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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

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

Christiane Sokollik, Alex Straumannni, Michela Tempia3, Noam Zevitt, Saskia Vande Velden, ESPGHAN EGID Group

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2 Swiss EoE Clinic University Hospital Zuerich, Zuerich
3 University Children’s Hospital, University of Geneva
4 Schneider Children’s Medical Center, Petach-Tikva, Israel
5 Ghent University Hospital, Ghent, Belgium

Abstract: 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 than 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 than 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 national guidelines, but still would find international 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.

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

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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 were retrospectively 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 33%), 25% had an intervention (4 TIPS, 1 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 x10^9/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.

A Gut Microbial Mimic that Hijacks Diabetogenic Autoreactivity to Suppress Collitis.

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5 Surgery, UVC, DBMR

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 autoimmune. Recently, we identified, for the first time, a microbe-mimic that acts as a molecular mimic of a diabetogenic autoantigen and drives protection against colitis 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 IGRP206-214 homologous sequence found in transposable integrase/tyrosine recombinase proteins, called integrase. Results: Integrase protein is encoded by Bacteroides species present in the gut microbiota of rodents and humans. Mice harbored higher numbers of effectors and central memory diabetogenic CD4+ T cells acquired in 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 cytolytic 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.
Maternal microbiota drives B cell development in the fetal liver

Gomez de Agüero, Mercedes; Galan-Vonarburg, Stephanie C.; Wenning, Anna; Zimmermann, Jakob & Macpherson, Andrew. J.

Background: Maternal embroyonic 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. 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 axotrophic 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 antibiotics. However, possibly maternal 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 hematopoetic function.


Gut-vascular barrier in liver cirrhosis: Entry site for bacterial translocation from the gut to the liver independent from portal hypertension and lymphatic route. M. Sormbas1, I. Spadoni2, M. Rescigno2, R. Wies1 Department Biomedical Research, University of Bern, Dept. of Experimental Oncology, Milan, Italy

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) has, however, not been delineated. Results: Intestinal-loop-experiments in bile-duct-ligated (BDL) and CCI4-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 CCI4-mice but not in PVL-mice. Under standardized gnotobiotic conditions BDL and CCI4- 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.
Clinical Outcomes of Laparoscopic Major Hepatectomy – A First Case Match Analysis Two Years after Introduction
Franziska Heid, Severin Gloor, Stefan Breitenstein, Erik Schadde
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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 II-IV), 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(0/200-900) cc vs. 400(200-900), p=0.44), ILLA 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 expected to type II error, it appears safe to continue with major LAPHs.

Outcomes of 84 consecutive transanal total mesorectal excisions for low rectal cancer
Severin Gloor, Rebekka Troller, Felix Grieder, Hans Gelpke, Stefan Breitenstein, Michel Adamina
Department of Visceral and Thoracic Surgery, Cantonal Hospital of Winterthur, Winterthur, Switzerland.

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/m² (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). 32 patients had histologically negative nodes (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-IV), including an ileostomy in 21 patients. Performing taTME 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.

Outcome of revisional bariatric surgery for insufficient weight loss after laparoscopic Roux-en-Y Gastric Bypass
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1 Department of Surgery, St. Claraspital, Basel, Switzerland
2 Interdisciplinary Center of Nutritional and Metabolic Diseases, St. Claraspital, Basel, Switzerland
3 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 follow-up of one year were excluded. Patients with insufficient weight loss and signs of dumping syndrome and lacking follow-up of one year were included. Patients with insufficient weight loss and signs of dumping syndrome and lacking follow-up of one year were included. Patients with insufficient weight loss and signs of dumping syndrome and lacking follow-up of one year were included.

Results: The dVSSC-group showed a significant reduction of mental stress load of the surgeon compared to SILC (SMEQ: median 5.0 vs. 4.5 points; p=0.002) and a trend toward reduced physical stress load (LED: median 8 vs. 12 points; p=0.086). 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.

Clinical trials.gov trial-no: NCT02485392.
Evaluation of High-Resolution Anoscopy as a Screening Tool for Anal Intraepithelial Neoplasia (AIN): A Comparison to the Gold Standard Anal Mapping Biopsies

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1 Department of Gastroenterology, Cantonal Hospital St. Gallen
2 Department of Visceral Surgery, Cantonal Hospital St. Gallen
3 Institute of Pathology, Cantonal Hospital St. Gallen

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 descriptive statistics 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 men, 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 56 additional fields were detected by AMB (+12%). 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 96.6%, 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 12%, therefore sensitivity can be improved with AMB. Possibly the repeatedly observed high recurrence rate after AIN therapy is not only caused by overlooked lesions but 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

Authors: F Bravo (2), J Macpherson (1), P Andrew (2), E Slack (2), N Patuto (1) (2), J Cahenfield (2), K.D. McCoy (2), A.J. Macpherson (1,2), P Jullerat (1,2) (1) University Bern, Maurice E Müller Laboratories, Universitätsklinik für Viszeral Chirurgie und Medizin, Inselspital, Bern, Switzerland, (2) Clinic for Visceral Surgery and Medicine, Gastroenterology, Bern, Switzerland

Background: The mechanism of loss of response of anti-tumor necrosis factor alpha (TNFalpha) 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-TNF alpha 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 17% 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 TNFalpha (CD62L shedding) provides an independent long-term (3-5 year) 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

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1 Service of Gastroenterology, CHUV 2 Crohns and Colitis Center 3 Lausanne University 4 Service of Immunology, CHUV 5 IUMSP, Lausanne, Switzerland

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

L. Spahr, N. Goossens, C. Onespel, L. Rubbia-Brandt, E. Giastra. 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 (and uncorrected) alcohol intake (>150g/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 ± SD, Wilcoxon/Fisher exact test.

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<th>ASH (n=20)</th>
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<tr>
<td>MELD score</td>
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<td>21.3 ± 1.27</td>
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<td>HVPG (mmHg)</td>
<td>11.1 ± 1.7</td>
<td>17.3 ± 0.7</td>
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<td>ALT (UI/L)</td>
<td>73.2 ± 16</td>
<td>39 ± 3.9</td>
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<td>GGT (UI/L)</td>
<td>1507 ± 840</td>
<td>405 ± 111</td>
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<td>Triglycerides (mEq/l)</td>
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<td>Cholesterol (mEq/l)</td>
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<td>Infection(1),cardiac(1),renal(1)</td>
<td>NS</td>
</tr>
<tr>
<td>OH relapse</td>
<td>2/20 (10%)</td>
<td>2/20 (10%)</td>
<td>NS</td>
</tr>
<tr>
<td>Delta-MELD</td>
<td>-5</td>
<td>-5</td>
<td>NS</td>
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In the MStea group, 5 patients had extensive liver fibrosis and 5 no of focal lesions. Severity of steatosis on biopsy ranged from 50% to 90%. Hemolytic anemia was an excellent marker but not observed. All patients received supportive care, parenteral 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)
Results: In 2015, the estimated viremic prevalence in St. Gallen was 0.5% (0.5% to 0.6%) corresponding to 2,800 (2,600 - 3,100) cases. In Geneva and Zurich, the estimated prevalence was slightly higher, with an estimated 0.6% (0.6% to 0.7%) viremic prevalence, or 3,300 (3,000 to 3,600) cases and 0.7% (0.7% to 0.8%) viremic prevalence, or 10,800 (9,900 - 11,900) infections, respectively.

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

Martin Geyer1, Dominik Leiner2 1Gastroenterologie Wettingen, Switzerland, 2Ludwig-Maximilians University Munich, Germany

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 efficacy 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 t10 (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 (ACP) 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 should significant shorten endoscopy times, Endocuff even significantly less medication for sedation.

Fecal microbiota transplantation in Lausanne

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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 in 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.

Colitis increased GPR35 expression by CX3CR1+ macrophages

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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-ttdTomato 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-ttdTomato mice. As Ly6C+ 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 lysosphosphatic acid (LPA) are able to activate the G-protein coupled receptor signaling cascade in GPR35-transfected macrophages. 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. Immflammation leads to increased expression of both proteins.

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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 etiologies of obstructive jaundice were pancreatic neoplasia, hepatic metastasis and cholangio-carcinoma (respectively 44%, 39% and 11% of cases). 67% of ERPCP 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 (sten-t migration) and 3 delayed complications (sten-t 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.

Organoid Models of Human Liver Cancers Derived from Tumor Needle Biopsies

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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 transcriptomic 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.
O29

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

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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 normal or near-normal HVPG. In contrast to portal hypertension in liver cirrhosis with varicocelestraction 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 (μAngioFix®) and scanned by high-resolution micro-computed tomography (microCT). MicroCT-based 3D reconstruction was then generated to analyze the complete portal vein tree. Furthermore, stereology and functional analysis (in vivo) 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 and thorough 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.

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Opioid intake is associated with disorders of esophago-gastric junction

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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 107 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 esophageal-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=44; 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 release, 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

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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 challenges1. We hypothesise 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’). 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 γδ 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.


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

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Introduction: Immune checkpoint inhibitors (ICI) 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 ICI 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 ICI 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 colonscopy. 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: ICI-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 more than one year of therapy. The clinical course is usually mild to moderate and treatment with steroids is mostly sufficient.

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Suppression of D-Lactic acidosis crisis via administration of probiotics

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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 days 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.
EUS-guided pancreaticogastrostomy and transgastric peroral pancreatoscopy (iPOP) 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 30% 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 prepyloric 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 pancreaticogastrostomy was performed inserting a 7F transgastroduodenal stent into the PD. Six weeks later, the access was dilated to allow placement of a 10F plastic stent. Two months later, a biopsy 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 prepyloric 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, iPOP combined with EHL is a viable option to clear PD stones if they cannot be reached by ERP.

Endoscopic sleeve gastropathy (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 morbidity obese patients. We report our first clinical experience with endoscopic sleeve gastropasty (Aspiration method with 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/m²) were treated with ESG in November 2017. At 1, 3 respectively 6 months mean BMI was 31 ± 2 kg/m² (EBMIL 2.5 ± 1.5), 30.6 ± 2.4 kg/m² (EBMIL 3.2 ± 1.3) and 29.9 ± 3.1 kg/m² (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.

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/m²) 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 0,5cm² to 9cm² and were connected to large (max. 225cm²) 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, 7-88). 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.

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.
**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.

**EUS-guided pancreaticogastrostomy with subsequent transgastric peroral pancreatoscopy (iPOP) 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 (iPOP) 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 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 (iPOP). 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 iPOP with guided biopsies, wire manipulation and stenotic dilation, but offers also the potential for electrolydraulic lithotripsy (EHL) given the large access route and stable scope position.

**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 to 10mm. 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.

**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 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. Three CD patients from each group of responder and non-responder were subjected to Nematic protein Organization technique (NPOT) 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 interactor 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 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

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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). MiRNA test in stools (Quigen 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: MiRNA 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 miRNA 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.
**Case Report: Endoscopic submucosal resection (ESR) using partially insulated cutting devices – the Flat Adenoma Resection Instruments (FARIn)**

**Stefan Diem**, Sandra Hürlimann, Guenter Farin, Patrick Aepli

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2 Department for Pathology, Luzerner Kantonsspital, Lucerne, Switzerland
3 FARIn Research, Tübingen, Germany

**Background:** Endoscopic submucosal resection of colorectal polyps (ESR) or EMR (endoscopic mucosal resection) is a well-established procedure for the treatment of colorectal lesions. In phase 1, 3 expert endoscopists utilised colour, pit and vessel pattern to characterise neoplastic and non-neoplastic Barrett's. Phase 2 involved the inter-tertiary validation of these criteria by experienced endoscopists using 50 real-life endoscopists identified descriptive component criteria pertaining to neoplastic and non-neoplastic Barrett's. The aim of our study was to develop and validate a classification to identify Barrett's neoplasia using BLI.

**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, gelosulfine and small amount of methylcellulose circumferential incision was safely performed using the FARIn Type U, a rhomboid-shaped device with 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 successful. The entire procedure was done in 15 minutes without any complications. The histopathological examination showed an adenoma with low grade dysplasia and an adenoma with low-grade dysplasia and low-grade dysplasia. The specimen was required for histological 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.

**Conclusion:** ESR using FARIn allows en bloc resection of large (> 30 mm), sessile polyps with adherent submucosal layer (up to 200μm), which meets the specimen requirements for histological 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.

**Posters**

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

**Authors:** Stefanie Hoefkohl, ImmunoRegister gUG, Hamburg, Germany and Thomas Ochsner, Integrated Clinical, Gastroenterology, Munich, Germany

**Background:** Inflammatory bowel disease (IBD) is diagnosed in approximately 35000 patients in Germany with increasing incidence and prevalence. Although endoscopic resection has been shown to irreversibly 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 registry (GEURIN) to morphologically collect real life data of IBD patients with regard to the usefulness and comparability of immunomodulatory strategies.

**Methods:** GEURIN is a web-based, descriptive registry of large tertiary IBD centers throughout Germany, using time sparring 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 6.6% and IL-12/23 blockers in 5.6%. 31% 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 every 2 weeks, 38.4% at least 80mg every 4 weeks. In UC, biologics were used in 59.0% of patients, of those anti-integrins in 12.0%. 24.4% of patients with TNF-blockers were treated for more 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 every 2 weeks, and 37.9% at least 80mg every 4 weeks.

**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 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 in CD and in adalimumab more than in infliximab. Our registry can serve as data base for a wide range of efficacy, safety and economy issues in IBD patients.

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

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

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2 Department for Internal Medicine, Luzerner Kantonsspital, Lucerne
3 Department for Radiology, Luzerner Kantonsspital, Lucerne

**Background:** Patients presenting with signs of fulminating upper gastrointestinal haemorrhage usually undergo endoscopy after hemodynamic stabilisation. Peptic ulcers and esophageal varices are frequent endoscopic findings in such situations. Very rare, gastroadrenal artery aneurysms can be found as a bleeding cause by angiography and treated by endovascular coil 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 performed to eventually 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 gastroadrenal artery aneurysm as the suspected cause of bleeding. Endovascular coiling was performed following a further gastroadrenal haemorrhage during current hospitalisation. After treatment, no signs of gastrointestinal bleeding were observed and the patient was discharged.

**Conclusion:** In patients suffering with upper gastrointestinal bleeding of unknown origin with bland endoscopy and a history of chronic pancreatitis, gastroadrenal artery aneurysms should be considered and sought by CT angiography.
Blue Light Imaging For The Optical Diagnosis Of Small Colorectal Polyps: The Impact Of A Training Intervention
Sharmila Subramaniam1, Patrick Aepli2, Bu Hayee3, Erik Schoon3, Milan Stefanovic4, Pradeep Bhandari1
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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).

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<thead>
<tr>
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<th>Pre-training</th>
<th>Post-training</th>
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<tr>
<td>Sensitivity (95% CI)</td>
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This improvement was mirrored in both expert and non-expert groups where sensitivity reached 97.4% (experts) and 93.3% (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 OBESEITY
Dr. Norman Godin, Private Practice, Geneva, Switzerland.

Objective: Determine if a new medical device called the GARD™ for Gastroesophageal 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 refluxative GERD with short term placement and at a second stage treat a volunteer patient who had very severe reflux (63% of the time with a pH under 4) with 0% of the time under pH 4.

Methods: The pigs gained weight normally and removal at endoscopy was easy. In 8 pigs for 7 days and bolus tuning 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 have reflux.

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

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Conclusion: The pigs weighed 80% of their body weight at sacrifice and the human volunteer weighed 95% of his body weight at the end of the study. There was a significant improvement in sensitivity and NPV of adenoma detection (see table above, p < 0.05).

G13 EUS-guided hepatocarcinogastroscopy across a hilar stenosis in a patient with locally advanced gallbladder cancer and failed internal drainage of a right-sided PTBD
Hans Enzbiân, Andrew Macpherson, Johannes Maubach, Mathias Worni
Department of Visceral Surgery and Medicine, University Clinic of Bern, Inselspital, Bern

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 impair 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 biliary system. Given the unstable intrahepatic position of the PTBD, an EUS-guided transgastric hepatocarcinogastroscopy (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 dissolution 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 trans hilar 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.

G14 Therapeutic goals of adult patients with eosinophilic esophagitis
Lukas Baltigier1, David Hafner2, Claudia Kuehn1, Marcel Zwahlen1, Sven Trelle2, Alex Straumann3, Alain Schoepfer1
1 Department of Gastroenterology, Portsmouth Hospitals NHS Trust, Portsmouth, United Kingdom; 2 Gastroenterology, King's College Hospital, London, United Kingdom; 3 USZ, Zurich.

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Conclusion: This is the first report that sheds light on adult EsOe 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

David Hafner1, Claudia Kuehn1, Marcel Zawahlen1, Alex Straumann2, Alain Schoepfer2, Ekaterina Safroneva1.

Affiliations: 1 ISPM, Bern; 2 USZ, Zurich; 3 CHUV, Lausanne.

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 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% were female, 73%, and 16% 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.

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

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Affiliations: 1 ISPM, Bern; 2 USZ, Zurich; 3 CHUV, Lausanne.

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 remodelling or both.

Methods: We evaluated the relationship of endoscopic activity (graded according to EREFS) and symptoms (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 (p<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 eosinophils (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 (35 [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/mm2 [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.

G18

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

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Department of Visceral Surgery and Medicine.
University Clinic of Bern, Inselspital, Bern

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-jejunoanostomy 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 gastrojejunoanostomy 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 colic.

Conclusion: EUS-guided gastrojejunoanostomy 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.
**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 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 through an EUS-HGS with placement of a fully covered self-expanding metal stent.

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 strictureed 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.

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**How Lymphogranuloma venereum venereum inflammatory bowel disease – a case report**

Miriam Flückiger1, Vasileios Oikonomou1, Ioannis Lina1, Matthias Dettmer2, Heather Dawson3, Andrew J Macpherson1

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2 Institute of Pathology, University of Bern

**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/ml) 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 endonoscopy found multiple hypoechochogenic 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 (HSV, 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 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.

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**Gut microbial changes in Swiss IBD Cohort patients with disease severity**

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**Introduction:** The gut microbiota 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 QIMME 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, E. coli, E. aerogenes, 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.

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**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.**

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1 Gastroenterology Unit, Luzerner Kantonsspital, Lucerne
2 Obesity center, Luzerner Kantonsspital, Lucerne
3 Endocrinology Unit, Luzerner Kantonsspital, Lucerne

**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
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1 Gastroenterology Unit, Luzerner Kantonsspital, Lucerne
2 Department of Pathology, Luzerner Kantonsspital, Lucerne
3 Department of Radiology, Luzerner Kantonsspital, Lucerne

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 Methods: 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. 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).

Uptake of branched-chain amino acids by CX3CR1+ macrophages supports the development of colitis
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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. DDS 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. 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
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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 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 naive 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 IFNy by Nlrp6-deficient Th1 cells is reduced compared to wt T cells, which is independent of inflammasome assembly, because a difference in IFNy production was not observed in Asc-deficient T cells. Nlrp6-deficient T cells with reduced IFNy 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 CD45RBb+ 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

Authors/Affiliations
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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, VHD Lerner grade 0). No evidence for a infectious cause was observed. After initial treatment with buvedonide and metronidazole/ciprofloxacin 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 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

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Background: Collitis 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 man 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 interdisciplinarily. 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 (IMHV). An IMHV 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 IMHV.

Conclusion: IMHV 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 ileocolonic resection despite higher total and inpatient health care costs compared to controls without resection

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Background: Postoperative recurrence is frequently observed after ileocolonic 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 ileocolonic 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 ileocolonic 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=0.011), 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 vs. resection (47.6% vs. 22.1%, p=0.015). Total and inpatient health care costs were higher in these patients.

Conclusion: Endoscopies are underused after ileocolonic 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

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

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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 hepatojejunostomy. 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 bile 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.

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

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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.

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Conclusion: EUS-guided transhepatic bile 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.

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

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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 prepyloric 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 dilatation 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.

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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 to 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 85% 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 corticosteroids treatment 40% could undergo colonooscopy 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.

Efficacy of Vedolizumab (VDZ) by Disease Localisation in Crohn’s Disease: a Post hoc analysis

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Background: In CD, disease progress 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 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 (42/461), 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)

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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 (≥70 point reduction in 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: 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

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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 13C-labelled live non-replicating Escherichia coli, differentiating 12C and 13C isotopes with high-resolution mass spectrometry. Hundreds of microbial compounds penetrated 23 host tissues and fluids after intestinal exposure: subsequent 12C host metabolome signatures included lipemia, 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 neutralised 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.
Epidemiology of iron deficiency anemia within the Swiss IBD Cohort and effects 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 vs intravenous) in IBD patients and evaluate its impact on reported outcomes (PROs) such as SF-36, EQ5D and HAUS scores within the Swiss IBD cohort. Methods: From 2012 to 2016, prospectively collected data from all IBD patients (CD and ulcerative colitis (UC)) included in the cohort were analyzed to estimate anemia prevalence and impact of iron treatment on PROs. 1612 patients of 53 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) (20-43%) 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 SASA and increased over the years whereas rates remained stable for those on anti-TNFs agents and immunomodulators. No differences in patients with IDA did not receive IV 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 PROs score changes in IBD patients according to their type iron therapy compared to make IBD patients, with iron supplementation, without surgery, bowel behavior pattern (e.g. BI for Crohn), without anti-TNFs or immunomodulation (as reference).

<table>
<thead>
<tr>
<th></th>
<th>SF-36 physical summary score</th>
<th>SF-36 mental summary score</th>
<th>EQ5D score</th>
<th>HAUS total score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>50.2 (15.8)</td>
<td>44.9 (12.3)</td>
<td>0.79−0.83</td>
<td>4.63±3.80</td>
</tr>
<tr>
<td>IV iron</td>
<td>4.12 ±1.3 ±</td>
<td>4.45 ±1.2 ±</td>
<td>0.79 −0.83</td>
<td>4.63±3.80</td>
</tr>
<tr>
<td>UC iron</td>
<td>3.19 (0.3)</td>
<td>2.57 (0.3)</td>
<td>0.79−0.83</td>
<td>4.63±3.80</td>
</tr>
</tbody>
</table>

Gender (men <women 1.65); p=0.001

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, under treatment) whereas IV supplementation rather affects UC patients.

Endoscopic ultrasound 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-pancreatic drainage is failure or unavailable, endoscopic ultrasound (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 1013 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.

Amyloidosis - Diagnosis by Full-thickness Resection Device (FTRD)

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Background: Familial amyloid proteins affect the gastrointestinal tract during amyloidosis. For histological diagnosis vesicles 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, 20-81 years, m = 11, w = 7) with suspicion of Amyloidosis performed a rectal full-thickness excision using FTRD. All 18 patients underwent endoscopy with slight sedation. The rectal full-thickness excision was performed in the upper third of the rectum between 12 and 16 cm from anus. All FTRD applications were performed by the same investigator.

Results: In all 18 patients a successful FTRD application with rectal full-thickness excision was achieved. No endoscopic examination lasted longer than 30 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 16 of the 18 patients (m = 9, w = 5), amyloid deposits were found in small vesicles within the laminae muscularis propria 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.

Interventional endoscopic therapy with gastrodudenostomy (GDE) instead of surgical gastrodudenostomy (GSD)

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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 GDE is associated with high morbidity and, in particular, GE's functionality is sometimes unsatisfactory. We report a patient with adenocarcinoma of the stomach of the intestinal type with tumor disease and limited prognosis. But it also seems to be a low-complication, effective long-term treatment option.

Results: A 55-year-old patient was referred for further diagnostics and therapy. A diagnosis of a distal gastric carcinoma of the intestinal type was made. After a discussion with the patient it was decided to perform an endoscopic intervention using a LAMS to create a gastrojejunal anastomosis. The attachment of the LAMS and the esophagus stent were technically and clinically successful. The anastomosis was made without any significant complications. The patient was 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 16 of the 18 patients (m = 9, w = 5), amyloid deposits were found in small vesicles within the laminae muscularis propria in the submucosa.

Conclusions: The endoscopic treatment by GDE 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.
A 29-year-old woman with ulcerative colitis, diagnosed July 2017, Montreal 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 ulcero-sa (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 30 mg/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 vedoluzumab 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 vedoluzumab monotherapy.

Background: Scattered 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 scattered polyps arising from previous endoscopic resection attempts.

Methods: This was a prospective pilot study (conducted at two centers) of patients with scattered 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 and 9 patients (47.4%) achieved 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.
Time to Viral Suppression does not Impact SVR in Patients Treated with Glecaprevir/Pibrentasvir for 8 Weeks

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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, 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 detectable HCV RNA at treatment wk 4 was predictive of relapse. Results: The analysis included 950 PTS; 63 (7%) had BL, 17 (1%) had BL, and 30 (3%) had baseline HCV RNA >50 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, 906/906 (99%; 95% CI 98.0–100.0) achieved SVR12. Conversely, PTS treated with HCV RNA by treatment wk 4 was not predictive of treatment outcome, suggesting that treatment extension in PTS eligible for 8-wk regime is not based on this milestone.

H2 Changes in health-related quality of life (HRQL) in alcoholic hepatitis (AH) and relationship with liver related parameters and psychiatric comorbidities

Improve was defined as VAS ≥ 90 at FU. Results: Twelve patients (26%) had alcohol-related psychiatric disorder and 22 (49%) had alcohol-related 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-SD (global + health states) Baseline Follow-up p value

VAS
57.5 ± 2.2 68 ± 2.5 0.0003

Mobility
4.4 ± 1.0 5.0 ± 1.0 0.0003

Self-care
1.25 ± 0.08 1.13 ± 0.05 0.53

Discomfort/Pain
1.34 ± 0.07 1.55 ± 0.08 0.06

H5 Post-Treatment Fibrosis Regresses After SVR: Analysis From the Gilead SVR Registry

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Background: HCV infected patients with F0-F1 fibrosis experienced minimal liver-related mortality and morbidity 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 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 achieved F2 or F3 Fibrosis prior to DAA treatment as measured by FibroTest (0.32–0.68 or 0.69–7.2, 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 (TB), albumin (ALB), prothrombin time (PT), and platelets (PLT) occurred at each visit.

Results: A total of 1489 and 887 patients with F2 and F3 fibrosis were enrolled, with median (range) region follow up times of 1.9 (0.3–3.3) and 1.8 (0.3–7.2) years, respectively. Of these, 57% and 72% were male and the mean (range) ages were 59 (15–80) 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 A). At Week 144, 1 (0.1%) patient with F2 fibrosis had evidence of various reported 1 (0.3%) patient with F3 fibrosis had evidence of F2 fibrosis. Mean week 144 ALT, AST, ALB, ALT, and PLT were below 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 liver-related death during follow up, but all of these patients had clear virologic evidence for reinfection by sequencing. Conclusions: In HCV-infected patients with F2-3 fibrosis treated 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 related events following SVR.
Safety and Efficacy at 1 Year after Switching from Tenofivir to Tenofovir Alafenamide Fumarate: A 24-Week, Phase 2B, Efficacy Study in Chronic Hepatitis B Patients with Risk Factors for TDF Use

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A novel large heterogeneous ABCB4 deletion is associated with severe cholestatic liver disease.

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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 RUDC3D 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 with 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 RUDC3D. 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 ABCB4 with severe cholestatic may be missed by routine genetic testing, the diagnosis having relevant clinical implications.

Quality assessment of information on bariatric surgery websites

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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 content is unknown, 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 99th percentile EQIP-score.

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.

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

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A diagnosis of PBC/AIH/PSC overlap was made.

We describe a patient with classical PBC who during the th percentile were analyzed separately (n=8).

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 and interface hepatitis, he had elevated IgG and IgM levels, and positive ANA with homogeneous pattern on HEp2 cells.

Methods: In two identically-designed Phase 3 studies, HBeAg-positive and HBeAg-negative patients were randomized 2:1 to TAF 25 mg OD or TDF 300 mg OD 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 every 24 weeks and serum bone biomarkers) safety parameters, and antiviral efficacy (HBV DNA <20 IU/mL and ALT normalization) were assessed in the subset of switch patients with baseline risk factors for TDF use: Age >50 years, osteoporosis of hip or spine, (stage 2 chronic kidney disease (CKD; eGFRCG <90 mL/min), albuminuria (urine albumin to creatinine ratio [AUCR] >30 mg/g), hyperhomostress (PO4 <2.5 mg/dL), or presence of comorbidities (e.g. HTN, DM).

Results: Of 1292 patients randomized and treated in the 2 studies, 340 (22%) switched to open-label TAF 25 mg OD, 360 to TDF 300 mg OD and 284 (33%) 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. Improvements in renal function were also seen in hip and spine SMI 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 <20 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 in TAF versus TDF patients with baseline TDF risk factors.

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.

Quality assessment of information on bariatric surgery websites

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1Department of Abdominal Surgery, University Hospital of Zurich, Zurich, Switzerland; 2Medical faculty, University of Zurich, Zurich, Switzerland.

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A diagnosis of PBC/AIH/PSC overlap was made.

We describe a patient with classical PBC who during the th percentile were analyzed separately (n=8).

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 severe osteoporosis.

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.
EUS-guided Hepaticejunostomy with transjejunal peroral cholangioscopy (iPOCS) and electro-hydraulic therapy (EHL) in a patient with complicated choleclochothiathsis 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 (EUS) through the stent. A three centimeter biliary stone was fragmented by prolonged EHL. A second stone was found in the preapillary 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: Transectent 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, iPPOCS appears less traumatic, but long-term data are definitely needed.

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 anocutaneous was 9.2 ± 2.5cm. Severe complications (Clavien-Dindo III or IV) occurred in 7 patients (15.2%), 3 of them had an anastomotic leak (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.

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 a 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.

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

Christopher Soli, Felix Grieder, Erik Schadde, Stefan Breitenstein

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

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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 colorectal liver metastases over 10 years in a single center is reflected in an increased Fong-score and results in decreased recurrence-free survival with equivalent overall survival.

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

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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.

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Conclusion: Expansion of resection criteria for colorectal liver metastases over 10 years in a single center is reflected in an increased Fong-score and results in decreased recurrence-free survival with equivalent overall survival.

Robotically assisted single-site laparoscopic resection for recurrent diverticulitis: a novel approach

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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

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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 2\textsuperscript{nd} 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\textsuperscript{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

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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 (Biomerieux) 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±2.3 days. Colonoscopy revealed inflammatory chronic bowel disease (ICBD) in 3 patients and ischimic 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: 4-4'062).

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

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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: Thirty-three pairs were matched. The matched cohort, operative time (152±52min vs. 160±12min, p=0.7) and myotomy length (7.2±2cm vs. 7.6±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±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.

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

Authors: Ansgar Deibel1, Simon Bültikofer1, Bernhard Morell1, Diana Vetter2, Christian Gutschow2, Christoph Gubler1

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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 cholangiopancreatography (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

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Background

Schistosoma mansoni (SM) is a fairly common disease in Subtropical Africa and 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, possesses a definitive mammalian host and an intermediate snail host. After hatching in fresh water, the eggs hatch and release miracidia which then infect the appropriate snail host. After the penetration of the intestinal wall in which they shed, following their host in faeces.

As we know, SM is retained in the recto-anal mucocutaneous area inciting a severe inflammatory reaction with infiltration and granuloma formation (ulcers, abscesses, polyps, cancer) within the severe haemorrhoidal disease. Diagnosis usually is a matter of an incidental finding.

Conclusions

Screening of SM parasites was positive in faeces examination and a treatment of Praziquantel 600 mg/kg/day was administered.

References


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

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(1) department of visceral surgery university hospital Bern (2) department of gastroenterology university hospital Bern

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) hepatocystoscopy (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 cholecystolithiasis (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.
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