central role in the pathogenesis and propagation of inflammatory bowel diseases (IBD) and a major burden for patients that the disease follows a relapsing-remitting course of recurrent exacerbations and symptomatic improvements over many years, with unpredictable quality of life. We tested whether the microbiota would relate to the severity of their subsequent clinical course by comparing patients in a remission to those with frequent relapses.

Method: Over 300 IBD patients' biopsy samples were sequenced using 16s rRNA approached and analyzed with QIIME and *phyloseq* in R.

Results: The analysis for each disease group showed that there were no significant differences in species richness. However, significant differences between groups with quiescent or relapsing were observed. Specifically, in CD, *Eggerthella, Clostridiales,* and *Oscillospira* showed consistent replicated increases in relative abundance in patients with quiescent disease over time while *Enterobacteriaceae* and *Klebsiella* were associated with a more severe clinical course.

Conclusion: Observed microbial changes can help to identify a promising basis for future targeted manipulation of the microbiota to improve current therapeutic outcomes and life style of IBD patients.

Transoral outlet reduction (TORe): A novel endoscopic technique to treat patients with late dumping syndrome (LDS) after Roux-en-Y gastric bypass (RYGB). First clinical experience from a tertiary referral center in Switzerland.

G24

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Background: LDS after bariatric RYGB is a rare but hazardous complication and is associated with significant morbidity. Morphologically, dumping syndrome usually correlates with a dilatation of the gastroenterostomy with accelerated pouch emptying. Currently there are several medical treatment options as well as surgical therapeutic options. A newer endoscopic procedure, the TORe (using the Apollo Overstitch system) allows narrowing of the gastrojejunostomy in a minimal invasive way. We report our first clinical experience with TORe in LDS assessing viability, safety, efficacy and benefit regarding quality of life.
Methods: This prospective series includes three patients with LDS after bariatric RYGB. The diagnosis of dumping syndrome was based on the Sigstad score (> 7 is suggestive of dumping syndrome) and a standardized meal test. The gastrointestinal quality of life index (GIQLI) was used to assess quality of life (the higher the score the better the quality of life, range from 0-144).
Results: TORe was performed under general anaesthesia. Neither intra- nor postoperative complications were seen. In all three patients, no dumping was observed 6 months after TORe. The Sigstad score decreased from 17.3 (range 13-22) to 3.3 (range 3-4). In addition the quality of life score improved considerably (mean GIQLI score pre-TORe 51.6, mean GIQLI score post-TORe 100.6).
Conclusion: TORe using the overstitch suturing device represents a promising, novel therapeutic option in LDS after RYGB. In order to evaluate this concept we plan to perform an interdisciplinary observational study, especially to investigate potential mechanisms of TORe on the intestinal and neurohumoral physiology in patients with LDS after RYGB as well as long-term effects and durability of this intervention, which are largely unknown yet.

Submucosal esophageal tumors – 3 cases of GIST

G25

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Background: The incidental finding of a submucosal esophageal tumor usually suggests leiomyoma, which represents the most frequent tumor type in this localization and is not prognostically relevant. Other entities such as esophageal GIST, although extremely rare, must also be taken into consideration.
Patients and Methodes: We present 3 cases of asymptomatic patients aged 65 to 75 years in whom subepithelial tumors in the esophagus were detected as incidental findings at gastroscopy or on computed tomography.
Results: Case 1 was monitored with EUS under the presumptive diagnosis of leiomyoma for 5 years, before surveillance was stopped. 10 years later (i.e. 15 years after the initial EGD) he developed dysphagia due to tumor progression and was finally diagnosed with an advanced stage exulcerated GIST. Cases 2 & 3 were diagnosed promptly by EUS-FNP and unroofing biopsy respectively. All 3 cases underwent curative surgical resection, case 1 after neoadjuvant treatment with imatinib.
Conclusion: Although the majority of submucosal esophageal tumors are leiomyomas and therefore harmless, histological diagnosis should be attained to exclude prognostically more relevant entities such as GISTs. There is an ongoing debate as to the method of choice to achieve this goal (EUS-FNP versus unroofing versus primary surgical enucleation).

A new kid on the block: The use of (a special designed) EndoRotor for fast and effective endoscopic removal of pancreatic necrosis

G26

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Background: A severe episode of acute pancreatitis may lead to pancreatic fluid collection (PFC) or walled-off necrosis (WON). In case of infected necrosis, invasive treatment of these patients is necessary in almost all cases and over the last decade the treatment has dramatically changed towards less invasive therapeutic methods. Endoscopic drainage and necrosectomy have been shown to be an effective treatment in the management of pancreatic necrosis. Nevertheless, a major limitation remains the lack of suitable instruments to remove the necrotic tissue, resulting in repetitive and time consuming procedures with marginal benefit.
Methods: We describe the case of a 62-year-old male patient with an infected WON after an episode of acute pancreatitis, in which endoscopic drainage was achieved with transgastric stenting and necrosectomy was performed using a novel, automated mechanical endoscopic resection system (EndoRotor) to suck, cut and remove small pieces of necrotic tissue.
Results: Before using the EndoRotor, endoscopic necrosectomy has been performed twice using standard endoscopic snares with only limited results. The use of a special designed EndoRotor in combination with conventional techniques effectively removed large amounts of necrotic material under direct endoscopic control in only one procedure. No procedure related adverse events occurred.
Conclusions: The EndoRotor may be a safe and effective new tool for fast and effective endoscopic removal of pancreatic necrosis in patients with necrotizing pancreatitis. Prospective studies will be needed to further evaluate this concept.

Uptake of branched-chain amino acids by CX3CR1+ macrophages supports the development of colitis

G27

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Background: CX3CR1+ phagocytes extend processes into the intestinal lumen to monitor the chymus. Whether constituents of the chymus are required for macrophages is not known. **Methods:** In order to study the requirement of branched-chain amino acids for phagocytes, a conditional knockout mouse, in which CX3CR1+ phagocytes lack the transporter for branched-chain amino acids CD98/4F2hc, was generated. **Results:** Macrophages and their progenitors express high CD98 levels in the colon, peripheral blood and bone marrow. By contrast, embryonic macrophages have low CD98 expression. However, CD98 is acquired during their development into tissue-resident macrophages. DSS induced colitis did not further affect CD98 expression. Since silencing of CD98 by CX3CR1+ macrophages during the embryonic development is lethal for the offspring, tamoxifen was injected into adult mice, which lead to the loss of CD98 by colonic macrophages and their progenitors seven days after tamoxifen injection. Within 21 days after the first injection of tamoxifen macrophages lacking CD98 were replaced by bone marrow-derived cells. Silencing of CD98 did not lead to reduced macrophage numbers in the colon. As CD98 also binds to integrins, the expression levels of the main binding integrins β1 and β3 was not decreased. Loss of CD98 by macrophages leads to attenuated colitis. Furthermore, patients with Crohn`s disease and ulcerative colitis are characterized by high CD98 expression. **Conclusion:** Colonic monocyte-derived macrophages and their precursors in inflamed and non-inflamed conditions are characterized by high CD98 expression. Loss of CD98 by macrophages leads to attenuated colitis, indicating that branched-chain amino acids are required for the appropriate function of macrophages during inflammation.

Expression of NLRP6 by Th1 cells is independent of the microbiota, promoting survival during transfer colitis model

G28

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Background: Although intestinal epithelial cells highly express NLRP6, the reconstitution of wt animals with *Nlrp6*-deficient bone marrow leads to similar colitis-associated tumor formation as in *Nlrp6*-deficient animals. **Methods:** We measured the expression of *Nlrp6* in *in vitro* differentiated T cells, and in T cells after co-transfer of wt and *Nlrp6*-deficient T cells in *Rag2* knockout hosts. **Results:** *Nlrp6* is expressed in epithelial cells but not in resting immune cells. The differentiation of naïve T cells into Th1 cells, but not into Th2 or Th17 cells lead to the induction of *Nlrp6*. Promoter binding site analysis of the human and mouse *Nlrp6* revealed binding locus for STAT1, STAT5a and TBX21 (T-bet). Analysis of *Tbx21*-deficient T cells confirmed that T-bet induced *Nlrp6* expression. The production of IFNγ by *Nlrp6*-deficient Th1 cells is reduced compared to wt T cells, which is independent of inflammasome assembly, because a difference in IFNγ production was not observed in *Asc*-deficient T cells. *Nlrp6*-deficient T cells with reduced IFNγ production was noted compared to wt T cells after co-transfer in *Rag2* knockout mice. RNA-seq analysis showed enrichment of apoptosis, interferon gamma response and inflammatory response associated signals. Annexin V staining confirmed increased apoptosis of *Nlrp6*-deficient T cells compared to wt T cells after co-transfer in immunodeficient hosts. Transfer of wt $CD45RB^{high}$ T cells into *Rag2* knockout mice resulted in somewhat increased body weight loss and increased disease scores compared to *Nlrp6*-deficient T cell transfer. **Discussion:** The expression of *Nlrp6* by differentiated Th1 cells is rather intrinsically induced and independent of different microbiota. Consequently, *Nlrp6*-deficient T cells have increased apoptosis and *Nlrp6* facilitate the survival of CD4 T cells transferred into *Rag2*-deficient hosts.

Rapid response to Infliximab treatment in Crohn`s Disease after allogeneic stem cell transplantation – A case report

G29

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Background: Reports of remission of concomitant Crohn`s Disease (CD) after allogeneic stem cell transplantation (SCT) of hematological disorder has been described in the literature. Therefore, new onset of CD after allogeneic SCT is unusual.
Methods: We hereby describe a 46 year old male with new onset of CD six years after allogeneic SCT for T-cell prolymphocytic leukemia.
Results: Six years after allogeneic SCT a coloscopy due to bloody diarrhea was performed. Macroscopically signs of predominantly left-sided colitis with histologically unspecific inflammation was seen (CMV negative, GvHD Lerner grade 0). No evidence for an infectious cause on repeated stool cultures. After initial treatment with budenoside and metronidazole/ciprofloxacine a short clinical remission phase was followed by a relapse with severe bloody diarrhea and new onset of abdominal cramping. New endoscopic evaluation showed macroscopically severe erosive inflammation of the entire colon and terminal ileum. Histological findings were characteristic of CD. Due to non response to systemic steroids (prednisone up to 70 mg daily) a TNFα blocker therapy with infliximab was initiated with rapid onset of clinical remission and steroid reduction to 15 mg daily.
Conclusions: New onset of CD after allogeneic SCT with only one reported case in the literature is a rare condition. In our steroid refractory CD patient initiation of infliximab treatment was beneficial.

A Chimera of the rectosigmoid colon

G30

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Background: Colitis is a common medical condition with multiple differential diagnosis and even greater imitators to consider.
Methods: We describe an unusual cause of colitis in a 62-years-old male patient without comorbidities.
Results: A 62-years-old patient was referred from a regional hospital to our GI unit because of a severe left-sided colitis not responding to antibiotics, intravenous steroids and mesalazine enema. Before the referral an infectious cause was ruled out, repeated CT scans did not show evidence of a vascular problem, whereas endoscopy revealed a severe colitis of the rectosigmoid colon with biopsies showing features of ischemia. We performed an MRI of the abdomen, repeated the rectosigmoidoscopy and discussed the case interdisciplinary. The most important clue to make the diagnosis gave us the MRI of the abdomen, in which the inferior mesenteric vein was occluded without thrombotic material. This finding was typical for an idiopathic myointimal hyperplasia of mesenteric veins (IMHMV). An IMHMV is a progressive mesenteric non-thrombotic venoocclusive disease, typically in young, male patients presenting with clinical signs of an ulcerative colitis (UC) affecting the rectosigmoid colon but biopsies show ischemic abnormalities without features of UC. Resection of the affected segment is the only known curative therapy without any relapse reported in literature, which was performed in this patient. The histological examination demonstrated the IMHMV. Even though the literature claims a progressive disease course without recovery, while waiting for surgery, the mucosa of the colon in our patient showed signs of regeneration.
Conclusion: IMHMV is a very rare cause of colitis mimicking UC clinically and endoscopically, whereas biopsies reveal signs typical of ischemia. Although the only curative option is a resection of the affected segment, our case report suggests possible regeneration of the rectosigmoid colon.

Follow-up ileocolonoscopy is underused in Crohn`s disease patients after ileocecal resection despite higher total and inpatient health care costs compared to controls without resection

G31

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Background: Postoperative recurrence is frequently observed after ileocecal resection in Crohn`s disease (CD) patients. Since 2010, endoscopy within 1 year is considered the gold-standard for its diagnosis. However, if and how frequent such endoscopies are performed in clinical practice remains unknown.
Methods: We analyzed 1-year follow-up data on CD patients who underwent ileocecal resection between 2012-2014 and compared them with hospitalized, non-resected CD controls. Data were extracted from the Helsana database. Helsana is one of the largest Swiss health insurance companies providing coverage for 1.2 million individuals.
Results: 645 CD patients were identified with ≥1 hospitalization between 2012-2014 and a follow-up of 1 year. 79 (12.2%) underwent ileocecal resection. Although endoscopy rates increased over time and were higher in patients with resection vs. controls (p=0.029), in only 54.4% a 1-year follow-up ileocolonoscopy was performed. Postoperative prophylaxis with anti-TNF or azathioprine was prescribed in 63.3%. Female sex and age>60 were independent predictors for not receiving prophylaxis (OR 0.36, p=0.048, and OR 0.2, p=0.022). Patients with resection had significantly lower numbers of re-hospitalizations (1.2 vs. 1.8, p=0.021); with resection being an independent negative predictor for number of re-hospitalizations in a poisson regression model (IRR 0.64, p=0.029). However, disease-related surgery was more often the cause for re-hospitalization after resection vs. controls (47.6 vs. 22.1%, p=0.015). Total and inpatient health care costs were higher in these patients.
Conclusion: Endoscopies are underused after ileocecal resection. This contrasts current guidelines. Physicians should be aware of this underuse and perform follow-up examinations more often.

Therapeutic drug monitoring to guide clinical decision-making in IBD patients with loss of response to anti-TNF: A Delphi technique-based consensus

G32

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Background: Loss of response is frequently encountered in patients treated with anti-TNF. Therapeutic drug monitoring and anti-drug antibody measurement are increasingly used in this setting. Current guidelines lack of a clear recommendation regarding optimal time-point, adequate thresholds and their exact role in the long-term therapeutic algorithm.
Methods: To establish a consensus on the use of therapeutic drug monitoring in the context of loss of response to anti-TNF, we performed a vote using a Delphi-style process followed by an expert panel discussion among eight IBD specialists. Statements were rated on an even Likert-scale ranging from 1 to 4, based on expert opinion and the available literature. A statement was considered accepted if the mean rating value was 3 or more.
Results: The experts agreed on the following statements: i) Loss of response is associated with inadequate drug levels in both CD and UC (mean value 3.6); ii) Best time-point for measuring drug levels is prior to the next application (=trough levels, mean value 4) with different thresholds for anti-TNF agents; iii) Anti-drug antibodies are predictive for loss of response (mean value 3.1); and finally iv) Anti-drug-antibody titers and drug trough levels are key determinants in the treatment algorithm. Data about non-anti-TNF biologics were considered too limited to include recommendations on their use in clinical practice.
Conclusion: A Delphi-style consensus among eight IBD experts shows that therapeutic drug monitoring and measurement of anti-drug-antibody titers are useful in the context of loss of response to anti-TNF. Optimal cut-off levels depend on the type of anti-TNF. These values are critical in the decision-making process. More studies are needed in order to address the value of such measurements for non-anti-TNF biologics such as vedolizumab and ustekinumab.

EUS-guided antegrade biliary stent insertion in a patient with a metastatic CBD-stenosis after total gastrectomy secondary to a locally advanced GEJ cancer

G33

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Background: Liver metastases are the primary site of distant recurrence after intended curative resection in patients with gastro-esophageal junction (GEJ) tumors. Occasionally, those metastases can cause obstructive jaundice by compression of main biliary ducts. Given altered anatomy after total gastrectomy, percutaneous transhepatic biliary drainage (PTBD) has been first treatment choice over decades, but with the downside of impaired quality of life and complications in up to 70% of patients.
Case presentation: A 51-year-old male patient under palliative chemotherapy presented with increasing cholestasis secondary to liver metastases compressing the common bile duct (CBD). 3 months earlier a locally advanced GEJ-adenocarcinoma was resected via a total gastrectomy and distal esophagectomy with Roux-en-Y reconstruction. Endoscopic ultrasound (EUS) showed dilated intrahepatic bile ducts, allowing a transjejunal biliary access. Because of a small bile duct caliber, it was impossible to place a metal stent creating a hepaticojejunostomy. However, using the newly gained access an uncovered metal stent could be placed over the mid CBD stenosis restoring adequate bile flow and regression of cholestasis parameters, allowing continuation of chemotherapy
Conclusion: EUS-guided transhepatic biliary interventions in cases of common bile duct stenosis are possible even in patients after distal esophagectomy and total gastrectomy. The transjejunal approach offers a novel, but technically challenging alternative to PTBD, avoiding drain associated complications and impaired quality of life.

A neural connection between vagus and phrenic nerve at the esophagogastric junction in humans.

G34

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Background
The lower esophageal sphincter (LES) and the crural diaphragm (CD) form the antireflux barrier at the esophagogastric junction (EGJ). The neural control of their simultaneous relaxation during episodes of transient lower esophageal sphincter relaxation is not fully understood. In this study we investigated the possible contribution of vagal efferent nerves to the CD in humans.

Methods
Macroscopic dissection of 13 human adult bodies (body donation program, Institute of Anatomy). Nerve samples were analyzed using light and electron microscopy.

Results
There was no evidence for a direct vagal motor innervation of the CD. However, a nerve loop formed by branches of the anterior vagal trunk and the left phrenic nerve was present in 5 samples. Individual phrenic nerve fibres (no loop) to the EGJ were found in 4 samples and were absent in 4 samples. Phrenic nerve fibres to the EGJ (loop or individual) were always accompanied by branches of the left phrenic artery. Morphological investigations confirmed the neural characteristics of the identified connection.

Conclusion
The existence of a nerve loop at the EGJ might provide a network for transmitting information about EGJ distension, which is a known trigger for transient lower esophageal sphincter relaxation. We believe that this loop might have ancillary functions for sensing distension or contraction of the EGJ. The co-occurrence with arterial branches points to a common developmental background.

EUS-guided hepatico-gastrostomy with transpapillary stenting in a patient with post-cholecystectomy (CHE) cystic stump leak and Roux-en-Y anatomy

G35

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Introduction: Bariatric surgery with rapid weight loss is a risk factor for the development of gallstones. Still, current guidelines do not recommend CHE during bariatric surgery, as additional surgical risk does not justify its potential benefit. However, in situations with Roux-en-Y anatomy and a long bilio-pancreatic limb, e.g. after duodenal switch, retrograde access to the papilla is rarely possible and treatment alternatives are needed.

Results: A 66-year old male patient with past medical history of a duodenal switch operation for obesity underwent laparoscopic CHE for symptomatic cholecystolithiasis. An MRCP was performed on postoperative day 3 because of clinical signs of biliary leakage, which showed prepapillary gallstones with non-dilated intrahepatic bile ducts. EUS guided transgastric cholangiography through liver segment II/III confirmed a biliary stump leak, likely because of distal choledocholithiasis. A papillary balloon dilation was performed and the biliary tract secured with a transgastric-transpapillary double pigtail plastic stent. Subsequently, the bile leak resolved and the patient improved. Two months later, transgastric cholangiography showed no persisting bile leak or choledocholithiasis. Therefore, the plastic stent was removed.

Discussion: Patients with stump leaks post CHE are normally treated with ERCP. However, in cases of post duodenal switch, the papillary region cannot be reached with conventional endoscopic techniques. Despite being more challenging, EUS guided transgastric biliary interventions can even be successful without dilated intrahepatic bile ducts.

Quality of care indicators in inflammatory bowel disease: local pilot study.

G36

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Background: Recommendations have been established for an optimal care of inflammatory bowel disease (IBD) patients (1-3). The aim of this study is determine whether patients were receiving appropriate care. **Methods**: 30 consecutive patients with IBD treated at the outpatient Clinic of Bern University Hospital with at least 2 years of follow up were retrospectively included in this pilot study. Clinical, laboratory and endoscopic data were collected from patients' charts. Frequency of surveillance measures such as metabolic bone disease prevention, colon cancer and dermatological screening were also considered. **Results**: The study population consisted of 30 patients 22 with Crohn's disease, 8 with ulcerative colitis (UC). 60% of patients with distal UC were receiving topical aminosalicylate therapy (20% refused) and oral aminosalicylates were appropriately dosed in 86% of the case. Unfortunately, 73% of patients were receiving steroids for longer than 3 months , however, in 96% of patient there was an attempt to start steroid sparing medications (thiopurines, MTX, anti-TNF agents). Among patients treated with thiopurines, 75% were appropriate dosage. 78% received adequate substitution to prevent metabolic bone disease. Among patients reaching indication for dysplasia surveillance 90% could undergo colonoscopy with appropriate time interval, whereas 60% of patients could be a dermatologically screened every 2 years. **Conclusion**: According to current guidelines, there is room for improvement in the management of IBD patients. In particular, for the use of corticosteroids. In all other criteria, a satisfactory proportion of patients met the criteria for a good quality of care. A larger and multicentric study, with additional criteria and clinical outcome analysis is planned to valuably assess the quality of IBD care in Switzerland.

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Efficacy of Vedolizumab (VDZ) by Disease Localisation in Crohn's Disease (CD) G37

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Background: In CD, disease progression varies according to disease location. It is important to assess whether the efficacy of treatments is maintained or similar across disease locations. Results of the pivotal GEMINI 2 trial suggested that VDZ, a humanised monoclonal α4β7 antibody approved for CD, is efficacious regardless of disease localisation. **Methods:** A *post-hoc* analysis was performed on the maintenance phase intent-to-treat population of the GEMINI 2 trial. Efficacy outcomes assessed at week 52 by disease location (ileum only, colon only, ileocolonic) were: clinical response (≥70 point reduction in CD Activity Index [CDAI] score from baseline); clinical remission (CDAI score ≤150); and corticosteroid (CS)-free remission in patients receiving CSs at baseline. Logistic regression assessed the impact of disease localisation (ileocolonic vs colon, ileum vs colon), prior anti-TNFα therapy, prior CS exposure, concomitant immunomodulator use and baseline calprotectin on efficacy outcomes. **Results:** In the ileum subgroup (82/461), the same proportion of patients receiving VDZ every 8 weeks achieved CS-free remission as placebo. In all other patients (colon only: 117; ileocolonic: 262), VDZ had greater efficacy than placebo at both dose regimens (every 4 weeks or every 8 weeks) by all efficacy measures, irrespective of disease localisation. None of the potential confounding factors included in the logistic regression analysis were found to be significant. **Conclusion:** VDZ was more efficacious than placebo at improving disease activity in patients with CD. Colon or ileocolonic location, prior and/or concomitant therapy, and calprotectin levels did not impact this result. Larger studies are required to identify any statistically significant differences.

Efficacy of Vedolizumab (VDZ) by Disease Extension in Ulcerative Colitis (UC) G38

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Background: Disease extension in UC is one of the major factors determining long-term prognosis. Results of the pivotal GEMINI 1 trial suggested that VDZ, a humanised monoclonal α4β7 antibody approved for UC, is efficacious regardless of disease extension. **Methods:** A *post-hoc* analysis was conducted on the maintenance phase intent-to-treat population of the GEMINI 1 trial. Efficacy outcomes assessed at week 52 by disease extension (proctosigmoiditis, left-sided colitis, extensive colitis, pancolitis) were: clinical response (reduction in complete Mayo score ≥3 points, ≥30% reduction from baseline, decrease in rectal bleeding subscore ≥1 point or absolute rectal bleeding score of ≤1 point); clinical remission (Mayo score ≤2 points and no individual subscore >1); corticosteroid (CS)-free remission in patients receiving CSs at baseline; and mucosal healing (Mayo Endoscopic subscore ≤1). Logistic regression assessed the impact of disease extension, prior anti-TNFα therapy, prior CS exposure, concomitant immunomodulator use and baseline calprotectin on efficacy outcomes. **Results:** VDZ improved all efficacy measures vs placebo at both dose regimens (every 4 weeks or every 8 weeks) across all disease extension subgroups (N=373; proctosigmoiditis: 41; left-sided colitis: 149; extensive colitis: 45; pancolitis: 138). None of the potential confounding factors included in the logistic regression analyses were found to be significant. **Conclusion:** VDZ was more efficacious than placebo at improving disease activity in patients with UC. Disease extension, prior and/or concomitant therapy, and calprotectin levels did not impact this result. Larger studies are required to identify any statistically significant differences.

Antibodies set boundaries limiting microbial metabolite penetration and the resultant mammalian host response G39

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SUMMARY

Although the mammalian microbiota is well-contained within the intestine and on other body surfaces, it profoundly shapes development and metabolism of almost every host organ, presumably through pervasive microbial metabolite penetration. To determine overall host-microbial metabolomic exchange, the challenge is that most microbial and host metabolites are chemically identical. We developed a model to distinguish non-dietary microbial and host metabolites using stable isotope tracing with fully ^{13}C-labelled live non-replicating *Escherichia coli*, differentiating ^{12}C and ^{13}C isotopes with high-resolution mass spectrometry. Hundreds of microbial compounds penetrated 23 host tissues and fluids after intestinal exposure: subsequent ^{12}C host metabolome signatures included lipidemia, reduced glycolysis and inflammation. Mucosal barrier maturation with transient microbial exposure increased early clearance of penetrant bacterial metabolites from the small intestine into the urine, independently of antibody induction. Induced antibodies curtailed microbial metabolite exposure at the intestinal surface and systemic cytokine release, by accelerating intestinal bacterial transit into the colon where metabolite transport mechanisms are limiting.

Efficacy and safety of endoscopic ultrasound guided drainage of collections after failure of percutaneous drainage. G40

Authors

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Background Endoscopic Ultrasound (EUS) is actually the gold standard for initial drainage of peritoneal collections from various etiology. However, data concerning salvage EUS drainage after initial percutaneous drainage are limited. The purpose of our study is to evaluate the clinical outcomes and safety of EUS-guided drainage of collections after failure of percutaneous drainage.

Methods We retrospectively reviewed patients who underwent salvage EUS-guided peritoneal collection drainage in a single, tertiary university center from January 2011 to march 2018.

Results Twenty-two patients were included (mean age 65 years old). Etiology of collections were post pancreatitis in 18/22, walled-off pancreatic necrosis (WOPN) in 12/22, post pancreatic surgery in 2/22, post sleeve gastrectomy in 1/22 and pericholecystic abscess in 1/22. Lumen-Apposing Metal Stent (LAMS) were used in 3/22 (13.6%) and multiple plastic stents in 19/22 (86.4%). The technical success rate was 94.7%. Overall, clinical success was 77% (17/22). Procedure related adverse events rate was 22.7% (5/22) with major complications in 18.2% (4/22), including bleeding (2), duodenal perforation (1) and sepsis (1). We found a mean number intervention of 2.37 per patient (range 1 to 6). The median stent in-dwelling time was 45.6 days (range 30 to 105). No collection relapse occurred during our follow-up.

Conclusions EUS-guided peritoneal collection drainage is clinically effective and safe after failure of radiological percutaneous management, even in case of WOPN. However, more date are still needed concerning the stent type.

Epidemiology of iron deficiency anemia within the Swiss IBD Cohort and effects of iron supplementation on patient-related outcomes.

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Background
The overall benefit of IV iron supplementation on anemia has been prospectively reported in IBD but mostly without Health Related Quality of life (HRQoL) measurements. Our aim was to assess the prevalence of anemia and iron supplementation (oral and intravenous(IV)) in Switzerland and evaluate its impact on patient reported outcomes (PROs) such as SF- 36, IBDQ and HADS scores within the Swiss IBD cohort study. **Methods** From 2012 to 2016, prospectively collected longitudinal data from all Crohn's disease (CD) und ulcerative colitis (UC) patients included in the cohort were analyzed to estimate anemia prevalence and impact of iron treatment on PROs of 3 groups of anemic patients according to their supplementation status (a) no supplementation (b) oral and (c) IV. **Results** The overall prevalence of anemia in the SIBDC was 11.8% in 2012 and remained stable during the studied period. Pure iron deficiency anemia (IDA) (Ferritin < 30 and CRP< 5) (33-40%) and mixed anemia (Ferritin <100 and CRP >5) (29-43%) were the most prevalent etiologies of anemia. There was a higher proportion of females receiving iron (14% vs 9%, p=0.009), but no differences between CD and UC patients. There was a trend towards a higher frequency of iron IV supplementation in the SIBDC for both genders (from 2012 to 2016, 9.7% to 12% and 6.5% to 8.3% for females and males, respectively) and mostly in UC patients. IV iron use by IBD patients on 5ASA and steroids increased over the last years whereas rates remained stable for those on anti-TNFs agents and immunomodulators. Only 4% of patients with IDA did not receive supplementation. Patients on oral therapy were significantly more affected in their HRQoL outcomes when compared to patients on IV therapy in CD, whereas the opposite was observed for UC (see table).

Table: HRQoL PRO's scores changes in IBD patients according to their type iron therapy compared to male IBD patients, without iron supplementation, without surgery, lower behavior pattern (e.g. B1 for Crohn), without anti-TNFs or immunomodulation (as reference).

CD PATIENTS	SF36 physical score*	SF36 Mental score*	IBDQ Total score	HADS Total score
Oral iron	**-7.17** (-11.6 - -2.7); p=0.002	2.03 (-3.28 - 7.34); p=0.454	**-13.74** (-25.5 - -2); p=0.022	**4.33** (1.49 - 7.18); p=0.003
IV iron	**-2.12** (-3.7 - -0.54); p=0.008	-0.45 (-2.4 - 1.45); p=0.644	**-4.23** (-8.6 - 0.1); p=0.055	-0.15 (-1.2 - 0.9); p=0.784
UC PATIENTS	**SF-36 Physical Score***	**SF-36 Mental Score***	**IBDQ Total Score**	**HADS Total score**
Oral iron	0.79 (-3.2 - 4.77); p=0.699	-3.74 (-8.52 – 1.0); p=0.125	-3.76 (-16.8 - 9.3); p=0.573	2.77 (-0.22 - 5.76); p=0.069
IV iron	**-3.79** (-5.9 - -1.65); p=0.001	**-2.71** (-5.3 - -0.11); p=0.041	**-12.3** (-18.8 - -5.7); p=0	1.2 (-0.21 - 2.6); p=0.096

*Gender (mean decrease -3.25 in CD and -1.4 points in UC patients) and biologic treatment all had a moderate negative impact on SF-36 physical scores for both UC and CD. For SF-36, higher score = better quality of life. For HADS score, higher score = higher depression/anxiety level.

Conclusion The prevalence of anemia concerns approximately 10% of the cohort. Only a small number of IDA patients did not receive iron supplementation. Compared to IV, oral iron supplementation seems to affect HRQoL outcomes in CD (gastrointestinal intolerance, undertreatment) whereas IV supplementation rather affects UC patients.

Endoscopic ultrasonography guided drainage of the main pancreatic duct: a single center experience.

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Background: Symptomatic main pancreatic duct (MPD) obstruction or fistula may lead to serious related health conditions. When conventional trans-papillary drainage is failed or unavailable, endoscopic ultra-sonography (EUS) guided approach appears as a minimally invasive alternative to surgery.

Methods: To assess quality and procedural success, we retrospectively analyzed data from patients who underwent EUS guided trans-gastric drainage of the MPD in single, tertiary university hospital between April 2016 and May 2018.

Results: 13 patients (85% male, mean age, 62 ± 11) were included. Indication was symptomatic chronic pancreatitis - characterized by disabling pain, recurrent acute pancreatitis or fistula – associated with chronic alcohol overuse (85%) or caused by outflow obstruction after Whipple procedure (15 %). Technical success, defined as MPD trans-gastric drainage with plastic stent placement, was obtained in 10/13 patients (77%). In 40 % a second prosthesis was placed during two-stage intervention. Mean procedure duration was 71 ± 34 min. Adverse events were reported as mild (i.e. managed during endoscopy) in 2 cases (15%) and severe in one case (8%). Among the patients for whom follow-up was continued, only 2 (15%) were finally addressed to surgery for persisting symptoms.

Conclusion: Trans-gastric EUS-guided drainage of the MPD appears as a promising and potentially safer alternative to surgery when usual retrograde drainage is impossible.

G41

Amyloidosis - Diagnosis by Full-Thickness Resection Device (FTRD) G43

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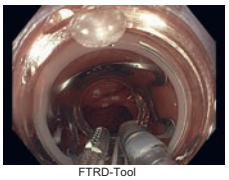
Background:
Fibrillar amyloid proteins affect the gastrointestinal tract during amyloidosis. For histological diagnosis vessels in the submucosa and lamina muscularis propria are necessary. The FTRD System (Ovesco) performs a full-thickness excision in the colon and rectum. The transection of the intestinal wall takes place only after it is securely closed at the target site. This study describes endoscopic tissue sampling for the diagnosis / exclusion of amyloidosis using FTRD.

Methods:
Within three years (2015 to 2018) 18 outpatients (median 73 years, 29-81 years, m = 11, w = 7) with suspicion of Amyloidosis performed a rectal full-thickness excision using FTRD. All 18 patients underwent sigmoidoscopy with slight sedation. The rectal full-thickness excision was performed in the upper third of the rectum between 12 and 16 cm from ano. All FTRD applications were performed by the same investigator.


Marking the mukosa


FTRD-Tool


Full-thickness resection


Full-thickness resection

Results:
In all 18 patients a successful FTRD application with rectal full-thickness excision was achieved. No endoscopic examination lasted longer than 20 minutes. All 18 patients were able to start the diet immediately after the intervention and showed a complication-free progression. In all 18 histological examinations a clear diagnosis could be made. In 14 of the 18 patients (m = 9, w = 5), amyloid deposits were found in small vessels within the lamina muscularis propria and in the submucosa.

Conclusions:
The use of the FTRD system in the diagnosis of gastrointestinal amyloidosis is a safe and very effective method, with a clear diagnosis of the rectal whole-wall product taken. The application of the FTRD is associated with a short examination time.

G42

Interventional endoscopic therapy with gastroduodenostomy (GD) instead of surgical gastroenterostomy (GE) G44

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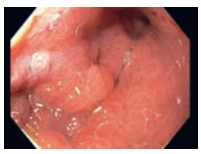
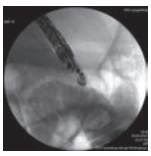
Background:
Patients with malignancies in the gastric outlet area develop a malignant gastric outlet obstruction during their illness. Surgery with a GE is associated with high morbidity and, in particular, GE's functionality is often unsatisfactory. We report a patient with adenocarcinoma of the stomach of the intestinal type according to Lauren, who had a malignant gastric outlet stenosis and at the same time cardiac stenosis. The endoscopic attachment of a GD and simultaneous esophageal attachment was performed during an outpatient examination.

MATERIALS AND METHODS:
Retrospective analysis of a male patient aged 85 years with EUS-guided gastric drainage into the duodenum using a 15mm LAMS (Boston Scientific) and partially covered esophageal stent (Boston Scientific) cardia.

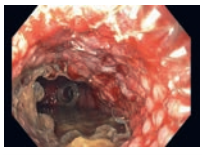

Malignant gastric outlet stenosis


Transgastric puncture/ contrast agent filled duodenum


Partially open LAMS in the duodenum


LAMS / Dilatation balloon


LAMS with a view into the duodenum


Esophagusstent / Look in the stomach / LAMS

Results:
The attachment of the LAMS and the esophagus stent were technically and clinically successful. There were no complications associated with surgery, and the outpatient patient was able to take soft foods the following day. From the fifth post-interventional day, the diet could be increased up to normal diet. Further long-term complications have not yet occurred.

Conclusions:
Interventional treatment by GD of tumor patients with malignant gastric outlet stenosis by a LAMS is possible. In future, it will be able to offer an alternative to GE for this group of patients with advanced tumor disease and limited prognosis. But it also seems to be a low-complication, effective long-term therapy possible.

Rescue treatment of acute severe ulcerative colitis with Cyclosporin and Vedolizumab : a case report and literature review

G45

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A 29 year-old woman with ulcerative colitis, diagnosed July 2017**,** Montréal classification A1 E3 (S2) presented in September 2017 to our department after initial failure of mesalazine, and oral high dose prednisone. Earlier two doses of infliximab lead to a significant hair loss.

At the time of admission the patient suffered from severe acute colitis (SCCAI 12 points; partial Mayo score 9) endoscopically confirmed as severe pancolitis ulcerosa (Mayo 3) up to the spared caecum. Biopsy were positive for CMV (PCR) and stool sample were positive for C. difficile toxin.

The initial management included antibiotics (ciprofloxacin/ metronidazol), valgancyclovir and steroids (first i.v., then oral 30mg/d) followed by intravenous cyclosporine 2mg/kg/d over two weeks (and *P. jirovecii* prophylaxis). She was discharged with cyclosporin 2x150mg/d orally and was started on vedolizumab induction scheme and then every 4 weeks.

After 6 weeks of treatment, the patient developed a new flare due to C. difficile superinfection which was re-treated with metronidazol 3x500mg/d over 14 d. After clinical improvement, steroids could be eventually tapered, whereas cyclosporin was reduced and then stopped over the next 2 month, leaving a maintenance vedolizumab monotherapy.

Reports on the combination of vedolizumab and cyclosporine for the induction of clinical remission in IBD patient are scarse. Published case-series suggest a safe treatment option, which helps achieving steroid-free clinical remission in 22 to 45% of Crohn's disease and ulcerative colitis patients, respectively. Combination treatment duration also varies widely, from about 6 -14 weeks to up to 52 weeks[1]**.**

Conclusion: The combination vedolizumab - cyclosporin is a rapid acting "rescue therapy" and a valuable alternative in patients with acute severe colitis who present contraindications or insufficient response to infliximab.

1.Christensen, B., et al. (2018). "Safety and Efficacy of Combination Treatment With Calcineurin Inhibitors and Vedolizumab in Patients With Refractory Inflammatory Bowel Disease." Clin Gastroenterol Hepatol.

Gnotobiology and Next-Generation Sequencing Techniques as tools to study dietary influences on the microbiota

G47

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The microbiota influences the host in health and disease. Immune-related medical conditions, such as inflammatory bowel diseases, metabolic syndrome and allergies are associated with changes in the microbiota function and composition. Our understanding of the underlying mechanisms remains however elusive, mainly because of the complexity of host-microbiota interactions, which underlie the influence of environmental factors such as the diet.
To reduce the multidimensionality, we generated a gnotobiotic mouse model, containing twelve different bacterial species. We show that this model microbiota is very stable over the years in terms of composition, mutation rate and proliferation rate of the different species. Taking advantage of Next Generation Sequencing techniques, we studied the effects of two Western-like diets on the microbiota and on the host.
We show that in our model, more than macronutrients such as fat or starch, the nature of the diet and the micronutrients are crucial in shaping microbiota composition, function and biomass. The consequences on the ecosystem and on the host immunity contribute together to the increased susceptibility of high fat diet fed mice to infectious colitis.
These tools allow us to unravel unsuspected mechanisms driving the complex interplay of the diet, the host and the microbiota.

EndoRotor: A novel non-thermal resection tool in the endoscopic management of scarred polyps.

G46

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Background:
Scarred polyps are challenging to resect using conventional endoscopic mucosal resection (EMR) techniques. The aim of this pilot study was to assess the feasibility of the EndoRotor device in resecting scarred polyps arising from previous endoscopic resection attempts.

Methods:
This was a prospective pilot study (conducted at two centers) of patients with scarred colonic polyps treated using EndoRotor.

Results:
A total of 19 patients were included in this study. The overall cure rate using EndoRotor was 84%; 10 patients (52.6%) achieved cure after 1 attempt and 6 patients (31.5%) achieved cure after two attempts. A total of 3 patients who had polyp recurrence after the first EndoRotor resection were referred for either ESD (endoscopic submucosal dissection, 2 patients) or surgery (1 patient) due to difficult access. There were no perforations, delayed bleeding, post-polypectomy syndrome or complications requiring surgery.

Conclusions:
In this pilot study, the novel non-diathermic device (EndoRotor) has been demonstrated to be a safe and effective technique in the challenging management of scarred polyps. Further randomised control trials comparing this technique with APC (argon plasma coagulation), hot avulsion, ESD and EFTR (endoscopic full thickness resection) are required to ascertain the utility of EndoRotor.

PROOF OF CONCEPT STUDY OF AN APOPTOSIS-SIGNAL REGULATING KINASE (ASK1) INHIBITOR (SELONSERTIB) IN COMBINATION WITH AN ACETYL-COA CARBOXYLASE INHIBITOR (GS-0976) OR A FARNESOID X RECEPTOR (FXR) AGONIST (GS-9674) IN NASH

H1

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Background: Pre-clinical data suggest that combinations of an ASK1 inhibitor with an ACC inhibitor or FXR agonist are more effective than monotherapy. In this study we evaluated the safety and efficacy of these combinations in subjects with NASH.
Methods: 70 subjects with NASH diagnosed by a hepatic proton density fat fraction (PDFF) ≥10% and liver stiffness ≥2.88 kPa by MRE, or biopsy consistent with NASH and stage 2-3 fibrosis were enrolled. Successive cohorts received monotherapy with SEL 18 mg, GS-0976 20 mg, or GS-9674 30 mg (n=10/cohort), or combination therapy with SEL+GS-0976 (18/20 mg) or SEL+GS-9674 (18/30 mg) (n=20/cohort) orally QD for 12 weeks. Centrally-read PDFF and MRE, and serum fibrosis markers were measured at baseline (BL), W4 and W12. Deuterated water was administered to measure fractional synthesis of lipids (*de novo* lipogenesis) and fibrosis-related markers (data are pending).
Results: Over 12 weeks, all regimens were safe and well-tolerated. Similar rates of AEs were observed between cohorts (Table). No subject discontinued treatment prematurely. Compared with BL, GS-0976 resulted in significant improvements in PDFF (p=0.006) and TIMP-1 (p=0.049), and non-significant reductions in ALT and PIII-NP (Table). GS-9674 monotherapy reduced PDFF (p=0.010), GGT (p=0.039), and ALT. The combination of SEL+GS-0976 led to significant reductions in PDFF (p<0.001), ALT (p=0.019), and PIII-NP (p=0.057), whereas SEL+GS-9674 reduced GGT (p=0.030).
Conclusions: In this proof of concept study in patients with NASH, 12-week treatment with the combinations of SEL+GS-0976 or SEL+GS-9674 was safe and led to improvements in hepatic steatosis, liver biochemistry, and fibrosis markers. Responses were similar with monotherapies. Studies of longer duration with histological assessment are required to better characterize the efficacy of combination versus monotherapies in NASH.

Time to Viral Suppression does not Impact SVR in Patients Treated with Glecaprevir/Pibrentasvir for 8 Weeks H2

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Background: The pangenotypic direct-acting antivirals (DAAs) glecaprevir (developed by AbbVie and Enanta) coformulated with pibrentasvir (G/P) are approved as an 8-week (wk) regimen to treat chronic HCV infection for all six major genotypes (GT). Historically, an on-treatment predictor of HCV cure with interferon (IFN)-containing regimens has been viral suppression at treatment wk 4. However, the relevance of viral kinetics as predictors of cure in the era of shortened, 8-wk DAA regimens is unclear, and concerns remain that failure to suppress HCV RNA quickly may lead to relapse. An integrated analysis of patients (PTS) treated with G/P for 8 wks was performed to investigate factors impacting time to viral suppression, and whether lack of viral suppression by treatment wk 4 was predictive of relapse. Methods: Data were pooled from five phase 2 or 3 clinical studies, and included PTS with HCV GT 1–6 infection without cirrhosis who were either treatment naïve or experienced with IFN or pegIFN with or without ribavirin (RBV) or sofosbuvir and RBV with or without pegIFN. G/P (300 mg/120 mg) was orally dosed once-daily for 8 wks. PTS lost to follow up or with missing SVR12 data (N = 13) were excluded from the analysis since the impact of viral suppression (HCV RNA below lower limit of quantification [LLOQ]) on response cannot be assessed in these PTS. Two PTS with on-treatment virologic failure were excluded since we sought to determine whether detectable HCV RNA at treatment wk 4 was predictive of relapse. Results: The analysis included 950 PTS; 63 (7%) were black, 171 (18%) had BMI ≥30, and 24% had baseline HCV RNA ≥6 million. The majority of PTS were white, male, and HCV treatment-naïve. Among 942 PTS with data, 906 (96%) had HCV RNA <LLOQ at treatment wk 4, and of those, 899/906 (99%; 95% CI 98.4–99.6) achieved SVR12. There was no common baseline factor more frequently observed among the 7 PTS who relapsed other than male sex (5/7; 71%). Of the 36 PTS with HCV RNA >LLOQ at treatment wk 4 (median baseline HCV RNA 6.7 $\log_{10}$ IU/mL; range 5.2–7.6 $\log_{10}$ IU/mL), 100% (95% CI 90.4–100.0) achieved SVR12. Conclusions: In PTS treated with G/P for 8 wks, failure to suppress HCV RNA by treatment wk 4 was not predictive of treatment outcome, suggesting that treatment extension in PTS eligible for 8-wk regimens based on this milestone is not warranted.

Retreatment of patients who failed glecaprevir/pibrentasvir treatment for hepatitis C virus infection H3

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Background: Glecaprevir/pibrentasvir (G/P; glecaprevir identified by AbbVie and Enanta) has demonstrated high rates of sustained virologic response at posttreatment week 12 (SVR12) across all six major hepatitis C virus (HCV) genotypes (GT). Roughly 1% of patients (PTS) treated with G/P in Phase II or III clinical trials, across all genotypes, had virologic failure. These PTS were offered enrollment into a retreatment study, MAGELLAN-3. Method: MAGELLAN-3 is an ongoing open-label, phase 3b trial to determine the efficacy and safety of G/P (300/120 mg once daily) + sofosbuvir (SOF; 400 mg once daily) + ribavirin (RBV; 1,000-1,200 mg daily, divided into two doses) in PTS who had virologic failure on G/P treatment in an AbbVie-sponsored clinical trial. PTS who had non-GT 3 infection, without cirrhosis, and were naïve to NS3/4A protease and NS5A inhibitors prior to failure with G/P, received 12 weeks of treatment; all others received 16 weeks. Efficacy (percentage of PTS with SVR12), safety, and baseline resistance were assessed. PTS with at least end-of-treatment (EOT) data are reported here. Results: Of 23 PTS enrolled, 19 reached EOT; 2 PTS were treated for 12 weeks (both reached EOT) and 21 were treated for 16 weeks (17 reached EOT). Overall, 30% (7/23), 9% (2/23), and 61% (14/23) of PTS had HCV GT 1, 2, and 3 infection, respectively, and 30% (7/23) of PTS had compensated cirrhosis. Twenty six percent (6/23) of PTS had NS3/4A protease and/or NS5A inhibitor experience prior to their original G/P treatment; 39% (9/23) of PTS had prior experience to other HCV treatment regimens. Twenty two percent (5/23) of PTS had baseline resistance-associated substitutions (RAS) in NS3; the most common were at position D/Q168 (n=4). All 23 PTS had baseline RAS in NS5A (14 had multiple NS5A RAS); the most common were at position Q30 (n=6) in GT1, and Y93 (n=11) and A30 (n=9) in GT3. 1 patient had virologic failure. The retreatment regimen was well tolerated. 1 patient had a serious adverse event of cholelithiasis at treatment wk 10. Complete efficacy and safety data will be presented at the conference. Conclusion: Preliminary data show that retreatment with G/P+SOF+RBV for 12 or 16 weeks was well tolerated and has demonstrated a high rate of SVR12, regardless of HCV RT or baseline RAS.

Changes in heath-related quality of life (HRQL) in alcoholic hepatitis (AH) and relationship with liver related parameters and psychiatric comorbidities H4

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Background: Assessment of HRQL, based on patients' preference for a health status, is important in clinical research but hasn't been explored yet in patients with AH. Methods: We analyzed data from 45 patients with AH (mean age 53.8 yrs, M/F: 34/11, MELD 18.3 ± 0.7, steroid-treated n=33, non-responders n=9) who completed a questionnaire on quality of life at hospital admission and at 3 months follow-up (FU). The patient reported outcome EQ-5D data includes a EQ-visual analog scale (VAS, overall heath of the day, 0-100) and 5 different heath states (mobility, self-care, usual activities, discomfort, anxiety) with a score from 1 (best) to 3 (most severe). Improvement was defined as VAS ≥ 90 at FU. Results : Twelve patients (26%) had coexistent psychiatric comorbidity and 22 (49%) had alcohol-dependence based on AUDIT questionnaire. Nineteen patients (42%) improved at FU. OH relapse occurred in 35% of patients. *Values given as mean ± SEM. Stats : Wilcoxon, Fisher exact test*

EQ-5D *(global + health states)*	Baseline	Follow-up	p value
VAS	57.5 ± 2.2	68 ± 2.5	0.0003
Mobility	1.4 ± 0.1	1.34 ± 0.07	0.9
Self-care	1.25 ± 0.08	1.13 ± 0.05	0.53
Usual activities (family, leisure, work)	1.46 ± 0.1	1.25 ± 0.07	0.12
Discomfort/Pain	1.34 ± 0.07	1.55 ± 0.08	0.06
Anxiety/Depression	1.3 ± 0.07	1.18 ± 0.06	0.54

We analyzed the following parameters potentially associated with improved VAS on EQ-5D, but neither age (p=0.5), nor baseline MELD (p=0.6), steroid-non response (p=0.41), coexistent psychiatric comorbidity (p=0.38), alcohol-dependence (p=0.14) or alcohol relapse (0.43) were found to be related to this endpoint. Conclusion : Alcoholic hepatitis is associated with a reduced quality of life as measured by EQ-5D. The improved self-rated health global perception by VAS at 3 month wasn't influenced by heath states, and also not related to liver-related, or coexistent addictive or psychiatric conditions. (Funded by FLAGS)

Long-Term Follow Up of Patients with Chronic HCV and F2 or F3 Fibrosis after Achieving SVR with DAA-Based Therapy: Results from the Gilead SVR Registry H5

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Background: HCV infected patients with F0-F1 fibrosis experienced minimal liver-related morbidity and mortality following sustained virologic response (SVR) with direct-acting antiviral (DAA) therapy. Less is known about the clinical progression of liver disease among HCV-infected patients with F2 or F3 fibrosis who have achieved SVR with DAA regimens.

Methods: Patients enrolled in the Gilead SVR Registry were included in this analysis if they were deemed to have F2 or F3 fibrosis pre-DAA treatment as measured by FibroTest (0.32-0.58 or 0.59-0.72, respectively). Patients could be enrolled up to 60 weeks after initiating DAA-treatment that lead to SVR, and study visits occurred every 24 weeks for up to 144 weeks. Assessments for signs of jaundice, ascites, hepatic encephalopathy (HE), varices, and hepatocellular carcinoma (HCC) and measurement of alanine aminotransferase (ALT), aspartate aminotransferase (AST), total bilirubin (Bili), albumin (ALB), prothrombin time (PT), and platelets (PLT), occurred at each visit.

Results: A total of 1489 and 857 patients with F2 and F3 fibrosis were enrolled, with median (range) registry follow up times of 1.9 (0-3.3) and 1.8 (0-3.2) years, respectively. Of these, 57% and 72% were male and the mean (range) ages were 55 (19-80) and 57 (19-82) years for F2 and F3 patients, respectively. There were 2 and 4 cases of HCC reported in 2509 and 1371 person-years of follow-up time for patients with F2 and F3 fibrosis, respectively. Overall, the prevalence of liver-related events was low at all visits, remaining stable for F2 and numerically decreasing over time for F3 patients (Table). At Week 144, 1 (0.1%) patient with F2 fibrosis had evidence of varices reported and 1 (0.3%) patient with F3 fibrosis had evidence of jaundice reported. Mean week 144 ALT, AST, Bili, ALB, PT, and PLT were within normal limits and comparable to baseline values. Three patients with F2 and 3 patients with F3 fibrosis died, with no causes of death due to liver disease. No liver transplants were reported. There were 4 patients with F2 and 3 patients with F3 fibrosis who experienced virologic failure during follow up; all but one of these patients had clear virologic evidence for reinfection by sequencing.

Conclusions: In HCV-infected patients with F2 or F3 fibrosis who achieve SVR with DAA therapy, events including liver-related complications, HCC, death and HCV relapse are rare in the first 144 weeks of follow-up. These data support early treatment of HCV infection and may be useful in guiding monitoring strategies for HCC and other liver-related events following SVR.

Safety and Efficacy at 1 Year after Switching from Tenofovir Disoproxil Fumarate to Tenofovir Alafenamide in Chronic HBV Patients with Risk Factors for TDF Use H6

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Background: Tenofovir alafenamide (TAF), a new prodrug of tenofovir (TFV), has shown efficacy noninferior to that of tenofovir disoproxil fumarate (TDF) in chronic HBV (CHB) patients at Weeks 48 and 96, with a superior bone and renal safety profile. TAF is now a preferred treatment in the 2017 EASL HBV Guidelines, and may be particularly useful in patients with risk factors for TDF associated renal and bone effects. We assessed the 1 year safety and efficacy in CHB patients with TDF risk factors who were switched from TDF to TAF.
Methods: In two identically-designed Phase 3 studies, HBeAg-positive and HBeAg-negative patients were randomized 2:1 to TAF 25 mg QD or TDF 300 mg QD and treated in a double-blind fashion for 96 weeks; all patients were then eligible to receive open-label (OL) TAF for an additional 48 weeks (through Week 144). Renal (serum creatinine [sCr], eGFR by Cockcroft-Gault [eGFRCG] and urine biomarkers of tubular function) and bone (DXA scans at hip/spine every 24 weeks and serum bone biomarkers) safety parameters, and antiviral efficacy (HBV DNA <29 IU/mL) and ALT normalization were assessed in the subset of switch patients with baseline risk factors for TDF use: Age >60 years, osteoporosis of hip or spine, ≥Stage 2 chronic kidney disease (CKD; GFRCG <90 mL/min), albuminurina (UACR >30 mg/g), hypophosphatemia (PO4 <2.5 mg/dL), or presence of comorbidities (e.g. HTN, DM).
Results: Of 1298 patients randomized and treated in the 2 studies, 540 (42%) switched to open-label TAF at Week 96 (TAF→TAF 360; TDF→TAF 180), of which 284 (53%) patients had at least 1 TDF risk factor at baseline; 123 [23%] patients had ≥2 risk factors. Baseline demographics and disease characteristics were similar between treatment groups. Renal and bone safety results at Week 144 are summarized in the table for TDF patients who were switched to TAF. At Week 144, significant improvements in renal (sCr, eGFRCG) parameters were observed with a higher percentage of patients experiencing improved vs worsening CKD stage shifts. Significant improvements were also seen in hip and spine BMD by 1 year following switch. In patients who received an additional year of TAF treatment, continued small changes in renal and bone parameters were seen. Antiviral efficacy (HBV DNA <29 IU/mL) was maintained at Week 144 in both groups and in TDF patients who switched to TAF, increased rates of ALT normalization were seen.
Conclusions: In CHB patients with risk factors for potential TDF toxicity, switching from TDF to TAF resulted in improved bone and renal safety parameters while efficacy was maintained in this subgroup at one year.

A novel large heterozygous *ABCB4* deletion is associated with severe cholestatic liver disease. H8

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Introduction: Defects involving the *ABCB4* gene are associated with a wide range of cholestatic phenotypes. We report a large family with a new genetic defect partially deleting *ABCB4* and the neighbour genes *ABCB1* and *RUNDC3D* with variable phenotypes. **Methods:** Sequencing was done by Illumina TruSeq Custom Amplicon and Agilent sureselect library preparation resolved on a MiSeq Sequencer. Variant analysis performed using CLCBio software and gene copy number variation was analysed by comparing the normalised ratio of targeted exonic reads between samples within the run. **Results:** Affected family members carry a novel large heterozygous deletion removing exons 1-4 of the *ABCB4* gene, and the contiguous genes *ABCB1* and *RUNDC3B*. Clinical features include ICP and early-onset cholelithiasis, at times meeting diagnostic criteria for LPAC. Liver malignancies were observed in cirrhotic men, two developing HCC and one cholangiocarcinoma. Two patients underwent liver transplantation. Only one adult female family member carrying the deletion has no evidence to date of liver disease or ICP. Affected children are asymptomatic, though one had transient neonatal cholestasis. Ursodeoxycholic acid normalizes liver biochemistry and prevents progression to cirrhosis.
Conclusions: Heterozygous deletions in familial cholestasis may be missed by routine genetic testing, the diagnosis has relevant clinical implications.

Coexisting primary biliary cholangitis, autoimmune hepatitis, and primary sclerosing cholangitis. H7

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Introduction: We describe a patient with classical PBC who during follow up developed features of AIH associated with bile duct changes typical of sclerosing cholangitis on MRCP.

Case description: A 68-year-old male was diagnosed with AMA-positive PBC. Five years later, a liver biopsy showed stage III PBC and interface hepatitis, he had elevated IgG and IgM levels, and positive ANA with homogeneous pattern on HEp2 cells. AIH/PBC overlap syndrome was diagnosed, UDCA, prednisone and azathioprine were started. Azathioprine was stopped for gastrointestinal intolerance after 2 months. Prednisone was slowly tapered to 5 mg/day. Twelve months after starting treatment, a liver biopsy showed worsening of portal and interface hepatitis, bile duct proliferation and cirrhosis. MRCP showed intrahepatic bile duct changes characteristic of sclerosing cholangitis. Inflammatory bowel disease was excluded macro/microscopically at colonoscopy and upper endoscopy. A diagnosis of PBC/AIH/PSC overlap was made. Treatment was escalated by adding mycophenolate mofetil (MMF). Prednisone was stopped after 6 months for severe osteoporosis. After one year of MMF/UDCA therapy, blood tests are normal, apart from continuing ANA/AMA positivity, and a liver biopsy shows persistent interface hepatitis and cirrhosis.

Discussion
We report the first well documented case of coexisting PBC, AIH and PSC, arising awareness of this difficult to treat variant autoimmune liver disease syndrome.

Quality assessment of information on bariatric surgery websites S1

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Background: An increasing number of obese patients seek medical information on bariatric surgery in the internet. The quality of the available contents is unclear, as no editorial control is required for publication of medical information in the internet.

Objective: To assess the quality of patient information on bariatric surgery in the internet using the modified Ensuring Quality Information for Patients (EQIP) tool.

Methods: Systematic review of information on bariatric surgery in the internet by entering common search terms into five search engines. The top 100 websites of every search term and search engine were assessed using the validated EQIP tool (maximum score: 36), which entails points for content, structure and identification data of a given website. Websites at or above the 75th percentile were considered as higher scoring websites. Websites at or above the 99th percentile were analyzed separately (n=8).

Results: The median EQIP-score of all included websites (n=463) was 17 (IQR 15- 19). While information on the medical problem, the indication for surgery, or the treatment alternatives was present in 84% of all websites, only 10% of the included websites contained adequate information on postoperative complications. Although quantitative information on incidence (37.5%) and treatment of complications (12.5%) was significantly better in the top 99th percentile websites, the content of relevant information such as occurrence and treatment of complications was still very limited.

Conclusion: The overall quality of patient information on bariatric surgery in the internet is relatively poor. Especially incidence of complications and their treatment are rarely reported even on websites with an 99th percentile EQIP-score.

S2

EUS-guided Hepaticojejunostomy with transjejunal peroral cholangioscopy (tPOCS) and electro-hydraulic therapy (EHL) in a patient with complicated choledocholithiasis after Roux-en-Y gastric bypass (RYGB)

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Background: Obesity and rapid weight loss are established risk factors for gallstone disease. Especially after RYGB conventional ERCP is rarely successful. In the acute setting a surgical approach is currently preferred, especially if concomitant cholecystectomy is warranted.

Case presentation: A 66-year old male with past medical history of RYGB and cholecystectomy for morbid obesity was admitted with septic choledocholithiasis. Endoscopic ultrasound (EUS) revealed dilated intrahepatic bile ducts. To relief cholestasis, we performed an EUS-guided biliary drainage connecting hepatic segment II with the Roux limb by inserting a covered self-expanding metal stent. Three weeks later, a transjejunal cholangioscopy was performed by advancing a spyscope through the stent. A three centimeter biliary stone was identified in the mid common bile duct (CBD) and fragmented by prolonged EHL. A second stone was found in the prepapillary CBD and treated in the same fashion. After cannulating the papilla with a guidewire, a 10F 15cm double-pigtail stent was inserted. Follow-up endoscopy is planned six weeks later, with clearing the CBD if necessary.

Conclusion: Transenteric access to the biliary system is an alternative route, especially in patients with altered anatomy. In view of growing numbers of RYGB patients, this procedure offers a novel way of treatment. Compared to PTCD, cumbersome endoscopic procedures or a surgical approach, tPOCS appears less traumatic, but long-term data are definitely needed.

S3

The Other Explanation for Dyspnea: Repair of Giant Paraesophageal Hiatal Hernias Routinely Improves Dyspnea and Pulmonary Function Results

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Background

Paraesophageal hiatal hernias often present with an evolving history of dyspnea. The dyspnea is often unrelated to pre- existing pulmonary disease. Surgical repair of the paraesophageal hernia typically improves the dyspnea along with other gastrointestinal symptoms.

Methods

A prospective database included all patients undergoing PEH repair between 2000-2016. Patients (N = 299) with pre- and postoperative pulmonary function tests (PFTs) assessed by spirometry were included in the analysis.

Results

49% of patients reported preoperative shortness of breath and symptomatic improvement was noted in all patients. 122 of 299 (41%) patients had an FEV1 improvement of > 12%. Age, gender, BMI, presenting symptoms, Charlson comorbidity index as well as preoperative comorbidities such as asthma, obstructive sleep apnea, smoking history and COPD did not significantly impact functional outcome. Achieving FEV1 improvement of > 12% was associated with hiatal hernias characterized by a percentage of intrathoracic stomach ≥ 76% (p=0.001). Overall, 80% of patients demonstrated an improvement of spirometry with 21% of patients showing an improvement in FEV1 > 20%. Mean improvement of FVC, FEV1, VC were 11% each.

Conclusions

Paraesophageal hernia repair can result in a substantial improvement to dyspnea and PFTs independent of preoperative pulmonary disease status.

S4

Rectal cancer surgery with TME after neoadjuvant chemoradiotherapy without initial stoma placement

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Background: The primary placement of a protective ileostomy or transversostomy is commonly used in rectal cancer surgery with TME. Nevertheless there is a patient collective, where the initial stoma placement can be omitted during the procedure. We analyzed our perioperative results in patients with locally advanced rectal cancer and neoadjuvant chemoradiotherapy (CRT), who got an open, laparoscopic or robotic assisted surgery without primary stoma placement.

Methods: Retrospective analysis of prospectively collected data. From March 2005 to September 2017 a total of 358 patients with rectal cancer underwent an open, laparoscopic or a robotic-assisted DaVinci Xi TME in our department. Forty-six of them (12.8%) without primary stoma placement.

Results: Mean BMI was 24.9 ± 4.7kg/m², mean age was 61.8 ± 12.1 years, mean tumor distance from anocutanline was 9.2 ± 2.5cm. Severe complications (Clavien-Dindo III or IV) occurred in 7 patients (15.2%), 3 of them had an anastomotic leakage (6.5%). The patients with anastomotic leakage were reoperated by secondary stoma placement. We saw no case in which the anastomosis had to be resected. The technique of the surgical approach (e.g. open, laparoscopic, robotic assisted) showed no effect on the perioperative outcome (p = 0.48). The mean hospital stay was 15.2 ± 6.3 days.

Conclusions: Rectal cancer surgery without primary stoma placement is feasible and can be considered in suitable patients. Nevertheless close postoperative surveillance is crucial to detect anastomotic problems early. In these situations secondary stoma placement can be done with good outcome.

S5

The learning curve of laparoscopic right colectomy with complete mesocolic excision and central vascular ligation in a tertiary referral centre

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Background: Complete mesocolic excision (CME) and central vascular ligation (CVL) is considered the standard procedure for right colonic cancer. Once a beginner's operation, right colectomy has now become technically demanding. The aim was to assess its learning curve (LC) investigating a single surgeon experienced in laparoscopy.

Methods: Between 4/2009 and 1/2015, a total of 43 consecutive patients from a tertiary referral centre were analysed retrospectively. The LC regarding operation time, oncological quality of the retrieved specimen and intra- and postoperative complications were assessed using CUSUM (cumulative sum) analysis. Acceptable failure rates for the CUSUM analysis were set at levels reported by high volume centres.

Results: CUSUM analysis showed an end of the LC regarding complications and operation time after 19 and 25 procedures, respectively. The intraoperative complication rate (vessel injury, small bowel perforation, gallbladder perforation and torqued small bowel mesentery after anastomosis) was increased during the learning curve with 6 (27.3%) versus only 1 (4.8%) after reaching a steady state, (p = 0.095). There were no differences in patient characteristics in the first 22 cases (during LC) compared to the last 21 cases.

Conclusions: For a surgeon experienced in open colorectal surgery and laparoscopy, the learning curve of laparoscopic CME/CVL right colectomy may comprise about 25 procedures and is associated with a considerable complication rate. Therefore, standardised tutoring to make the implementation safe is mandatory in future.

Introduction of laparoscopic distal pancreatectomy at a cantonal hospital Video presentation S6

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Objective: Despite the well known advantages of minimal invasive surgery, laparascopic distal pancreatectomy (LPD) is not the standard procedure for left-sided pancreatic tumors due to the challenges of the technique and oncolocigal considerations. This video presents the technique of LPD at the cantonal hospital of Winterthur and summarizes results since ist introduction in 2015.

Methods: Patient charts and video documentation of LPD and OPD were reviewed and analyzed with respect to patient's characteristics and outcome.

Results: 32 distal pancreatectomies were performed from 2015 - 2017. Of these, 13 were performed laparoscopically. In 11/32 patients surgery was performed for pancreatic ductal adenocarcinoma (PDAC). Compared to open distal pancreatectomy (OPD), operation time was longer (328 vs 290 min, p=0.04) but hospital stay was significant shorter (8 vs 12 days, p=0.02). LPD had the same rate of pancreatic fistula as OPD (18% vs 19%; ISGPF B and C) and was performed without any major complications (Clavien-Dindo ≥ 3A). The video documentation demonstrates LPD with splenectomy in 34 y/o man with a mucinous cystic neoplasia. The resection margin of the pancreas was covered with a falciform ligament patch.

Conclusion: Although LPD takes longer than OPD, these preliminary data suggest that patients benefit from shorter hospital stay and low morbidity.

A novel double embolization procedure of right portal vein and right hepatic vein prior to extended right hemihepatectomy S7

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Objective: In extended liver resections, PVE or ALPPS can be used to accelerate growth of the liver remnant. Double embolization of both, portal and right as well as middle hepatic vein is a novel interventional alternative to accelerate hypertrophy of PVE and less invasive than ALPPS. This video demonstrates double embolization in a patient with colorectal liver metastasis (CRLM) with small liver remnant prior to an extended hepatectomy.
Methods: Video documentation of the embolization procedure and the open extended hepatectomy one week later, where pertinent sequences were extracted. Clinical information of the patient with transverse colon cancer and the synchronous CRLM and perioperative chemotherapy is reviewed. A 7 minute video is composed.
Results: The clinical vignette is presented with extended left hemicolectomy, induction chemotherapy with Folfirinox and the rationale to perform a regenerative liver maneuver prior to resection. The double embolization procedure is presented. The changes in primovist MRI one week after the embolization are shown. The steps of an extended right hemihepatectomy with a hypertrophied left lobe are shown. Images of the Amplatzer occlusion devices in the right and middle hepatic vein are shown.
Conclusion: This video presents double embolization for a patient with CRLM in clinical practice. This technique is novel, minimal invasive and offers advantages over ALPPS and PVE.

Expansion of criteria for liver resection for colorectal liver metastases in a single center over 10 years results in increased recurrence with equivalent survival S8

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Background: Over the last 10 years the indications for liver resection of colorectal metastasis (CRLM) have been expanded while chemotherapy and resection strategies have improved. Aim is to study if risk profiles and oncologic outcomes of patients changed over 10 years in a Swiss single center.

Methods: A retrospective audit was performed of all patients with liver resection for CRLM from 2008 to 2017. Patients were stratified into 3 eras. Age, tumor number and size, CEA level, N status of the primary tumor, interval between primary and the occurrence of CRLM, Fong-score, neoadjuvant chemotherapy, resection strategy and R1 resection were compared. Overall survival and disease-free survival was assessed by Kaplan Meier.

Results:
In 10 years 138 patients underwent liver resection for CRLM (Table 1). Well known individual risk factors for recurrence and survival were not different between eras, but the composite Fong-score increased slightly over time. Median recurrence-free survival in era 3 was only 12 months and 37 months in era 1 and 31 months in era 2 (Figure 2). There was no difference in overall survival between eras (Figure 1).

Conclusion: Expansion of resection criteria for col orectal liver metastases over 10 years in a single center is refl ected in an increased Fong-score and results in decreased recur rence-free survival with equivalent overall survival.

Robotic-Assisted Single-Site Laparoscopic Rectosigmoid Resection for Recurrent Diverticulitis – A Novel Approach S9

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Background: Single-incision laparoscopic rectosigmoid resection for recurrent diverticulitis further reduces the surgical trauma to the patient as compared to the conventional laparoscopic approach. However, single-incision laparoscopic colorectal surgery has not been widely adopted due to its significant mechanical restrictions using straight laparoscopic instruments. Robotic-assisted single-site access provides triangulation of instruments and overcomes these mechanical deficiencies.

Methods: We adapted and used the da Vinci Xi Surgical System with single-site access and instruments to perform rectosigmoid colectomy for recurrent diverticulitis.

Results: From 08/2017 until 04/2018 we performed 12 robotic-assisted single-site laparoscopic rectosigmoid resections for recurrent diverticulitis in 7 women and 5 men, mean age 64 yrs (40-85), mean BMI 27.6kg/m2 (23.7-32). Mean operating time was 158 min (130-180) and mean hospital stay 6.7d (5-9). There were no intraoperative complications, no conversions to conventional laparoscopic or open surgery and 1 postoperative complication Clavien-Dindo grade II (urinary tract infection requiring antibiotics).

Conclusion: Robotic-assisted single-site laparoscopic rectosigmoid resection for recurrent diverticulitis is feasible and safe. To our knowledge this is the first description of this novel minimally invasive approach for rectosigmoid resection and first report on initial clinical experience.

Risk of Colorectal Adenocarcinoma in Patients with Acute Diverticulitis: a Systematic Review and Meta-Analysis of Observational Studies I1

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Aim:
The aim of the present systematic review and meta-analysis was to gather, interpret and analyse the literature assessing the prevalence of colorectal cancer in patients with acute colon diverticulitis.
Methods:
MEDLINE was searched until November 2nd, 2017. Studies reporting the prevalence of colorectal cancer in patients with diverticulitis were identified. Pooled prevalence was obtained by using random effects models and its robustness tested by leave-one-out sensitivity analysis. Heterogeneity was assessed using the Q-test and quantified using the I^2 value.
Results:
Out of 449-screened studies, thirty-one were included, accounting for 50'445 patients. The pooled prevalence of colorectal adenocarcinoma was 1.9% (95%CI: 1.5-2.3%). Patients with complicated diverticulitis were significantly more at risk of having colorectal adenocarcinoma (prevalence: 7.9%, 95%CI: 3.9-15.3%) than those with uncomplicated diverticulitis (prevalence: 1.3%, 95%CI: 0.1-2%), corresponding to a pooled prevalence ratio of 6.7 (95%CI: 2.5-18.3). The pooled prevalences of polyps, advanced adenomas, adenomas and hyperplastic polyps were, respectively, 22.7% (95%CI: 19.6-26.0%), 4.4% (95%CI: 3.4-5.8%), 14.2% (95%CI: 11.7-17.1%) and 9.2% (95%CI: 7.6-11.2%).
Conclusions
The pooled prevalence of colorectal adenocarcinoma of 1.9%. The prevalence of colorectal adenocarcinoma was markedly higher in patients with complicated diverticulitis than those with uncomplicated diverticulitis.

Presentations and aetiologies of acute colitis: a prospective cohort study I2

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Aims:
Our aims were to determine the aetiologies of acute colitis and to identify predicting factors for patients requiring endoscopy.
Methods:
All patients with CT-confirmed symptomatic colitis were included. Stools were analysed using FilmArray Gastrointestinal PCR (Biomérieux) and faecal calprotectin was measured. Patients with negative PCR underwent colonoscopy.
Results:
Seventy-seven patients were included from 11.2016 to 11.2017. FilmArray was positive in 45 patients (58.4%). Twenty-four of them (53.3%) were tested positive for Campylobacter spp, 13 (28.9%) for E. coli pathovars, 9 (20%) for Clostridium difficile, 4 (8.9%) for Salmonella spp, 3 (6.7%) for Shigella spp, 1 (2.2%) for Plesiomonas shigelloides and 3 (6.7%) for viruses. Thirty-six patients had negative routine PCR assay and underwent colonoscopy within 5.4±2.3 days. Colonoscopy revealed inflammatory chronic bowel disease (ICBD) in 3 patients and ischemic colitis in 6. Colonoscopy was normal or showed eosinophilic infiltration in 27 patients (35%). No adenocarcinoma was found. Calprotectin >10'000 mg/g was identified as a strong predictor of ICBD (OR 67, 95%CI: 4-1082).
Conclusion:
In conclusion, aetiologies of colitis were infectious in 60% of patients, ischaemic in 8%, ICBD in 4% and undetermined in 35%. A calprotectin value >10'000 mg/g allows targeting patients requiring endoscopy.

A propensity-adjusted cost and outcome comparison of per-oral endoscopic myotomy to laparoscopic Heller myotomy I3

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Background
Outcome comparisons of Per-oral endoscopic myotomy (POEM) to laparoscopic Heller myotomy (LHM) are ongoing, but often compare unmatched patient populations. The aim of the present study was to compare costs, perioperative and short-term outcomes between the two procedures after propensity score matching.

Methods
A prospective IRB approved database documented all patients undergoing LHM (since 2001) and POEM (since 2015).

Results
Thirteen pairs were matched. In the matched cohort, operative time (152±52min vs. 160±12min, p=0.7) and myotomy length (7.2±2cm vs. 7.5±1cm, p=0.7) were comparable between POEM and LHM, while POEM was associated with a reduced hospital stay (1.3±0.5days vs. 2±0.7days, p=0.01). Median Eckardt scores improved significantly after POEM (4 to 1) and LHM (5 to 1). Normalized costs were comparable but showed an increased variability for POEM (POEM: 15834 (12776- 21754) USD vs. LHM: 16504 (14957-17606) USD, p=0.7)

Conclusions
After adjusting for preoperative variables, POEM demonstrates shorter hospital stay and comparable clinical outcomes and costs to LHM. The increased cost variability might indicate that cost efficiency can potentially be improved with POEM.

Title: I4

Endoluminal vacuum-assisted therapy in iatrogenic perforation of a Zenker-diverticulum. A case-report.

Authors:

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Abstract:

Iatrogenic perforation after upper gastrointestinal endoscopy is a serious adverse event with high rates of morbidity and mortality. Over the past decade, endoluminal vacuum-assisted therapy (EVT) has been established especially in the treatment of leakage after upper gastrointestinal surgery but also in iatrogenic or ischemic perforation of the esophagus. We report a case of iatrogenic perforation of a Zenker-diverticulum during endoscopic retrograde cholangiopancreaticography (ERCP) with resulting mediastinitis in a 95 year-old woman, who showed complete healing after thoracoscopic lavage and drainage as well as only three endovacuum treatments with sponge position in the perforated lumen for three days each.

Surprising haemorroidectomy : Case report

I5

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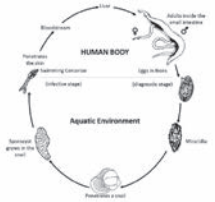
Background

Schistosoma Mansoni (***SM***) is a fairly common disease in Subtropical Africa and in the Middle East. However it is unknown in Europe and it has not been reported for haemorrhoid cases. Nevertheless, it is secondary to the actual migration phenomena but therefore possibly can be intensified by the lack of hygiene facilities during refugee migration.

Results

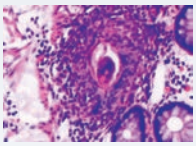
SM parasite, a digenetic blood-dwelling fluke of the flatworm variety, possessing a definitive mammalian host and an intermediate snail host. ***SM*** adult worms are found in pairs in the mesenteric vessels, where they lay their eggs. Ovaries penetrate the intestinal wall in which they shed, following their host in faeces. Upon contact with fresh water, the eggs hatch and release miracidia which then after infects the appropriate snail host, multiplying asexually into cercarial larvae. After the penetration of human skin, the cercarial larvae transforms into a ***SM*** and undergoes its development in the portal vein. Mature female and male worms mate and inhabit the mesenteric venules. Female worms release eggs, which pass through the intestinal wall to reach faeces and then renew the cycle.



Methods

We report the case of a 45 year old Eritrean woman, refugee in Switzerland after 2 years, with a 5 year history of anal bleeding and pruritus. Abdominal examination was irrelevant. Stage IV haemorrhoidal disease was diagnosed by coloscopy and Milligan-Morgan's haemorrhoidectomy was performed. Post-operative follow-up was uneventful (inevitable).

Pathology reported ***SM*** parasites phagocyted by giant cells within 3 haemorrhoidal cushions and no signs of malignacy.



Screening of SM parasites was positive in faeces examination and a treatment of Prazyquantel 600 mg/day/dose was administrated.

Conclusions

As we know, ***SM*** is retained in the recto-anal mucosa/sub-mucosa inciting a severe inflammatory reaction with infiltration and granuloma formation (ulcers, abscess, polypes, cancer) within the severe haemorrhoidal disease. Diagnosis usually is a matter of an incidental finding.

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Endoscopic rescue procedures in patients with biliary complications and altered anatomy after bariatric surgery

I6

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Introduction

After bariatric surgery, the incidence of pancreaticobiliary diseases is increased. Patients with altered anatomy and biliary stones are challenging to manage. The aim of this study was to analyze safety and efficacy of various endoscopic approaches for treating biliary diseases in post-bariatric surgery patients in our center.

Methods

A retrospective review was completed to identify patients with Roux-en-Y gastric bypass or Sleeve gastrectomy who underwent an endoscopic biliary intervention at a reference center for bariatric surgery from 2013 to 2018. Laparoscopic-assisted endoscopic retrograde cholangiography (LA-ERC), endoscopic ultrasound (EUS) guided i) transgastric ERC via temporary gastro-gastrostomy (EDGE) and ii) hepaticogastrostomy (HGS) were reported. Data regarding cannulation of the common bile duct (procedure success), type of procedure, indication, 30 day- complication rate/type and length of stay were extracted.

Results

A total of 16 patients (median age, 48.5; 80% women) were included. Indications for LA-ERC and EDGE were mostly choledocholithiasis (80%). Eight patients underwent concomitant cholecystectomy combined with LA- ERC. Procedure success was achieved in 100%. Post interventional complications were 18.7% (all ERC related). These were classified as moderate (two post ERCP pancreatitis and one cholangitis).

Conclusion

Our single center study indicates that the different endoscopic techniques LA-ERC, EDGE and EUS-HGS are feasible and safe with a high procedure success rate in patients with biliary complications after bariatric surgery.

The numbers refer to the pages of this supplement.