swiss medical weekly

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www.smw.ch

Supplementum 281
ad Swiss Med Wkly 2024;154
September 9, 2024

Abstracts of the annual meeting
Swiss Society of Gastroenterology
Swiss Society of Visceral Surgery
Swiss Association for the Study of the Liver
Swiss Society of Endoscopy Nurses and Associates

Interlaken (Switzerland), September 12–13, 2024

SWISS SOCIETY OF GASTROENTEROLOGY (SGG-SSG)
SWISS SOCIETY OF VISCERAL SURGERY (SGVC-SSCV)
SWISS ASSOCIATION FOR THE STUDY OF THE LIVER (SASL)
SWISS SOCIETY OF ENDOSCOPY NURSES AND ASSOCIATES (SVEP-ASPE)

ABSTRACTS OF THE ANNUAL MEETING 2024

INTERLAKEN, SEPTEMBER 12–13, 2024

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IBD AND ORAL PRESENTATIONS IBD/EOE/GASTROENTEROLOGY

IBD-1

Symptomatic remission and IUS improvements in a multinational real-world cohort of UC patients treated with Upadacitinib – Results from the IBD-DACH study EUROPE

Sebastian Zeissig[1], Renate Schmelz[2], Ulf Helwig[3], Alexander R Moschen[4], Thomas Greuter[5], Imma Fischer[6], Leonie Hammer[7], Stefan Rath[7], Torsten Kucharzik[8], Christian Maaser[9]

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Background: While the efficacy of the oral, reversible and selective Janus kinase inhibitor Upadacitinib (UPA) in UC was established in clinical studies, real-world data remains scarce.

Methods: EUROPE is a prospective, non-interventional, multicountry study in patients with active UC who initiate therapy with UPA. Here, we report first results of 124 patients at baseline (BL), week 2 (2W) and week 8 (8W). For 75 patients, sonographic BL data was available.

Results: 85.5% of patients were bio-experienced (n = 106; n = 35 had ≥3 biologicals). Disease activity per paMayo score was 3.0 (2.0-5.0) points. After UPA induction, symptomatic remission rate (normal stool frequency and no rectal bleeding) improved from 16.9% (n = 21) at BL to 43.5% (n = 54) at 2W and to 64.5% (n = 80) at W8 (both p<0.001 vs. BL). Bowel wall thickness was reduced from a median of 5.0 mm (3.8-7.0) at BL to ≤3mm in more than half of all patients as early as 2W (n = 48; p <0.001). Of 156 patients included in the safety analysis, 23.7% (n = 37) experienced an adverse event which was mostly non-serious.

Conclusion: UPA treatment in UC was associated with early clinical and sonographic improvement, with most patients achieving symptomatic remission and/or normalization of BWT by week 8 of treatment.

IBD-2

Efficacy and safety of upadacitinib in patients with moderately to severely active Crohn's Disease: results from the U-ENDURE long-term extension

G. D'Haens[1], E. Louis[2], E. V. Loftus Jr.[3], M. Regueiro[4], V. Jairath[5], F. Magro[6,7], H. Nakase[8], E. Dubcenco[9], A. P. Lacerda[9], T. Feng[9], B. Duncan[9], T. Wang[9], S. Ford[9], S. I. Anyanwu[9], P. Juillerat[10,11,*], I. Blumenstein[12]

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Background: The U-ENDURE (NCT03345823) evaluates the long-term efficacy and safety of the oral Janus kinase inhibitor Upadacitinib (UPA) for maintenance therapy of moderately to severely active Crohn's disease (CD).

Methods: Patients (pts) completing the U-ENDURE 52-week (wk) maintenance study were eligible to participate in the long-term extension (LTE) and continue their assigned treatment (placebo [PBO, n = 89], UPA 15 mg [UPA15, n = 107] once daily [QD], or UPA 30 mg [UPA30, n = 173] QD). Safety was assessed in all pts (PBO [n = 223], UPA15 [n = 221], UPA30 [n = 229].

Results: Rates of clinical remission were stable through wk48 of the LTE. Endoscopic response (PBO 32.9%, UPA15 59.6%, UPA30 66.5%) and remission rates (PBO 27.8%, UPA15 42.4%, UPA30 47.3%) at LTE wk0 were sustained through wk48 with UPA while decreased with PBO. Severe adverse events (AEs) and serious AEs were lower with UPA treatment compared with PBO. The rates of most AEs of special interest were similar between UPA and PBO.

Conclusion: In CD pts treated for over 2 years with UPA, sustained efficacy in clinical and endoscopic endpoints with an overall positive safety profile was observed.

IBD-3

Population pharmacokinetic modelling of oral upadacitinib: a real-world prospective observational study

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Background: Upadacitinib (UPA) efficacy and safety could be improved by optimizing UPA exposure based on plasma concentrations coupled with a population pharmacokinetic (popPK) model. We aim to describe the typical PK profiles and characterize the variability, while identifying patient-related factors influencing UPA exposition.

Methods: Adult patients (>18 years) receiving UPA were enrolled in our study either for detailed PK investigation or for sparse sampling at unselected times after the last drug intake during routine follow-up. PopPK modelling and simulation were performed with NONMEM®.

Results: A total of 90 plasma concentrations of UPA were measured in 31 patients with rheumatological disorders (n = 13), Crohn's disease (n = 7), ulcerative colitis (n = 4), and other autoimmune disorders (n = 7). The detailed PK and the sparse sampling study included 7 and 24 patients. Subjects were predominantly female (69%), with a median age of 48 years (range: 19-87 years) and a median BMI of 26.6 Kg/m^2 (19.6-43.1 Kg/m^2). A one-compartment model with change-point absorption and linear elimination best described UPA data. Moderate variability was observed on clearance (38.5%), that significantly decreased of 35% in patients of 50kg compared to those of 70kg.

Conclusion: Our findings reveal an important role of BW on UPA PK in the patient population. Given the narrow therapeutic margin and high PK variability, therapeutic drug monitoring for UPA could address dose-dependent efficacy and safety issues.

IBD-4

Advanced Therapies, the best combinations in refractory IBD patients

Pascal Juillerat[1,2,3], Marianne Vuillèmoz[1], Giulia Santi[2], Maude Martinho Grueber[1,2] and Pierre Michetti[1,4]

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Background: The combination of two biologics or with a small molecule also called advanced combination therapy (ACT) for inflammatory bowel disease (IBD) has showed promising results in a phase II study as well as real world.

Methods: A chart review of Bern University hospital und Crohn and colitis center Beaulieu Lausanne, of IBD patients on ACT have been performed from September 2020 till December 2023.

Results: Among 25 identified IBD patients (48% women, 10 ulcerative colitis, 15 Crohn's disease) with extended and refractory luminal disease and/or constellation with extraintestinal manifestation, as indication, who received 28 advanced combination therapies between June 2020 and December 2023. They suffered from steroid-dependency or refractoriness and half of them were refractory or intolerant to at least two anti-TNF alpha agents. These treatments have been started after a median duration of disease of 5 years (range 1-31) for a mean period of combo treatment of 10 months (range 1-40). Most frequent advanced combotherapies were done with vedolizumab or ustekinumab combined with either JAK or TNF-alpha inhibitors. A partial or complete response was observed in 21/28 therapies (75%) with a mean decrease of CRP of 9,4 mg/l (range – 23 to + 59) and a median decrease of calprotectin of 871 mcg/g (range 0 – 4002; N = 8, skewed) among the responders. Concerning safety, 3 infections (ophtalmic zona, otitis media, skin mycosis), 1 non hodgkin Lymphoma and

8 minor adverse events (tumefaction left parotide, eczema, 2x lymphopenia, acnea, nausea and headaches) have been reported, mostly when small molecules have been involved. One patient had a successful pregnancy and delivery on ACT, combining adalimumab and ustekinumab.

Conclusions: ACT were mostly vedolizumab or ustekinumab combined with either JAK or TNF- alpha inhibitors in this cohort of severe refractory and steroid- dependent IBD patients. Ustekinumab seems of additional value, compared to vedolizumab, without an increased safety risk. Small molecules seem to increases the risk of lymphopenia, and minor infections. One cancer (non-Hodgkin lymphoma) has been reported with ustekinumab and tofacitinib, after a long previous exposure to adalimumab.

IBD-5

Mismatch in physician and patient perception of fecal urgency and incontinence in inflammatory bowel disease – the fecal urgency survey

Nadia Wespi[1]*, Stephan Vavricka[1]*, Stephan Brand[2], Patrick Aepli[3], Emanuel Burri[4], Benjamin Misselwitz[5], Frank Seibold[6], Petr Hruz[7], Laurent Peyrin-Biroulet[8], Alain Schoepfer[9], Luc Biedermann[1], Christiane Sokollik[5], Gerhard Rogler[1] and Thomas Greuter[1,9,10]

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Introduction: Although increasingly appreciated, little is known about the prevalence of fecal urgency, fecal incontinence and differences between patients' and physicians' perception in inflammatory bowel disease (IBD).

Methods: We performed an online patient and physician survey to evaluate assessment, prevalence and impact of fecal urgency and incontinence in IBD.

Results: A total of 593 patients (44.0% ulcerative colitis (UC), 53.5% Crohn's disease (CD), 2.2% indeterminate colitis, 2 not specified) completed the survey (65.8% females, mean age 47.1y). Fecal urgency was often reported (UC: 98.5%, CD: 96.2%) and was prevalent even during remission (UC: 65.9%, CD: 68.5%). Fecal urgency considerably impacted daily activities (VAS 5, IQR 3-8). Yet, 22.8% of patients have never talked about fecal urgency with their physicians. 44.7% of patients experienced fecal incontinence, 7.9% on a weekly basis. 20.4% of patients required diapers at least once a month. 29.7% of patients never talked with their physician about fecal incontinence. UC was an independent predictor for the presence of moderate-severe fecal urgency (OR 1.65, 95% CI 1.13-2.41) and fecal incontinence (OR 1.77, 95% CI 1.22-2.59). All physicians claimed to regularly inquire about fecal urgency and incontinence. However, the impact of these symptoms on daily activities was overestimated compared to the patient feedback (median VAS 8 vs 5, p = 0.0113, and 9 vs 5, p = 0.0187).

Conclusion: Fecal urgency and incontinence are burdensome symptoms in IBD, with a similar prevalence in UC and CD. A mismatch was found between the physician and patient perception. These symptoms should be addressed during outpatient visits.

IBD-6

Harnessing Intestinal ILC3s through the Aryl-Hydrocarbon- Receptor Target Gene Cyp2s1

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Background: Environmental triggers that drive IBD flares can be detoxified by cytochromes. Cytochrome P450 Cyp2s1 is highly expressed in the gastrointestinal tract and catalyzes the oxidation of endogenous substrates, including fatty acids, prostaglandins, and xenobiotics, such as dioxin.

Methods: We have developed new mouse lines that lack or overexpress Cyp2s1 in intestinal epithelial cells. This innovative method gives us the unique opportunity to investigate the influence of Cyp2s1 on the metabolome and colitis development.

Results: Transcript analysis revealed high expression of Cyp2s1 by epithelial cells. The treatment of colon-derived murine organoids and the Caco-2 cell line with the aryl hydrocarbon receptor (AhR) agonist, 6-Formylindolo[3,2-b]carbazole (FICZ) induced Cyp2s1 expression indicating that Cyp2s1 is an AhR

target gene. Germ-free mice with lower concentrations of AhR ligands showed reduced Cyp2s1 expression. Moreover, inflamed gut segments of IBD patients, murine colitis models, including DSS, CD40, TNBS colitis, and *C.rodentium* infection resulted in decreased Cyp2s1 expression. Consequently, the genetic ablation of Cyp2s1 in epithelial cells attenuated, whereas Cyp2s1 overexpression aggravated colitis. Attenuated colitis was due to increased IL22 frequency by ILC3s, which in turn were associated with reduced apoptosis.

Conclusions: Our initial findings underscore the pivotal role of epithelial Cyp2s1 at the interface between the epithelial barrier and the immune system in regulating colitis. This suggests that manipulating the activity of Cyp2s1 and/or its signaling pathway could open up new avenues for therapeutic interventions in the treatment of IBD.

ORAL PRESENTATIONS HEPATOLOGY

Hepa-1

Acute-liver-failure-study-group (ALFSG)- and MELD scores are superior to Clichy and Kings College Criteria in predicting transplant-free survival.

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Background: Acute liver failure (ALF) is a life-threatening disease, associated with a very high mortality rate. The two most widely used criteria to identify ALF patients at risk of dying without urgent liver transplantation (OLT) are the Clichy and the King's College criteria. More recently, the MELD and ALFSG scores have been shown to correlate with ALF outcome.

Methods: Retrospective cohort study of 95 ALF patients listed for urgent OLT in Switzerland between 05/2008-12/2020. Data analysis included baseline demographic, clinical and laboratory data at day of listing, as well as ALF outcome (spontaneous recovery, OLT or death). Accuracy of predictive scores to predict transplant-free survival was compared using ROC analysis.

Results: In ROC analysis, MELD and ALFSG prognosis score were superior to Clichy and King's College Criteria in predicting ALF outcome (AUC 0.80, 0.78, 0.54, 0.50). Using Youden's Index cut-off points for ALFSG (≤0.25) and MELD (≥33) were determined that had a very high negative predictive value for transplant-free survival (0.97) in our study cohort.

Conclusion: MELD and ALFSG score are superior to Clichy and King's College criteria in predicting ALF outcome and the calculated cut-offs should be evaluated in other ALF cohorts.

Hepa-2

Biological and neuro-functional skin analyses identify distinct alterations in patients with cholestatic liver disease-associated pruritus

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Background: Chronic pruritus in cholestatic liver diseases is a significant unmet clinical need. The relationship between cutaneous sensory C-nerve fibers and chemical mediators, e.g. bile acids (BA), is not fully understood. This study evaluated skin biopsies for neuroanatomy and bile acid content, as well as sensory nerve fiber function in patients with cholestatic diseases with/without pruritus.

Methods: We included 60 patients with cholestatic diseases (PBC, PSC, other chronic cholestasis). Pruritus was determined using a numeric rating scale (NRS) embedded in a questionnaire. Patients underwent transcutaneous electrical sinusoidal stimulation to activate C-fibers. Forearm skin biopsies were analyzed for intra-epidermal nerve fiber density (IENFD) and BA sub-species with UPLC-ESI-MS.

Results: Patients were divided into high pruritus (NRS≥3) and low pruritus (NRS<3) groups. Both groups were similar in age, liver/kidney function, and liver disease stage. Electrical stimulation caused dose- dependent itch in the high pruritus group, while low-pruritus patients reported pain. Skin biopsies showed significantly reduced mean IENFD ($p<0.001$) in patients with cholestatic liver diseases compared to age- and gender-matched healthy controls, with a lower tendency in the high pruritus group. Quantification of BA-subspecies was successfully established in a subset of skin samples, enabling further analyses and correlation with functional and histological findings.

Conclusions: Patients with chronic cholestatic pruritus exhibit neuro- anatomical and functional skin changes, warranting further investigation into the interplay with potential chemical mediators of pruritus.

Hepa-3

Transcriptomic and proteomic profiles of Hepatocellular Carcinoma and non-tumor liver tissue differ in samples obtained by biopsy or resection

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Background: Multi-omics characterization of hepatocellular carcinoma (HCC) samples are widely used in research with the aim to identify molecular subclasses, novel biomarkers and patient-specific therapeutic targets. To allow successful clinical translation of such findings, the analyzed tissue must best reflect the situation *in vivo*. HCC tissue can be obtained by needle biopsy or surgical resection. It is currently unknown if the sampling method impacts the transcripome or proteome of samples.

Method: A total of 21 patients with primary liver cancer who first underwent diagnostic biopsy and then surgical resection shortly thereafter (median 23 days) were included. Biopsies were obtained both from tumor nodules and from non-tumor liver tissue. Resection specimens were frozen immediately after retrieval in the operation room, and also at later timepoints after arrival in the pathology laboratories. RNA, protein and phosphoprotein profiles were generated from the samples and the -omics data were compared between biopsy and resection samples.

Results/Conclusions: The sampling method had a significant impact on the transcriptome in non-tumor tissues. In HCC samples, transcriptomic variance was dominated by the heterogeneity between patients, compared to the more subtle differences introduced from the sampling method. However, NF-kB signaling pathways and hypoxia response pathways were significantly impacted by the sampling method. On the proteome level the sampling method had no significant impact. The results demonstrate that transcriptome data from HCC samples have only minor differences in biopsy samples compared to resection specimens, with the exception of pathways involved in response to hypoxia and NF-kB signalling.

Hepa-4

Post-surgical adjuvant benzimidazole therapy in alveolar echinococcosis: is an abbreviated course feasible?

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Background: Alveolar echinococcosis is a rare, potentially lethal parasitic disease primarily affecting the liver. Cure is achieved through radical surgical resection, followed by at least two years of adjuvant therapy with benzimidazoles (BMZ). Recently, a reduction of the duration of the adjuvant therapy based on post- surgical development of anti-Em18 serology has been proposed.

Methods: Retrospective analysis of 79 patients from the Zurich Echinococcosis Cohort Study who underwent surgery with curative intent between January 2000 and December 2021. Clinical data were reviewed from diagnosis until May 2024, with serology analyzed from surgery to three years post-surgery.

Results: Median age at diagnosis was 55 years, with 55.7% being female. Resection margin was reported to be ≥1mm in 48 patients (60.8%). Recurrence occurred in 5 patients (6.3%). Recurrence was associated with a minimal resection margin (R<1mm or R1) and prematurely discontinued adjuvant BMZ therapy (<12months). Involvement of neighboring organs, however, was not associated with recurrence. Postoperative total IgE, anti-EgP, anti-EgHF and anti-Em18 levels decreased after surgery, however, no significant differences were found between groups defined by disease recurrence, resection margin or duration of adjuvant BMZ duration.

Conclusion: AE patients undergoing curatively intended resection with R<1mm or R1 resection margins and abbreviated adjuvant BMZ therapy have a higher recurrence risk. Serology alone appears insufficient to discern whether patients qualify for prematurely discontinued adjuvant BMZ therapy.

Hepa-5

Paneth Cells as novel regulators of Intestinal Lymphangiogenesis and lipid metabolism in Metabolic dysfunction-Associated Steatotic Liver Disease

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Background: Metabolic dysfunction-Associated Steatotic Liver Disease (MASLD) prevalence is increasing, but no effective treatment yet exists. Recent studies revealed that intestinal microbiota, epithelial and vascular barriers play a central role in MASLD pathology. Paneth cells (PC) secrete antimicrobial peptides and control the quantity and diversity of intestinal bacteria while inhibiting the invasion of pathogens. In earlier work, we showed that PC increase in number is proportional to portal hypertension and this is associated with proliferation of blood and lymphatic vessels in the intestine. Intestinal lymphatic vessels are the major pathway of dietary lipid uptake and may contribute to the accumulation of fat in the liver. We hypothesize that MASLD is aggravated in the absence of Paneth cells because of dysfunctional intestinal barrier and lymphatic vessels.

Methods: We induced functional inactivation of PC in male and female mice ($Sox9^{lox/lox}VilCre^{ERT2}$) by intraperitoneal injection of 1mg/day of tamoxifen for three consecutive days. One week later, all mice, $Sox9^{\Delta intestine}$ and control littermate ($Sox9^{lox/lox}$) were randomly subjected to a High fructose – High fat (60% lard) diet (HF-HFD) or normal diet (ND) for 16 weeks. Intraepithelial leakage of FITC-Albumin was measured *in vivo* using a laser-probe endomicroscopy. Several tissues were then harvested for further histological, and molecular biology analyses.

Results: $Sox9^{\Delta intestine}$ mice presented functional inactivation of PC as revealed by reduced expression of antimicrobial markers of PC at gene (LYZ, DEFA5, and MMP7) and protein (Lysozyme) levels in duodenal samples. Fecal lysozyme activity was significantly decreased in $Sox9^{\Delta intestine}$ mice compared to controls. Furthermore, HF-HFD feeding led to reduced gene and protein expressions of PC markers associated with diminished activity of fecal lysozyme as compared to ND groups. All mice under HF-HFD gained weight as compared to ND. We observed slower

weight gain in female mice and Sox9$^{\Delta intestine}$ groups as compared to male and controls respectively. HF-HFD-induced hepatic steatosis associated with the onset of fibrosis that was more pronounced in the control mice compared to PC-functional altered mice as examined by liver histology. The *in vivo* measurement for duodenal extravasation of FITC-Albumin showed a greater disruption of intestinal vascular barriers in Sox9$^{\Delta intestine}$ HF-HFD mice compared to controls. We also found that the intestinal expression of distinct lymphangiogenic genes (VEGFC, VEGFR3, Prox1) was reduced in Sox9$^{\Delta\ intestine}$ fed HF-HFD or ND.

Conclusion: In contrast to our hypothesis, these data suggest that functional inactivation of PC may protect against the progression of MASLD, as it is associated with less weight gain, lower degree of steatosis and fibrosis highlighting the regulatory role of PC in the intestinal lymphangiogenesis during experimental MASLD.

Hepa-6

The Swiss Hepatocellular Adenoma Registry: SASL Study 45

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**Shared last authorship.*

Objective: Despite notable advances in the understanding of the molecular underpinnings of hepatocellular adenoma (HCA), data allowing tailored clinical management are limited. The Swiss Hepatocellular Adenoma Registry represents the first multicentric study on HCA in Switzerland, with the primary objective of improving our understanding of this rare and complex entity.

Patients and Methods: The Registry currently recruits patients from seven tertiary liver centers across Switzerland (BE, BS, GE, SG, TI, VD, ZH), engaging in retrospective data collection from January 2018 and prospective data collection since January 2023. Epidemiological, clinical, radiological, histopathological, and molecular data, along with treatment information, are systematically being collected.

Results: A total of 74 patients were included so far, 82% of whom are female, with a mean age at diagnosis of 41 years. Histopathological characterization was available in 82%. Thirty % underwent molecular characterization. The HCAs were classified as inflammatory in 44%, HNF1α-inactivated in 26%, β-catenin (*CTNNB1* exon 3) -mutated in 12%, *CTNNB1* exon 7 and 8 -mutated in 2%, sonic hedgehog HCAs in 4%, and unclassified HCAs in 12%. Mean follow-up time was 2.5 years. Radiological follow-up was conducted in 36% of the patients, 48% underwent surgical or interventional radiological treatment, while no specific follow-up was offered in 16% of the patients. Eighty-three % of the patients exhibited stable HCAs or HCAs decreasing in size whereas 13% showed HCAs which increased in size and, 4% developed new HCAs. Complications occurred in 9% of the patients, including 43% with malignant transformation, 43% with post-surgical or interventional complications and 14% with clinically significant bleeding.

Conclusion: Our findings offer an initial overview of HCA in Switzerland. The Swiss Hepatocellular Adenoma Registry, with ongoing active recruitment, will contribute to prognostic information and facilitate the development of a standardized, national, multidisciplinary management protocol.

ENDOSCOPY AND ORAL PRESENTATIONS ENDOSCOPY AND GASTROENTEROLOGY

Gastro-1

Next-Generation Sequencing of Pancreas Cyst Fluid: preliminary results from a tertiary centre registry

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Background Intraductal papillary mucinous neoplasms (IPMNs) and mucinous cystic neoplasms (MCNs) are noninvasive precursor neoplasms to pancreatic ductal adenocarcinoma (PDAC) (1). Targeted DNA-based next generation sequencing (NGS) has been proposed as useful tool in the assessment of pancreatic cysts (1). Particularly following mutations have been proposed including KRAS, GNAS, CTNNB1, PTEN, TP53, VHL,ABL1, APC, ATM, EZH2, CDKN2A, KDR, SMO, BRAF, NRAS, PIK3CA, SMAD4. The aim of the study is to audit the use of NGS in the Department of Visceral Surgery and Medicine, Inselspital Bern.

Methods From nov 2017 to oct 2022 155 pancreatic cysts fluid samples were collected by EUS guided FNA in 142 patients and submitted for NGS. We retrospectively collected data regarding genetic panel sampling, adequacy of the material, type of mutations as well as clinical data including EUS worrisome features and treatment outcome with surgery.

Results: Only 4/155 cyst aspirates (2.58 %) were not adequate for analysis. Any of the main type mutations (KRAS, GNAS, CTNNB1, PTEN, TP53, VHL) was detected in 95/151 (62.91%) samples. Worrisome features were described in 78 (51.65%) EUS reports. In cases with observed worrisome features KRAS mutation was observed in 42/78 (53.85%) and GNAS mutation in 28/78 (35.90%). 28 patients underwent surgical resection of which 14/28 (50.0%) showed worrisome features in EUS reporting. In patients who underwent surgery in 14/28 (50.0%) a KRAS mutation, in 8/28 (32.0%) a GNAS mutation, in 7/28 (25.0%) both mutations and in 7/28 (25.0%) no mutation was observed in the NGS analysis of cyst fluid pre-operatively.

Conclusion: Genomic alterations detected by NGS in aspirates from pancreatic cysts may well improve diagnostic accuracy. However, longitudinal follow-up of patients with pancreatic cysts is necessary to delineate the prognostic value of specific genomic alterations and thus, is the long-term goal of this registry.

Gastro-2

A Clinical Model Predicts the Development of an Anastomotic Stricture after Minimally Invasive Esophagectomy – The EsoStricture Study

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Background: Neoadjuvant therapy followed by minimally invasive esophagectomy (MIE) is the current standard of care for patients with advanced esophageal cancer. Postoperative benign anastomotic strictures (AS) are common but often diagnosed late, resulting in long-term morbidity due to malnutrition and sarcopenia. The aim of this study was to evaluate the prevalence of AS in a cohort of patients undergoing MIE and to develop a predictive model to identify patients at high risk of developing AS.

Methods: Retrospective cohort study including all patients who underwent abdominothoracic esophagectomy with gastric tube reconstruction at the Kantonsspital St. Gallen between 2012 and 2021. AS was defined as dysphagia and presence of a narrowed esophagogastric anastomosis <9mm occurring <6 months after surgery. We performed conditional logistic regression analysis to estimate the odds ratio (OR) of developing AS.

Results: A total of 116 patients with esophageal cancer (82.8% adenocarcinoma vs. 17.2% squamous cell carcinoma) underwent MIE at the Kantonsspital St. Gallen between 2012-2018. In 21/116 (18.1%) patients an anastomotic stricture was observed within 6 months after surgery, requiring a median of 4 (IQR 1-9) interventions (71.4% balloon dilatation, 19% combined treatment, 9.5% stent). Anastomotic leakage (OR 3.1, 95% CI 2.1-8.4), delayed gastric emptying (OR 2.8, 95% CI 2.1-4.8) and cardiovascular comorbidity were independently associated with the development of AS. The multivariable prediction model resulted in an area under the receiver operating characteristic curve of 0.78.

Conclusion: Anastomotic stricture is a common complication after minimally invasive esophagectomy. Anastomotic leakage, cardiovascular comorbidity and delayed gastric emptying independently predict an anastomotic stricture. These features may help to select patients for close clinical surveillance and/or early endoscopic intervention after MIE.

Gastro-3

Characterization of small intestinal microbiome across compartments and clinical entities: minor impact of bacterial overgrowth?

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Background: Despite the proposed clinical relevance of small intestinal bacterial overgrowth (SIBO), our knowledge about the diagnostic value of duodenal, culture-independent, microbiota profiles, remains incomplete. Additionally, the association of microbial composition to clinical factors such as BMI, bariatric surgery.

Methods: We analyzed duodenal aspirates and biopsy samples from healthy individuals (n = 9) and patients with risk factors for SIBO (n = 109), including pre/post-bariatric surgery and with irritable bowel syndrome (IBS). Aspirates were cultured to determine SIBO status. Using 16S-sequencing we classified taxonomy down to the family level, aiming to develop a sequencing based SIBO index.

Results: Aspirates and biopsies did present with remarkable distinct differences in microbial composition, with biopsies exhibiting higher microbial alpha-diversity. Surprisingly, despite predispositions for SIBO, microbial compositions at phylum and family levels remained remarkably conserved across all risk cohorts. Notable was the high prevalence of *Streptococcaceae* in aspirates. Sample type was the primary driver of microbial variation, with a limited but statistically significant, influence of SIBO status, with a 16S-guided index only capturing a minimal subset of culture-defined overgrowth.

Conclusions: Microbiota profiles in the luminal and mucosal compartment represent clear different entities. Despite clinical SIBO predispositions, overall microbial composition exhibits surprising resilience, which supports established culture based diagnostic methods, unless future meta-transcriptomic analysis does reveal clinically relevant functional differences.

Gastro-4

Beta-Adrenergic Drive Impairs Gut-vascular Barrier (GVB): Mechanism Involved in small intestinal-barrier Dysfunction in Cirrhosis and Acute-on-chronic Liver Failure (ACLF)

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Background: ACLF is often characterized by precipitating events of which pathological bacterial translocation (BT) across the intestinal barriers have been proposed to be of pathophysiological relevance. In ACLF i) excessive adrenergic drive has been shown by markedly increased serum levels of norepinephrine and ii) non-selective beta-blocker therapy appears to improve short-term mortality.

Methods: ACLF was induced in cirrhotic mice (bile-duct- ligation) via LPS i.p. and beta-adrenergic hyperactivity was induced by chronic intraperitoneal delivery of isoproterenol by osmotic mini pumps.

Results: Isoproterenol hyperstimulation, cirrhosis and ACLF caused pathological FITC-albumin extravasation into the duodenal lamina propria, which is ameliorated after propranolol-treatment. The GVB impairment is confirmed in ex-vivo transwell experiments using murine small intestinal vascular endothelial cells. Further, immunofluorescence microscopy revealed downregulation of intercellular adhesion and tight junctions upon isoproterenol treatment in-vivo.

Conclusion: Beta-adrenergic hyperstimulation modulates intercellular junctions impairing vascular barrier integrity and function of small intestinal GVB. This may well activate the gut-liver-axis contributing to liver injury and pathophysiology of ACLF underlining the potential usefulness of propranolol.

Gastro-5

Swallowed topical tacrolimus induces clinical and histological remission in a subset of patients with severe lymphocytic esophagitis

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Introduction: Lymphocytic esophagitis (LyE) represents a chronic inflammatory disease of the esophagus with low response rates to topical steroids. Thus, novel treatment options such as swallowed topical tacrolimus, particularly for refractory cases, are urgently needed.

Methods: We retrospectively analyzed patients with LyE enrolled in the Swiss EoE database that received treatment with a swallowed tacrolimus syrup (1mg bid). We compared clinical (VAS 0-10), endoscopic (VAS, EREFS) and histological (peak lymphocyte count) disease activity before vs after treatment.

Results: We identified a total of 7 patients (4 males, median age 71.3y, IQR, 61.3-76.5, median diagnostic delay of 51.0 months, IQR 24.5-62.0). Six patients had been previously treated with PPI, five with topical and/or systemic steroids. All patients were treated with topical tacrolimus corresponding to 1mg bid (for a median of 13 weeks, IQR 11-15). All Patients had clinically, endoscopically and histologically active disease at baseline. Topical tacrolimus treatment resulted in histological remission (<30 lymphocytes/hpf) in 3/7 patients (42.9%), while 4/7 patients achieved symptomatic remission (VAS for dysphagia ≤2, 57.1%). Overall, clinical (VAS 5 vs 2, p = 0.0625) and endoscopic activity (VAS 5 vs 2, p = 0.0625, and EREFS 3 vs 2, p = 0.125) decreased. Measurement of tacrolimus trough levels in 4/7 patients (range 2.1-3.9ug/L) revealed some degree of systemic absorption. Mild adverse events to the tacrolimus treatment were seen in two patients (esophageal candidiasis, hyposensitivity around lips). No impact on kidney function was observed during the treatment period.

Conclusion: Topical tacrolimus appears to be a potential treatment option for severe LyE, particularly after failure of PPI and/or topical steroids. Further studies are needed, in particular regarding the optimal galenic formulation to avoid systemic absorption.

Gastro-6

Unraveling the Role of GPR35 in Eosinophilic Esophagitis

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Background: Eosinophilic esophagitis (EoE) is a chronic inflammatory condition marked by a complex interaction between cytokines and the epithelial barrier integrity. Recent studies have highlighted the critical role of the GPR35 in regulating cytokine activity and preserving epithelial integrity. Despite these findings, the extent of GPR35's involvement in EoE remains incomplete.

Methods: We investigated the role of Gpr35 in EoE using patient-derived organoids and an EoE mouse model.

Results: Our study revealed a marked upregulation of GPR35 expression in esophageal biopsies from individuals with active EoE. In an experimental EoE mouse model utilizing the *Gpr35-tdTomato* reporter mouse line, Gpr35 expression was predominantly observed in macrophages (Mϕ) and dendritic cells within the esophagus. Genetic deletion of *Gpr35* in Mϕ resulted in an attenuated EoE phenotype, characterized by reduced eosinophil infiltration, lower Th2 cytokine expression, and decreased levels of Il-18 in the esophagus. Stimulation of patient-derived esophageal organoids with IL-18 reduced the expression of genes and proteins essential for maintaining the epithelial barrier. Docking experiments identified 8-methoxykynurenate (8- MK), a tryptophan derivative, as a potential endogenous ligand for GPR35, addressing the classification challenge of GPR35 as an orphan receptor. Furthermore, in-vitro stimulation of BlaER1 cells with 8-MK increased Il-18 expression.

Conclusion: This study reveals the mechanisms underlying the Gpr35- mediated cytokine release by Mϕ, shedding light on the factors contributing to EoE.

EOSINOPHILIC ESOPHAGITIS (EOE) AND ORAL PRESENTATIONS EOE / IBD AND GASTROENTEROLOGY

EoE-1

Real-life effectiveness of topical steroids, PPI and elimination diets in adults with eosinophilic esophagitis

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Background and aims: Rates of remission in randomized clinical trials are typically higher than the ones observed in real-life. We aimed to assess the rates of clinical, endoscopic and histologic remission under swallowed topical steroids (STC), proton-pump inhibitors (PPI), and elimination diets (ED) in adults of the Swiss EoE Cohort Study (SEECS).

Patients and methods: The SEECS prospectively includes adults with EoE using validated outcome instruments based on REDCap. The following definitions were applied: clinical remission (EEsAI PRO <20, range 0-100); endoscopic remission (EREFS ≤2, range 0-9); histologic remission (peak eosinophil count <15/hpf).

Results: We evaluated data of 1,979 visits of 710 EoE patients (72% males). During 799 (40.4%), 483 (24.4%), 435 (22%) and 316 (16%) visits, patients were treated with either budesonide or fluticasone syrup or powder ("non-Jorveza®-STC"), PPI, Jorveza® and an ED. The rates of clinical remission for non-Jorveza®-STC, Jorveza®, PPI, and ED were 72%, 73%, 69%, and 75%, respectively. The rates of endoscopic remission for non-Jorveza®-STC, Jorveza®, PPI, and ED were 65%, 68%, 69%, and 60%, respectively. The rates of histologic remission for non-Jorveza®-STC, Jorveza®, PPI, and ED were 59%, 66%, 58%, and 47%, respectively. Oral and/or esophageal candidiasis was encountered during 6.9% of visits under non-Jorveza®-STC, 2.4% of visits under Jorveza®, and 0.4% of visits under ED.

Conclusions: In our national cohort, roughly one third of the studied population shows persistent clinical and/or biologic disease activity under different anti-inflammatory treatments.

EoE-2

A Novel Transcriptomic Panel Identifies Histologically Active Eosinophilic Esophagitis

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Background and aims: The Eosinophilic Esophagitis Diagnostic Panel (EDP) can distinguish between active and non- active EoE using a set of 77 genes. Recently, the existence of distinct EoE variants featuring symptoms similar to EoE, such as esophageal dysfunction but lacking eosinophil infiltration, had been determined.

Methods: Esophageal biopsies from patients with histologically active (n = 10) and non-active EoE (n = 9) as well as from healthy esophageal controls (n = 5) participating in the Swiss Eosinophilic Esophagitis Cohort Study (SEECS) and analyzed the gene expression profile in these biopsies by total RNAseq. Moreover, we employed the publicly accessible RNASeq dataset reported by Greuter et al., encompassing patients presenting with EoE variants.

Results: A Histologically Active EoE Diagnostic Panel (HAEDP) that consists of 53 genes can effectively distinguish patients with histologically active conventional EoE not only from EoE patients in histological remission and control individuals but also from three newly discovered EoE variants identified. By combining the HAEDP with EDP, we expanded our knowledge about factors that may contribute to the inflammation in EoE and improved our understanding of the underlying mechanisms of the disease. Conversely, we suggested a compact group of genes common to both HAEDP and EDP to create a reliable diagnostic tool that might enhance the accuracy of EoE diagnosis.

Conclusion: We identified a novel set of 53 dysregulated genes that are closely associated with the histological inflammatory activity of EoE. In combination with EDP, our new panel might be a valuable tool for the accurate diagnosis of EoE patients as well as for monitoring their disease course.

EoE-3

Cross-sectional and longitudinal analyses identify non-specific esophagitis as a distinct fibrotic disease entity of the esophagus

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Background: The term non-specific esophagitis has been recently coined as an entity resembling eosinophilic esophagitis (EoE) without meeting the histological criteria for EoE or lymphocytic esophagitis (LyE). Disease characteristics and prevalence have yet to be described.

Methods: We cross-sectionally and longitudinally evaluated treatment-naïve patients included in our EoE variant cohort presenting with non-specific esophagitis. Non- specific esophagitis was defined by a histological infiltration of the esophageal epithelium with lymphocytes not fulfilling the numerical and distributional criteria of LyE (<30 lymphocytes/hpf) in the absence of gastro-esophageal reflux (GERD).

Results: We identified a total of 19 patients (31.6% males, all White, median age 48y, IQR 31-59, median diagnostic delay 39m, IQR 12-113). These patients were followed for a median of 20m (IQR 10-41). Clinical activity was considerable (18 patients with dysphagia, five of them with severe dysphagia, one pediatric patient with nausea-vomiting and failure to thrive), while endoscopic activity was only mild (median EREFS 0, IQR 0-2). Diagnosis was made based on lymphocytic infiltration (H&E staining) below the cut-off to diagnose LyE. No eosinophils/neutrophils were detected. The EoE histology scoring system EoE- HSS was low (median grade/stage 0, 0-0.8). Immunostaining (n = 12) revealed the following inflammatory infiltrates: median peak eosinophil count 1/hpf (IQR 0-2), median peak lymphocyte count 15/hpf (IQR 9-24), and median peak mast cell count 3/hpf (IQR 3-4). In the follow-up, 14 patients were treated with topical steroids (symptomatic response in 85.7%). Six patients (31.6%) underwent endoscopic dilation. Examination of follow-up biopsies revealed progression to EoE in one patient and no transition to LyE. Mild esophageal eosinophilia (<15 eos/hpf) was detected in three patients. Principal component analysis of mRNA sequencing data showed clear distinction of non-specific esophagitis compared to healthy controls, GERD and LyE. A total of 762 genes were differentially expressed compared to GERD and EoE. IPA analyses revealed enrichment in remodeling, fibrotic and inflammatory pathways. Cell composition analysis (xCell) identified predominantly fibroblasts with high stroma and microenvironment scores in non-specific esophagitis. Immunostaining confirmed the presence of mesenchymal (Vimentin- positive) cells in non-specific esophagitis, while these were absent in healthy controls,

Conclusion: Non-specific esophagitis appears to be a distinct fibrotic entity affecting the esophagus, without any molecular overlap with GERD or LyE.

CASINO (CLINICS AND SCIENCE IN ONE) CLINICALLY RELEVANT SCIENCE: HIGHEST RATED ABSTRACTS IN GASTROENTEROLOGY AND HEPATOLOGY

CG-1

Identifying Putative Genomic Biomarkers For Risk Stratification in Barrett's Esophagus Patients With Normal Histological Features

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Background: Current surveillance for low-risk Barrett's Esophagus (BE) patients is burdensome, cost-ineffective and dependent on subjective histological assessment of dysplasia with high inter-observer variability. We aim to identify genomic features that can be identified in a clinically translatable targeted sequencing panel, enhancing the stratification of low-risk BE patients and enabling personalized surveillance strategies.

Methods: BE patients with and without progression to early esophageal adenocarcinoma from a large community-based cohort were matched for age, sex and BE segment length. DNA from multiple time points from non-dysplastic biopsies was sequenced using a targeted capture-based panel designed to detect mutations and copy number changes (CNV). We performed logistic regression, covariate analysis, and penalized mixed-effect models. A joint model for survival and mixed effects was implemented to analyze the data distributed over space and time.

Results: 105 progressors who progressed after a median of 4 (IQR 2.4-7.2) years, and 115 non-progressors who had a median progression-free follow-up of 6 (IQR 4.3-7.3) years, were analyzed. *TP53* mutations strongly predict risk (p <0.0001, HR 3.84, 95% CI 2.89-5.67) as does CNV 17p loss (p <0.0001, HR 4.41, 95% CI 2.29-8.52). Patients with both trended to progress faster. Chromosomal arm CNVs (p = 0.0012, HR 1.32, 95% CI 1.14-1.52), amplifications (p <0.001, HR 2.89, 95% CI 1.57-5.31) and mutational burden (p<0.0001, HR 1.30, 95% CI 1.21-1.40) were also associated with progression risk. A combined model incorporating TP53 mutations, 17p loss, and mutational burden demonstrated a 57% sensitivity and 84% specificity and an AUC of 0.758, identifying 60/105 progressors in non-dysplastic BE patients.

Conclusions: *TP53* was a pivotal risk factor in this spatial and time-dependent cohort, even in the absence of dysplasia. Two hits in *TP53* (mutation with 17p loss) suggested a trend toward near term progression, suggesting the possibility of more refined stratification. Prior studies focused on either mutations or CNVs for risk stratification. We show the combination of both, detected in a clinically translatable assay, improves prognostic value, effectively identifying the majority of progressors among non- dysplastic BE patients while maintaining an acceptable false-positive rate. This approach has the potential to impact risk stratification and surveillance strategies in non-dysplastic BE patients.

CG-2

Genomic Markers For Enhanced Risk Stratification in Barrett's Esophagus Patients With Low Grade Dysplasia

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Background: Current risk stratification of Barrett's esophagus (BE) patients is based on histological identification of dysplasia, but lacks reliability due to poor interobserver agreement and the limited predictive value of low-grade dysplasia (LGD). This study aims to identify genomic factors enhancing risk stratification for BE patients with a community diagnosis of LGD.

Methods: Progressors to early esophageal adenocarcinoma and non-progressors were identified in a randomized controlled trial screening cohort of community-based LGD patients. Sequencing used a targeted capture-based panel to detect mutations and copy number changes (CNV). Detected mutations, homozygous deletions, and high-level amplifications underwent filtering for likely pathogenic events.

Results: 28 progressors with a median time to progression of 1.2 (IQR 0.4-2.2) years and 95 non-progressors with a median progression-free follow-up of 7.9 (IQR 5.9-10.6) years, median C3M5 BE, were analyzed. Multiple factors were associated with progression, including *TP53* (p <0.0001, HR 13.39, 95% CI 5.64-31.78), chromosomal arm 17p loss (p <0.0001, HR 10.24, 95% CI 4.82-21.76), mutational burden (p <0.001, HR 1.52, 95% CI 1.21-1.90), and total number of CNVs (p<0.0001, HR 1.48, 95% CI 1.34-1.64). Several other alterations trended to be associated with progression, including *APC* mutation and presence of an oncogenic amplification. The combined influence of *TP53* and 17p loss enhanced the accuracy of risk prediction. Patients with samples containing >3 mutations had a very high risk of progression (HR 10.33, 95% CI 2.22-48.01). Presence of any genetic variant (amplification, deletion, CNV, or mutation) indicated progression risk (p<0.0001, HR = 1.15, 95% CI 1.11-1.21). Samples lacking any genetic variants showed no progression. A combined *TP53* and CNV model effectively identifies progression risk with a sensitivity of 64.3%, specificity of 94.7%, and an AUC of 0.837, distinguishing 89 out of 94 non-progressors. In contrast to expert pathologist assessment (median sensitivity of 67.9 % [0.321, 0.821], median specificity of 80.4% [0.606, 0.957], k value: 0.47) this model demonstrates substantial improvements (p = 0.002).

Conclusion: This study reinforces the well-established role of TP53 mutations but also introduces crucial novel genomic markers. The addition of 17p loss emerges as indispensable for enhanced risk assessment. Furthermore, distinct genetic variations, including CNVs and total mutations, individually and collectively signify a significantly higher risk. Intriguingly, patients without any distinctive genetic abnormalities did not progress. A combined genomic model could accurately risk stratify BE patients with a community-based LGD diagnosis, highlighting its enhanced and reliable predictive accuracy.

CG-3

Systemic and mucosal immune responses against the SARS-CoV-2 XBB.1.5, EG.5.1, and BA.2.86 lineages induced by monovalent XBB.1.5-adapted COVID-19 mRNA vaccines in patients with inflammatory bowel disease

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Background: Recently updated COVID-19 mRNA vaccines encode the spike protein of the omicron subvariant XBB.1.5 and are recommended for patients with inflammatory bowel disease (IBD) on immunosuppressive treatment. Nonetheless, their immunogenicity in patients with IBD against rapidly expanding virus variants remains unknown.

Methods: This prospective multicenter cohort study is the first study to investigate immunogenicity of XBB.1.5-adapted mRNA vaccines in patients with IBD. Out of 290 screened patients, eighteen patients fulfilled all inclusion criteria and were enrolled in the study. Serum and saliva antibodies targeting the receptor binding domains (RBD) of the omicron subvariants XBB.1.5, EG.5.1, and BA.2.86, as well as their neutralization were quantified before and 2-4 weeks after vaccination.

Results: Vaccination increased serum anti-RBD IgG levels (1.9-fold, 1.8-fold, and 2.6-fold, respectively; each P<0.001) and enhanced neutralization (2.3-fold, 3.5-fold, and 4.0-fold, respectively; each P<0.001; Figure 1a) of XBB.1.5, EG.5.1, and BA.2.86. However, virus neutralization was reduced in patients receiving anti-TNF treatment, compared to patients on treatments with other mechanisms of action (each P≤0.02; Figure 1b). Consequently, several patients on anti-TNF treatment lacked EG.5.1 (11.1%) and BA.2.86 (16.1%) neutralization following vaccination. At mucosal sites, vaccination induced anti- RBD IgG targeting XBB.1.5, EG.5.1, and BA.2.86 (each P<0.001), but failed to induce RBD-targeting IgA (each P≥0.15).

Conclusions: Our findings provide a basis for future vaccine recommendations while highlighting the importance of frequent booster vaccine adaptation and the need for mucosal vaccination strategies in patients with IBD.

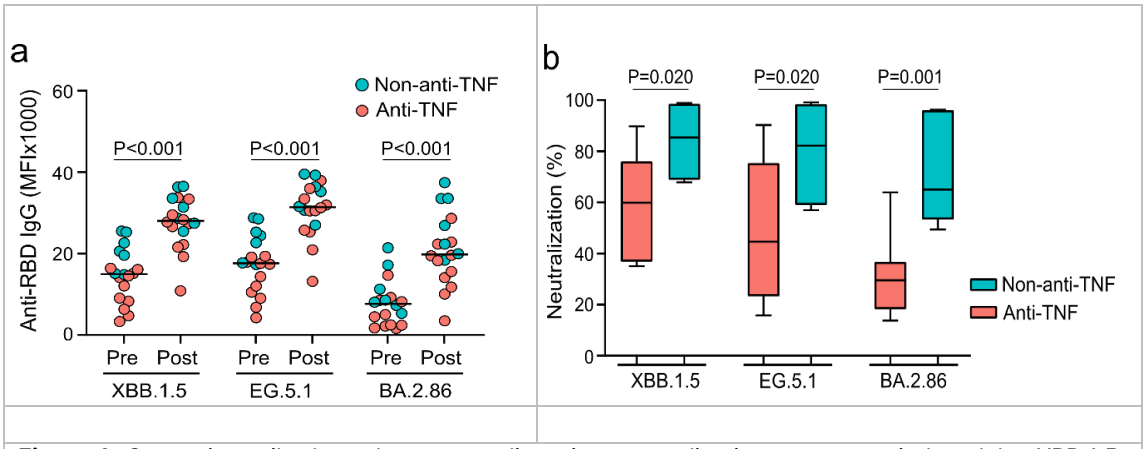

Figure 1. Systemic antibody and corresponding virus neutralization responses induced by XBB.1.5-adapted mRNA vaccines in patients with IBD **(a)** Median serum levels of omicron subvariant-specific anti-RBD IgG, before (pre) and 2-4 weeks after (post) vaccination. (**b**) Serum-mediated neutralization of indicated omicron subvariants, 2-4 weeks after vaccination, stratified by IBD treatment. Neutralization is based on antibody-mediated inhibition of binding between ACE2 and the indicated RBDs. Boxes depict median and IQR, whiskers indicate last value within 1.5x IQR. Statistical analyses are based on exact Wilcoxon signed rank tests (**a**) and exact Mann Whitney tests (**b**).

CH-1

A Role for Transferrin Receptor 1 in Hepatitis E Virus Particle Production

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Background: Hepatitis E virus (HEV) infection is one of the most common causes of acute viral hepatitis worldwide. HEV is a positive-strand RNA virus encoding 3 open reading frames (ORF). HEV ORF3 protein is a small palmitoylated protein associated with cellular membranes and required for viral particle secretion. Here, we aim to identify interacting partners of this essential viral protein to better understand its function(s).

Methods: Protein lysates of HEV-replicating human hepatoblastoma Hep293TT cells were subjected to ORF3 immunoprecipitation (IP) followed by mass spectrometry analysis. Identified host factors were validated by IP and further characterized after siRNA silencing in hepatoma cells or primary human hepatocytes (PHH) by immunofluorescence, RT-qPCR and infectious viral titer determination.

Results: The transferrin receptor 1 (TfR1) was first validated as ORF3-interacting host factor by immunoprecipitation. Confocal microscopy analysis revealed that TfR1 colocalizes at recycling endosomes with ORF3 protein in HEV replicating cells. While siRNA-mediated silencing of TfR1 does not interfere with viral genome replication, the particle production is significantly decreased. Moreover, HEV infection in PHH confirmed the role of TfR1 in virus production, and more specifically in the assembly of infectious particles, as further illustrated by its colocalization with the HEV ORF2 capsid protein.

Conclusions: Proteomics-based analysis in cells producing infectious virus allowed to identify TfR1 as an ORF3-interacting host factor and as important for infectious particle production. Our findings provide new insights into the role of ORF3 protein in virus assembly and of the transferrin receptor TfR1 in the HEV life cycle.

CH-2

The role of protein tyrosine phosphatase non-receptor type 2 in regulating hepatic cytotoxic T cells and as a therapeutic target in metabolic dysfunction-associated steatohepatitis

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Background: Obesity-related metabolic dysfunction-associated steatohepatitis (MASH), cirrhosis, and liver cancer are serious health issues. MASH is characterized by hepatic infiltration of cytotoxic $CD8^+$ T cells. Protein tyrosine phosphatase non-receptor type 2 (PTPN2) regulates $CD8^+$ T cells. This study explores the impact of T cell-specific PTPN2 on MASH progression.

Methods: (1) We analyzed mice with conditional T cell PTPN2 knockout (KO) and wild type (WT) littermates with fast food diet (FFD)-induced MASH. (2) We investigated human hepatic PTPN2 impact on MASH using mRNA data from the SRA database, liver biopsies for protein expression, and the presence of the non- functional PTPN2 SNP rs2542151 in a MASLD cohort.

Results: (1) FFD-fed KO mice were protected from MASH and fibrosis compared to WT ($p < 0.05$). Flow cytometry showed higher levels of exhausted and central memory $CD8^+$ T cells in FFD-fed KO mouse livers ($p < 0.05$). (2) PTPN2 mRNA levels were higher in MASLD and MASH patients than healthy controls ($p < 0.05$). MASH patients also had increased $PTPN2^+$ $CD8^+$ cell counts ($p < 0.05$). The patients with the PTPN2 SNP rs2542151 had less often sever liver fibrosis and cirrhosis.

Conclusion: While we observed increased PTPN2 mRNA and protein expression in human MASH livers, SNP analyzes and *in vivo* mouse data suggested a protective effect of PTPN2 deficiency against MASH – likely mediated by affecting intrahepatic $CD8^+$ T cell functionality.

CH-3

Rising Incidence and Severity of Hypersensitivity: Reactions Related to the Contrast Agent SonoVue® Applied in Contrast-Enhanced Ultrasound (CEUS)

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Background: Sulfur hexafluoride lipid-type A microspheres (SonoVue® or LUMASON®) are regularly used as intravenous contrast agents in contrast-enhanced ultrasound (CEUS) in abdominal ultrasound and echocardiography. While being considered safe for more than two decades, several cases of severe allergic reactions have been noticed within the last three years. This study systematically investigates the temporal relationship between the increase in allergic reactions to SonoVue® and vaccinations against SARS-CoV-2. The proposed pathomechanism is an allergic reaction to components such as polyethylene glycol (PEG), which is used as an adjuvant in both mRNA vaccines and SonoVue®.

Methods: After ethics approval, patients with allergic reactions to SonoVue® were systematically identified over the last 10 years in our hospital system. Patients' medical histories were examined after informed consent, and blood was tested for basophil activation (BAT). BAT analysis was also performed prospectively in matched control patients after SonoVue® application without an allergic reaction (n = 12). In addition, the WHO global database VigiAccess was analyzed for reports of allergic reactions to SonoVue® in the years 2003-2020 vs 2021-2024.

Results: In total, 12 patients among at least 5,925 SonoVue® applications in our institution have been identified with hypersensitivity reactions during CEUS with SonoVue® (5 females, 7 males, age range 30-79, mean 58 years). Except for one patient in 2014 with a mild allergic reaction (CTCAE grade 2), all other incidences occurred in the years 2021 to 2024 and were severe (CTCAE grades 3-4). The incidence rate of allergic events significantly increased from 0.36 per 1000 examinations (period 2014-2020) to 1.60 per 1000 examinations (period 2021-2024; OR 4.474, p = 0.0478). BAT analysis in affected patients and matched controls is in progress. Analysis of reported potential side effects for SonoVue® in the WHO global database VigiAccess confirmed a significant increase in allergic reactions in the years 2021-2024 (average reported annual cases 296) compared to 2003-2020 (average reported cases 63, T-statistic value -4.97, p = 0.0129).

Conclusions: Hypersensitivity reactions to SonoVue® seem to have increased significantly in frequency and severity since 2021. Possible underlying pathomechanisms and associations with COVID-19 vaccinations are being explored. Ultrasound examiners using SonoVue® must be aware of potentially severe allergic reactions, inform patients, and prepare an anaphylaxis emergency kit accordingly.

SGVC LARGIADÈR SESSION

S1

Milestones in Surgical Complication Reporting. 20 years of Clavien-Dindo Classification & 10 years of Comprehensive Complication Index (CCI®)

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Background: Standardized outcome reporting is key for proper assessment of surgical procedures. A recent consensus conference recommended the Clavien-Dindo Classification (CDC) and the Comprehensive Complication Index (CCI®) for assessing postoperative morbidity. However, the widespread use of the two metrics revealed some lack of clarity about their use in complex complication scenarios. The aim of this study was to provide improved guidance for the consistent application of the CDC and CCI® in challenging clinical scenarios.

Methods: We assessed the use of the CDC and CCI® as an outcome measure in a systematic literature search. Additionally, we asked 163 international surgeons to critically evaluate and grade complications in 20 complex clinical scenarios. Finally, a core group of five experts used this information to develop 15 recommendations on how to use the CDC and CCI®.

Results: Until July 2023, 1327 RCTs selected the CDC and/or CCI® to assess morbidity. Only a third (n = 335) of published RCTs provided the complete range of CDC grades, including all subgrades. 89 out of 163 surgeons (response rate 55%) completed the questionnaire that served as basis for the recommendations: Repetitive interventions that are required to treat one complication, postoperative morbidity related to intraoperative adverse events, complications followed by further complications, complications occurring prior to referral, and expected and unrelated complications to the original procedure should all be counted separately and included in the CCI®. Invasive blank diagnostic interventions should not be considered a complication.

Conclusion: The widespread but inconsistent use of the CDC and CCI® in RCTs highlights the importance of their standardized application. The current consensus offers much-needed guidance for challenging scenarios. This will further improve the consistency and accuracy of complication reporting, leading to higher quality RCTs, improved cost estimations, and better quality control, ultimately benefiting all stakeholders, including patients.

S2

Long-term outcomes after hepatectomy for alveolar echinococcosis in immunocompromised patients

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Background Long-term outcomes after partial hepatectomy for alveolar echinococcosis (AE) in immunocompromised patients remain poorly investigated in the literature. This study aimed to evaluate the recurrence rate and disease-free/overall survivals (DFS, OS) after AE resection in immunocompromised and immunocompetent patients.

Methods All consecutive patients operated for liver AE in two university hospitals from 2000 to 2021 were retrospectively collected. Outcomes of immunocompetent and immunocompromised patients were compared. Palliative (R2) resections were excluded. Immunocompromised patients were defined as patients who had reduced ability to fight infection due to certain diseases or specific treatments.

Results A total of 198 patients had partial hepatectomy for liver AE (103 women, median age 58). Preoperative albendazole was given in 107 cases (54%). Fifty-six patients (28%) were considered immunocompromised: 20 cancers, 16 auto-immune diseases, 8 diabetes, 5 immunosuppressive medications, 4 human immunodeficiency virus, and 3 recurrent infectious problems. Eleven patients developed a recurrence (6%) within a median follow-up of 48 months (95%CI 37-58). Patients in the immunocompromised and immunocompetent cohorts had similar preoperative characteristics. Three patients (3/56) presented a recurrence in the immunocompromised group and 8 (8/142) in the immunocompetent group (p = 0.939). Two-year recurrence rates were 0% in the immunocompromised cohort and 4% (5/142) in the immunocompetent patients (p = 0.521). Mean DFS were similar between immunocompromised and immunocompetent patients (164 vs. 206 months, p = 0.102). Mean OS was 165 months in the immunocompromised patients and 219 months in the immunocompetent patients (p = 0.038). Age was the only independent predictor of DFS (OR 1.1, 95%CI 1.0-1.1, p = 0.011), while immunosuppression was not found as DFS predictor (OR 2.5, 95%CI 0.8-7.8, p = 0.114).

Conclusions In this bicentric study, immunocompromised patients had similar recurrence rates and DFS as immunocompetent patients, while OS was shorter.

S4

Antegrade balloon dilatation of the duodenal papilla during laparoscopic cholecystectomy versus endoscopic retrograde cholangiography in patients with acute choledocholithiasis: a case control matched study

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Introduction: Intraoperative antegrade balloon dilatation of the duodenal papilla during cholecystectomy ('ABD-during-ChE') with pushing of the common bile duct stone into the duodenum may represent an alternative 'one-stop-shop' treatment option for acute obstructive common bile duct (CBD) stones.

Methods: Retrospective case control matched study of patients suffering from obstructive CBD stones (<8 mm) that underwent endoscopic retrograde cholangiography prior to cholecystectomy ('ERC-first' approach) versus the 'ABD-during-ChE' technique.

Results: A total of 35 patients in each group were included. There was a not significant difference towards an increased overall CCI® in the 'ERC-first' group versus the 'ABD-during-ChE' group (14.4 ±15.4 versus 9.8 ±11.1, p = 0.225). Of note, six major complications (Clavien-Dindo classification ≥IIIa) occurred in the 'ERC-first' group versus two in the 'ABD-during-ChE' group (p = 0.136). In addition, significantly more interventions (3.7 ±0.8 versus 1.1 ±0.4, p<0.001) and a longer overall time from diagnosis to complete clearance of bile ducts and performed ChE (160.5 ±228.6 days versus 12.0 ±18.0 days, p<0.001) was found, when comparing the 'ERC-first' group and the 'ABD- during-ChE' group.

Conclusion: The 'ABD-during-CHE' approach led to significantly fewer overall interventions and tended to result in lower intervention-related morbidity in the treatment of acute obstructive CBD stones in uncomplicated patients with CBD stones smaller than 8 mm, compared to the 'ERC-first' approach.

S5

Impact of Charlson Comorbidity Index (CCI) on Enhanced Recovery after Surgery (ERAS) in colorectal surgery

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Background Enhanced recovery after surgery (ERAS) is a widely accepted program to improve short-term outcome in patients following colorectal surgery. To improve postoperative outcome, an adherence to ERAS principles ≥75% is required, particularly difficult to achieve in the postoperative period. Factors influencing the adherence to the ERAS score have still to be elucidated. However, it is known, that comorbidities of patients, summarized in the Charlson Comorbidity Index (CCI), have an impact of postoperative outcome. The aim of this study was to investigate the predictive value of CCI in respect to the postoperative ERAS adherence.

Methods Patients undergoing colorectal resection between May 2016 and October 2022 were prospectively included in the ERAS protocol. Patients were stratified according to the required postoperative ERAS adherence ≥75% and the retrospectively assessed CCI. Criterion of exclusion was ≥5% missing data.

Results In the study, 572 patients were included (patients with CCI 0: 223 (39.0%), 1: 41 (7.2%), 2: 150 (26.2%), 3: 71 (12.4%), 4: 25 (4.4%), ≥5: 62 (10.8%)). In total, 343 (60.0%) patients achieved the required postoperative ERAS adherence ≥75% with a mean CCI of 1.5 (0-8) compared to a mean CCI of 2.3 (0-8) in 229 (40.0%) patients with an ERAS adherence of <75% (p<0.001). An inverse correlation in the frequency of a sufficient postoperative ERAS score and the CCI was observed (p<0.001). Furthermore, an increasing CCI was significantly associated with a higher Comprehensive Complication Index (p<0.001) and a longer length of hospitalization (p<0.001).

Conclusion The data indicate that an increased CCI correlates with a lower postoperative ERAS adherence resulting subsequently in a worse short-term outcome. To optimize postoperative outcome, CCI can be used as an indicator for patients requiring a more intensive supervision to the postoperative ERAS principles.

S7

Towards a standardization of learning curve assessment in minimally invasive liver surgery

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Background MILS offers benefits compared to open resections. For a safe introduction along the learning curve, formal training is recommended. However, definitions of learning curves and methods to assess them lack standardization.

Methods A systematic review of PubMed, Web of Science, and CENTRAL databases identified studies on learning curves in MILS. The primary outcome was the number needed to overcome the learning curve. Secondary outcomes included endpoints defining learning curves and characterization of different learning phases.

Results 60 articles with 12'241 patients and 102 learning curve analyses were included. The laparoscopic and robotic approach was evaluated in 71 and 18 analyses and both approaches combined in 13 analyses. Sixty-one analyses (60%) based the learning curve on statistical calculations. The most often used parameters to define learning curves were operative time (n = 64), blood loss (n = 54), conversion (n = 42) and postoperative complications (n = 38). Overall competency, proficiency and mastery were reached after 34, 50 and 58 procedures respectively. Intraoperative parameters improved earlier (operative time: competency to proficiency to mastery: –13%, 2%; blood loss: competency to proficiency to mastery: –33%, 0%), whereas postoperative complications improved later (competency to proficiency to mastery: –25%, –41%).

Conclusions This review summarizes the highest evidence on learning curves in MILS taking into account different definitions and confounding factors. A standardized three-phase reporting of learning phases (*competency, proficiency, mastery*) is proposed and should be followed.

S8

Five decades of Pancreas Transplantation at the University Hospital of Zurich – a story of continuous improvement and success

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Background: Pancreas transplantation (PT) is the benchmark treatment for type I diabetics with end stage kidney disease. The history of PT at the University Hospital of Zurich (USZ) dates back to more than five decades. It started in 1973 with the first PT ever performed in Europe. The aim is to describe the evolution of PT at the USZ from 1973 to 2022 and to analyze differences in patient and graft survival within different eras.

Methods: We retrospectively analysed all PTs performed at the USZ between 1973 and 2022. Complications were reported according to the Clavien-Dindo classification and the Comprehen- sive Complication Index (CCI). We divided all PT into 5 different eras: First experiences with PT (era 1, n = 4), experimental duct management (era 2, n = 14), external/transcutaneous duct drain- age (era 3, n = 53), bladder drainage (era 4, n = 40) and enteric drainage (era 5, n = 142).

Results: 253 PTs were performed at the USZ. Era 1 (from 1973 to 1976), consisting of 4 simultaneous pancreas- and kidney transplantations (SPK) with whole pancreas grafts and enteric (Roux-Y) drainage showed 100% complication rate and 100% pancreas graft loss at 6 weeks. Mortality was 100% within the first four months after PT. Between era 1 and 5, overall complication rate until discharge decreased from 100% to 73% ($p<0.001$). CCI at discharge and 90 days decreased from 100 and 100, to 20.9 and 34.8 ($p<0.001$), respectively. Overall survival at 1-, 5-, and 10- years improved from 73.5%, 51%, 44.9% in era 3, to 69.7%, 60.6%, 51.5% in era 4, and 97.9%, 95.2%, 80.7% in era 5, respectively ($p<0.001$). Insulin-free survival after 1-, 5-, and 10- years was 36.4%, 27.3%, 18.2% in era 3, 41.5%, 34.1%, 31.7% in era 4, and reached 86.3%, 78%, 64.5% in era 5 ($p<0.001$), respectively.

Conclusion: During the last five decades, enhanced surgical techniques and improvements in immunosuppression helped to overcome many obstacles that hampered early days of PT. Initial results were in stark contrast to the excellent results achieved within the last era and up until today. With significantly fewer complications, patient- and graft survival improved remarkably over time, evolving PT into a safe and highly efficient procedure.

S9

Long-term results after transoral outlet reduction (TORe) of the gastrojejunal anastomosis for secondary weight regain and dumping syndrome after Roux-en-Y gastric bypass

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Bariatric surgery is the most effective therapy for obesity and Roux-en-Y gastric bypass is the gold standard procedure. However, in a relevant number of cases weight regain and dumping syndrome oc- cur. The transoral outlet reduction (TORe) procedure using an endoscopic suturing device is an option to treat patients with a wide gastrojejunal anastomosis. Aim of the study was to analyze outcome parameters and long-term results.

A retrospective data analysis of patients who underwent TORe to reduce the diameter of the gastrojejunal anastomosis from January 2015 to December 2020 was performed. 71 subjects were included. 45 patients received the intervention for weight regain, 9 for dumping syndrome and 17 for both. Primary endpoint was a successful procedure, defined as weight stabilization or loss for weight regain, and resolution of symptoms for dumping syndrome. Secondary endpoints were complications, procedure time, duration of follow-up and diameter of anastomosis after one year.

The median size of the gastrojejunal anastomosis was estimated 30 mm before and 9.5 mm after the intervention. Overall procedure time was 37 minutes. 8 perioperative complications occurred. Mean follow-up was 26.5 months. All interventions were successful within the first 3 months, 98.2% at 12 months, decreasing to 75.0% at 48 months. Total Weight Loss was 4.3% within the first 3 months, 2.7% at 12 months, -0.6% at 36 months and a weight regain of 6.0% at 48 months. In 84.6% of the subjects persisting improvement of dumping syndrome was achieved.

TORe is safe and effective in the treatment of patients with secondary weight regain or dumping syndrome after laparoscopic RYGB. A prospective randomized trial should be conducted to compare the effects with other surgical methods like banding the gastrojejunal anastomosis.

S3

The Impact Of Clinical Parameters And Neoadjuvant Treatment On The Tumor Microenvironment Of Esophageal Cancer

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Background: In the era of precision medicine, the tumor microenvironment (TME) of esophageal cancer needs further insight, to identify unfavourable biology leading to poor outcomes. This study analyzed the TME of esophageal cancer in relation to clinicopathologic parameters, and neoadjuvant treatment.

Methods: A series of patients operated for esophageal cancer with curative intent between 01.2009 and 12.2021 were included. Initial biopsies and surgical specimens of all patients underwent immunohistochemical analysis, to detect the immune infiltrate markers CD3, CD8, CD163, CD68, PDL1and FoxP3.The CPS score was used for PD-L1 quantification, whereas the Mandard regression grade (TRG) assessed pathologic response to neoadjuvant treatment (NAT). Continuous variables were compared with the Mann-Whitney-U and ANOVA tests, and categorical ones with the Chi-2 test. Significance threshold was set at $p<0.05$.

Results: Overall, 68 patients (82.4% males, mean age 62.4±9.4 years, 79.4% adenocarcinoma) were included. TME in smokers had lower M2-like (CD163+, $p = 0.009$) and total macrophages (CD68+, $p = 0.001$), but similar CD163/68 ratio and T-cells as non-smokers. Squamous cell cancer compared to adenocarcinoma showed lower M2-like macrophages ($p = 0.023$) and T-cell infiltration ($p = 0.006$). NAT increased macrophages in the TME, while decreasing Treg/FoxP3 cells. Good responders to NAT (TRG1-2) had similar baseline TME characteristics as poor responders, but they displayed lower macrophage count after NAT ($p = 0.003$).

Conclusions: In the present series, the TME of active smokers and patients with squamous cell cancer had a significantly reduced M2-like macrophage infiltration. Neoadjuvant treatment recruited macrophages and T-cells in the TME, but interestingly, an increased macrophage count upon final histology was related to poor response to treatment. The present study provides valuable insight to the TME composition of esophageal cancer and its modification after NAT, however, further studies are needed to assess the exact functional role of TME elements, and their impact on clinical outcomes.

S6

The Spermidine Pathway Identifies Patients at Risk for Tumor Recurrence after Colorectal Cancer Surgery

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Background: Tumor recurrence rates following colorectal cancer surgery remain about 20%. Identification of risk biomarkers of recurrence is an unmet need. The spermidine pathway is essential for cell proliferation and differentiation, and is suggested to accelerate tumor spread. The aim was to investigate the spermidine pathway capability to predict patients at risk for recurrence following colorectal cancer surgery.

Methods: Single-center prospective cohort study of patients undergoing colorectal cancer surgery from 2015 to 2018.

Plasma samples were collected before surgery and on postoperative day 4, and the spermidine pathway was assessed through mass spectrometry. Oncological outcomes were registered.

Results: 146 patients were included and 24 (16.4%) developed recurrence. Higher levels of preoperative spermidine pathway components (spermidine, spermine, spermidine synthase and spermine/arginine balance) were associated with recurrence.

Surgery promoted a decrease in these components. The greater the decrease was, the lower the risk of recurrence. Preoperative spermidine over the cut-off 0.198 µM displayed a 4.69-fold higher risk of recurrence.

Conclusions: The spermidine pathway is associated with tumor recurrence following colorectal cancer surgery and, after validation in larger cohorts, could be translated as a risk biomarker of recurrence into clinical practice.

SGVC SURGERY ORAL PRESENTATIONS

S10

Anastomotic Leak Microbiome Pattern is Associated with Tumor Recurrence in Colorectal Cancer Patients

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Background: Anastomotic leak is associated with higher rates of tumor recurrence following colorectal cancer surgery.

However, the mechanisms responsible remain unknown. The aim was to identify associations between the peritoneal microbiome and recurrence in colorectal cancer patients with postoperative anastomotic leak.

Methods: Single-center retrospective cohort study of patients undergoing colorectal cancer surgery complicated with anastomotic leak between 2004 and 2012. Samples of peritoneal fluid were collected either through percutaneous drainage or reoperation, and microbiome was analyzed using whole genome shotgun. Oncological outcomes were registered.

Results: 46 patients were included and 14 (30.4%) developed recurrence. 7 taxa at species level were detected as differentially abundant according to recurrence. *Bacteroides xylanisolvens*, *Clostridium celatum*, *Veillonella parvula*, *Streptococcus mitis*, Brachyspira sp. CAG:700 and *Mitsuokella Firmicutes* CAG:94 were under-represented. *Clostridium* sp. CAG:793 was over-represented. A higher balance of *Campylobacter coli* compared to *Clostridium celatum* was the most effective at distinguish patients with/without recurrence.

Conclusions: Microbiome pattern in patients with anastomotic leak following colorectal cancer surgery could identify patients at high risk for tumor recurrence, who could benefit from strict follow-up, adjuvant and/or targeted therapies including the restoration of a "healthy" microbiome.

S11

Postpancreatectomy hyperamylasemia is associated with postoperative pancreatic fistula but not overall morbidity or mortality

Krombholz, Frey, Patalong, Wirsching, Nocito

Background: Postpancreatectomy acute pancreatitis (PPAP) is a recognized complication following pancreatic surgery. The international study group for pancreatic surgery has contributed significantly to the understanding of PPAP by developing a definition and grading system. PPAP is defined as an acute inflammatory condition within the first 3 postoperative days, encompassing sustained postoperative serum hyperamylasemia ≥48h, coupled with radiological and clinical features. This standardization aims to better diagnose PPAP, identify its incidence, and understand the associated risk factors. Our study investigates the incidence and outcomes of PPAP after pancreatic resections in a single-center retrospective analysis.

Methods: All consecutive patients after partial pancreatectomy between January 2015 and July 2022 were screened for diagnostic criteria of PPAP. Postoperative complications were graded according to Clavien-Dindo (CD), Comprehensive complication index and complications defined by the ISGPS.

Results: Partial pancreatectomy was performed in 145 patients. Postoperative hyperamylasemia (POH) for at least 48 hours after surgery was found in 33 patients. None of the patients had a CT scan performed at the time of hyperamylasemia. Type of resection (pancreatoduodenectomy vs. distal pancreatectomy) was not different between groups. Postoperative pancreatic fistula occurred more frequent in the POH group (36% vs. 13%, p = 0.003). Thereby, biochemical leak was most frequently encountered. Complications CD grade 3 and 4 and 90-day mortality were similar in both groups (POH-group 26% vs. 25% and 0% vs. 3%). Similarly, total costs with a median of 49 517CHF vs. 47113CHF were comparable.

Conclusion: Postoperative hyperamylasemia was associated with biochemical leak (ISGPS definition of postoperative pancreatic fistula). There was no impact on morbidity or mortality.

S12

Implementing Semantic Search for Cohort Selection Using Procedure-Based CHOP Codes

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Background: The precise identification of patient cohorts based on procedural codes is crucial for advancing clinical research. Traditional search methods relying on exact code matches often fail to capture all relevant data, limiting the scope of cohort selection. The proposed study introduces an innovative approach using semantic search to expand the accessibility and accuracy of querying Swiss databases using natural language.

Methods: This study proposes a novel semantic search model that begins by translating CHOP (Swiss Classification of Operations) codes into plain English. Subsequently, a large language model (LLM) is employed to enrich these translations, creating a corpus that encapsulates a broader spectrum of medical terminology. The enriched corpus is then utilized to train vector spaces with methods such as word2vec.

Results: The developed search function operates through similarity measures within this vector space and enables the system to interpret natural language queries effectively and correlate them to pertinent CHOP codes. This model demonstrates a significant improvement over traditional search methodologies by facilitating more intuitive and comprehensive searches.

Conclusions: By leveraging semantic search technologies and natural language processing, this study significantly enhances the utility of CHOP codes in databases. The approach not only improves the granularity and accuracy of cohort selection but also contributes to more efficient and targeted clinical research. The integration of extended semantic interpretations with existing databases represents a forward step in the application of artificial intelligence in Swiss healthcare analytics.

S13

Contact x-ray radiotherapy for organ preservation in rectal cancer

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Background and Objective: Rectal cancer typically necessitates a combination of radiotherapy (RT), chemotherapy, and surgery. However, the associated functional disorders and reduction in quality of life have led to an increasing interest in organ preservation strategies. RT dose escalation would improve the rate of complete responses (CR), but due to the potential toxicity of the surrounding tissues, this strategy remains limited even with modern external beam RT techniques. This study reports on the use of the Papillon, an endocavitary contact RT device, in the treatment of rectal cancer. Papillon delivers low energy X-rays, allowing for significant dose escalation with a favorable toxicity profile.

Methods: Retrospective analysis of a prospectively maintained database between January 2015 and August 2023, of rectal cancer patients treated with Papillon contact RT. For this report we assessed the organ-preservation rate and the local control of patients treated with an upfront organ preservation strategy and with a minimum FU of 12 months. Papillon was delivered as a boost to standard RT, with or without chemotherapy. Surgery (TME or local excision) was indicated in case of non- response at 3 months or in case of relapse. Follow up was performed according to the major guidelines at a 3-month interval for the first 2 years and every 6 months thereafter.

Results: 24 patients achieved a clinical complete response at the first assessment at 6 weeks. After a median FU of 49 months, the organ preservation rate was of 92% (22/24). The local relapse rate was of 8% (2/24). All of our patients were alive at the last assessment. Ten patients achieved long-term (>3 year) organ preservation. None of our patients developed grade 3 or more acute or late toxicities.

Conclusion: Our results demonstrate that the addition of Papillon contact RT provides a high rate of local remission with sustained long-term organ preservation and convenient toxicity profile. Our results are in line with the recently proffered 3-year results of the OPERA randomized trial. This unique treatment modality may help future patients with rectal cancer benefit from low toxicity RT dose escalation, to achieve complete local response, and avoid surgery. If relapse occurs chance of cure is not compromised.

S14

Frailty Assessment for Risk Stratification in Pancreatic Surgery? Results of a Single-Center Cohort Study

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Background: Large cohort studies found an increase in frailty with age. Age is a known risk factor for pancreatic cancer. Seventy percent of new diagnoses are made in patients aged more than 65 years. Pancreatic resections represent the only hope for cure, but are associated with high morbidity. The definition „fit for pancreatic surgery", currently mainly based on age and comorbidities, is continuously challenged. The aim of this study is to analyze the impact of frailty on postoperative outcomes after pancreatic resections.

Methods: Data of consecutive patients undergoing pancreatic resections between January 2015 and July 2022 were retrospectively analyzed. Postoperative complications were graded by the Clavien-Dindo Classification, Comprehensive Complication In- dex (CCI) and complications specific to pancreatic resections as recommended and published by the International Study Group of Pancreatic Surgery. The modified frailty index (mFI) was defined by 11 variables. An mFI score above 0.27 was set to define frailty.

Results: A pancreatic resection was performed in 159 patients, of which 23 (15%) were classified as frail. Pancreatoduodenectomies were similarly distributed in both groups. Frail patients were older (median of 74 vs. 69 years). Male gender was asso-

ciated with frailty (83%, p = 0.001)., Moreover, frailty was associ- ated with an increased rate of preoperative biliary drainage. Alt- hough intensive care stay was increased in the frail group (me- dian 3 vs. 0 days; p = 0.01), total length of hospital stay was not affected. Frailty was associated with severe complications as de- fined by a comprehensive complication index >50 (35% vs. 10%; p = 0.003), an increased rate of severe type C pancreatic fistula (13% vs. 2%, p = 0.04), and a higher 90-day mortality (13% vs. 2%, p = 0.04).

Conclusion: Assessment of frailty should be used for preoperative risk stratification since frailty is associated with a higher mor- bidity and mortality after pancreatic resections.

S15

Prediction of Postsurgical Infection by Explainable AI and Strategic Data Imputation

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Background: Postoperative infections pose significant risks, increasing morbidity and mortality among surgical patients. The necessity for their early detection underscores the limitations of current predictive models, which often overlook the full potential of available data, particularly the time-series analysis of laboratory markers triggered by surgical interventions.

Methods: In this study, we developed and assessed a procedure-agnostic model that improves data completeness by strategically imputing missing entries in time-series laboratory data. The enhanced model integrates both static and dynamic features of laboratory values, along with preoperative and intraoperative patient data from electronic health records, to enable continuous monitoring of postoperative conditions.

Results: The application of this model revealed new, clinically relevant combinations of routine laboratory markers, significantly improving the prediction of postsurgical infections. Unknown interactions of hepatic, renal and bone marrow function were detected and allowed to increase the predictability. Furthermore, the use of explainable artificial intelligence (XAI) techniques has made the predictive process transparent, providing insights into the physiological processes and organ systems implicated in postoperative complications.

Conclusions: The methodological innovations introduced in this study establish a robust framework for predictive applications that can generate clinically actionable insights and refine the monitoring of postoperative patients.

S16

Intraperitoneal Onlay Mesh Plasty (IPOM) for primary abdominal wall herniation – Incidence of Ileus and Adhesions

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Background: Intraperitoneal onlay mesh plasty (IPOM) represents a minimally invasive approach to ventral- and incisional hernia repair. This study aims to investigate the incidence of mechanical ileus and adhesions after primary hernia repair using IPOM.

Methods: A retrospective analysis was conducted of patient data which was prospectively collected in the HerniaMed database. Long-term outcomes were assessed through outpatient follow- ups, HerniaMed questionnaires and phone call follow-ups.

Results: Over a 7-year period (2013-2020), 230 patients underwent IPOM repair without prior abdominal surgery. Included patients were predominantly male (82%). Obesity (BMI >30 kg/m^2) was found in 114 patients (50%). Umbilical hernia was the most common location (74%), and 123 patients (54%) had small hernias (diameter ≤ 2cm). The majority received a small (15x15cm) mesh. One-year and five-year follow-up was available for 80% resp. 65% of patients. Six patients (3%) were hospitalized for ileus and two (1%) required a re-operation. Among 28 patients undergoing subsequent, mostly unrelated, surgery after IPOM repair, significant adhesions were present in six patients (21%).

Conclusion: Mechanical ileus is infrequent after primary ventral hernia repair with IPOM. However, in case of a reoperation, 21% of patients exhibit significant adhesions, potentially prolonging subsequent abdominal surgeries.

S17

Tailgutcyst: a rare but not uncommon disease

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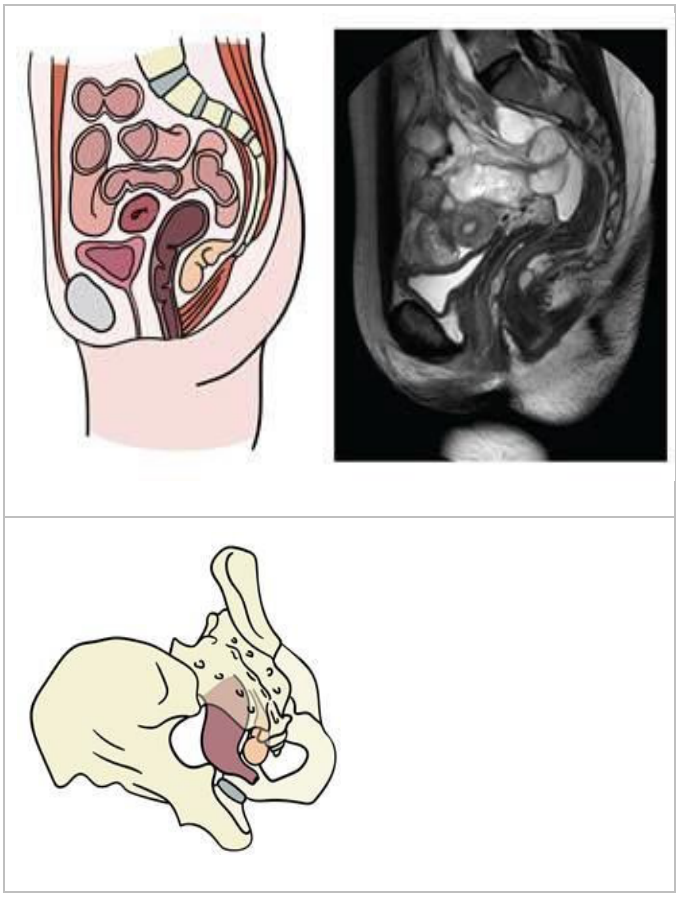
Background: Tailgut cysts are rare congenital malformations arising from remnants of the embryonic tailgut. They are often asymptomatic, and diagnosis is challenging. Surgical resection is strongly recommended because of its malignant potential and risk of complications.



Methods: We retrospectively analysed a case series of seven patients treated at Clarunis, Basel, Switzerland, between 2016 and 2023.

Results: Our case history includes 4 women and 3 men (median age 46 years). 4 patients presented with pelvic pain and 3 were asymptomatic. In these cases, the suspicion of tailgut cysts arose from a CT scan and was confirmed by magnetic resonance imaging (MRI). One patient presented with a recurrence after removal of tailgut cyst in the same region. We performed surgical excision in all cases using the Kraske posterior approach and when necessary, with coccygectomy, achieving a complete resection. Postoperative complications were observed in two patients (28.6%) with uninfected wound seroma. Histological examination revealed malignancy in only one case.

Conclusions: Tailgut cysts may be asymptomatic or cause compression symptoms on the surrounding organs. Surgical resection is strongly recommended. In our experience, retrorectal resection by Kraske is the best approach for low- lying benign lesions (below S3) that do not involve the rectum.

S18

Evidence Map of Appendicitis – a living systematic review with meta-analyses

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Background: Appendicitis is one of the most common diseases of the gastrointestinal tract with a lifetime incidence of 7-9 %. For over a century, emergent appendectomy has been the gold standard of care. Recently, there is growing evidence regarding non-operative treatment of appendicitis. In addition, many different approaches with regard to peri- operative treatment exist and are being studied. As a result, a large and complex field for research has evolved. However, an overview of the evidence and a structured analysis of research gaps is missing.

Aim: The aim of this project was to create a systematic and living Evidence Map of Appendicitis.

Methods: PubMed, CENTRAL and Web of Science were systematically searched for all randomised controlled trials (RCT) and systematic reviews (SR) dealing with the treatment of appendicitis. RCTs and SRs on identical subjects were grouped in research topics. From RCTs, data on morbidity such as surgical site infection, re- admission, re- intervention or re- operation were extracted. Additional outcomes including pain, quality of life, length of hospital stay and absence of work were also extracted. Whenever possible, outcomes for each research topic were meta-analysed. Furthermore, trial quality was assessed using the Cochrane risk of bias 2.0 tool.

Results: Out of over 12000 articles, more than 100 RCTs and 130 SRs were included. Research topics of interest were non-surgical treatment strategies compared to surgical treatment. In trials analysing surgical treatment the following interventions were compared: open vs. laparoscopic techniques, single-incision vs conventional techniques, and stump ligation techniques. Moreover, there are many trials comparing the accuracy of diagnostic tools. Currently, the extraction is ongoing and mapping of the articles is in process.

Conclusion: The results of the Evidence Map of Appendicitis will be presented at the SCS congress in May 2024. Thereafter, the Evidence Map of Appendicitis will be freely accessible via the internet and available as a mobile phone app.

POSTERS: ENDOSCOPY

E1

Clinical effectiveness and safety of esophageal stricture dilation using a novel endoscopic attachment cap (BougieCap vs 2.0) in adults with Eosinophilic Esophagitis

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Background and aims: The BougieCap (Ovesco Endoscopy AG, Tübingen, Germany) is a cone-shaped transparent single-use plastic cap attached to the tip of the endoscope and allows optical and tactile feedback during stricture dilation. We aimed to evaluate the technical feasibility, safety and clinical effectiveness of BougieCap version 2.0 for stricture dilation.

Patients and methods: EoE patients prospectively included in the Swiss EoE Cohort were dilated with BougieCap 2.0 in case of the presence of esophageal strictures and stricture-related symptoms. Symptoms were assessed before and two weeks after a single dilation session using the validated EEsAI PRO tool (range 0-100). This is an investigator-initiated study without sponsoring.

Results: We evaluated 42 patients (76.2% male, median age 40 years, median disease duration 5 years, median diagnostic delay 4 years, 57.2% treated with swallowed topical corticosteroids, 19.1% with PPI, 9.5% without anti-eosinophil therapy, 7.1% with elimination diet). Median esophageal peak eosinophil count was 10/hpf (IQR 0-24). Endoscopic bougienage was technically successful in 100%. A stricture diameter of <10mm was found in 14.3% of patients. Median esophageal diameter increased from 12 mm (IQR 12-13) to 14mm (IQR 14-16, p<0.001). Median EEsAI PRO dropped from 35 points (IQR 27-42) to 0 (IQR 0-12, p<0.001) at 2 weeks post dilation. There was no bleeding necessitating endoscopic intervention. Temporary post-dilational thoracic pain was reported by 33.3% of patients. No esophageal perforation was observed and no BougieCap got detached.

Conclusions: In adults with EoE, endoscopic treatment of esophageal strictures using the upgraded BougieCap version 2.0 is technically feasible, safe and effective, offering symptomatic improvement in the short term.

E2

Driving impairment after propofol-only sedation; a prospective study

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Background: Currently, European guidelines refrain patients from driving until the next day after receiving propofol for simple endoscopy procedures, which may cause various social and physical constraints. The aim of this study is to evaluate driving ability after administration of propofol-only sedation.

Methods: These are the preliminary results of a prospective study that aims to enroll 80 patients presenting for elective day endoscopy procedures (40 gastroscopy and 40 colonoscopy). Attentional aspects of the ability to drive were assessed using a Test Battery for Attentional Performance – Mobility Version (TAP-M) at baseline (at least 4 weeks before or after the day of the endoscopy) and at 1 and 4 hours after the endoscopy. Serum propofol level was assessed for each patient immediately after the procedure, and at 1 and 4 hours thereafter.

Results: Preliminary results are available in 14 patients, 50% of whom are male, with a mean age of 57 years. Five patients underwent gastroscopy and nine underwent colonoscopy. An average of 208mg of propofol was used with a mean AUC $0\text{-}4h$ of 1439 h*ng/ml (SD 462). The mean half-life was 1 h (SD 0.23h), indicating a rapid elimination of propofol with low inter-individual variability. Mean concentrations were of 1748, 235 and 64 ng/ml at T0, T1 and T4, respectively. Driving stimulator performance using TAP-M was similar between the baseline, T1 and T4 following the end of propofol sedation.

Conclusion: Based on these preliminary data, propofol sedation is associated with minimal alteration on attentional performance, and consequently, on driving ability. Rapid elimination of the drug was observed for all patients.

E3

Efficacy and safety of endoscopic radiofrequency ablation of pancreatic neuroendocrine tumors

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Background and aims: Surgery remains the primary treatment for pancreatic neuroendocrine tumors (PNETs), however it carries a high risk of significant adverse events. Recently, endoscopic ultrasound-guided radiofrequency ablation (EUS- RFA) has emerged as a potential treatment for PNETs. This study aims to assess the clinical outcomes and safety of EUS- guided radiofrequency ablation for PNET.

Methods: This retrospective study was conducted at a single tertiary university center from March 2023 to January 2024. Patients were included in case of PNET of smaller than 21 mm in size.

Results: Seven patients with histologically diagnosed PNETs were included (mean age 56 years old, five women). Three had functional PNETs (two insulinomas, one glucagonoma) and four had non-functional PNETs. Tumor nodules (mean diameter of 12mm) were located in the head (3), body (2), and tail (2) of the pancreas. Ten procedures were performed among the seven patients, with a median of one intervention per patient (range 1 to 2). The technical success, confirmed by pancreatic MRI performed three months after the ablation, was 100%. The clinical success rate for the functional PNET was 100%. There were no procedure-related adverse events or deaths. No recurrences were observed during follow-up (mean of nine months).

Conclusion: EUS-guided pancreatic radiofrequency ablation was clinically effective and safe.

E4

Do prophylactically placed pancreatic stents need to be removed- a retrospective chart review

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Background: Prophylactic pancreatic stenting (PPS) is recommended by guidelines to reduce the risk of post ERCP pancreatitis after accidental pancreatic canulation during ERC. There

is no clear guidance and evidence on the optimal time frame and if PPS need be removed at all after ERCP. While some centers do not actively remove PPS, some recommend removal after 5- 14 days.

Method: A retrospective chart review on ERCs performed between 2003 and 2023 was performed with the internal guidance at the center recommending removal after two weeks by gastroscopy. The rate of PPS lost to follow up and presence of PPS on endoscopy as well as the time frame to removal was assessed

Results: Between 2001 and 2023 3081 ERCPs were performed in a tertiary care center in Switzerland. Pancreatic stent placement was performed in 100 cases, n = 84 prophylactic and n = 16 therapeutic, mean patient age 61 +/-23 yrs, 56 female. Monopigtails (n = 81) were used in a majority of prophylactic pancreatic stent (PPS) placements. In a majority (77/84) of PPS 5 French stents up to a maximum length of 8cm were used. n = 22/84 (26%) PPS were lost to follow up with no reported complications. In 41/84 (49%) cases the stent was removed by gastroscopy within a mean 51 days. In five cases the PPS was still in place after a period of more than 100 days (103-221d) with 85% in situ and retrieved within 40 days. In 21/84 (25%) cases the stent had passed on control endoscopy. In three cases the PPS had already passed after a week with passing times ranging between 20-475 days in the rest of cases. There was no correlation between indication (Choledocholithiasis or biliary tract stenting in the presence of malignancy with regard to retention of PPS.

Conclusion: A large proportion of PPS is lost to follow without complications. About 50% of placed PPS are in situ after 40 days regardless of ERC indication. 25% of PPS pass without intervention. The necessity of removal of PPS needs to be evaluated in larger prospective studies taking into account different pancreatic stent types and protocols to provide clear guidance on the topic.

E5

Safety and success rate of biliary cannulation by double guidewire technique after repeated unintentional pancreatic duct cannulation

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Introduction: Difficult biliary cannulation is a major risk factor for post ERCP pancreatitis (PEP). The European Society for Gastrointestinal Endoscopy recommends either early needle knife precut, double guidewire technique with prophylactic pancreatic stenting (DGWT) or transpancreatic sphincterotomy in these situations. Data on the safety and success rate in patients undergoing DGWT remain scarce.

Methods: Retrospective analysis of prospectively collected ERCP data from a single operator in a tertiary referral centre between 2021 and 2024. We aimed to evaluate the success rate and safety of the DGWT in patients undergoing ERCP with naive papilla.

Results: Between 2021 and 2024, 594 patients underwent ERCP, of which 274/594 (46%) had a naive papilla. In 49/274 (18%) patients (49% female, mean age 65 years) biliary cannulation was difficult (>2 unintentional pancreatic duct cannulations) and DGWT was attempted. Biliary cannulation by DGWT was successful in 40/49 patients (82%). In 9/9 patients without biliary access by DGWT, needle-knife fistulotomy was successful after placement of a pancreatic stent. Mild PEP was observed in 16% of patients who underwent DGWT. Papillotomy bleeding occurred in 8% and was immediately treated with fully covered metal stents. There were no perforations during the period analysed.

Conclusion: DGWT is a very effective and safe technique to overcome unsuccessful biliary cannulation. The increased risk of mild PEP reflects the difficulty of cannulation. Other more riskful cannulation techniques remain available after failed DGWT.

E6

Green Endoscopy- potential and limitations of waste reduction strategies derived from a waste audit

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Background: Endoscopy units are one of the most resource-intensive departments in a hospital, generating large quantities of medical waste. We determined waste production and composition in our department, derived strategies for waste reduction from that data, and measured the effects of implemented interventions.

Methods: Over the course of one week in March 2023 and another in May 2024, we performed a structured waste audit in the endoscopy department of the University Hospital of Basel. From waste quantity and composition, we proposed interventions for waste reduction and provided estimates of effect size for each intervention. Recycling for PET bottles was established, and instructions on correct disposal of endoscopic accessories and recycling in general were provided. The effect of implemented interventions was determined in a second audit.

Results: Waste audit data accurately predicted the effects of implemented recycling and disposal interventions. Waste composition

changed with a marked reduction in sharps and increased proportion of recycled materials. Total general hospital waste increased slightly, as well as the volume of suction liquids, possibly due to paralell efforts to further improve hygiene and establishement of underwater EMR. Significant potential remains for alternative disposal of suction liquids.

Conclusions: A structured waste audit can help identify waste reduction potential. Where feasible in real life, recycling and instructions for the correct disposal of endoscopic accessories are followed consequently and can contribute to waste reduction. Hygiene and safety, reimbursement regulations, and possibilities for recycling limit the possibility of further reducing the waste production.

E7

Over -the –scope (OTSC) clips for high –risk nonvariceal upper GI bleeding – real world data on usability and efficacy

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Background: Non-variceal upper gastrointestinal hemorrhage (NVUGIH) is one of the leading causes for hospitalization in gastroenterology. The high efficacy in bleeding hemostasis of the OTSC treatment in NVUGIH was demonstrated by several trials. In most studies the endoscopic procedures were performed by highly experienced endoscopists in the management

of GI bleeding and OTSC application (>20 OTSC applications per year).

Methods: Retrospective analysis of the local clinic data system between 06/2018 to 02/2023 for first line OTSC application in high risk upper gastrointestinal tract bleeding.

Results: 34 patients were treated with OTSC for upper GI-bleeding by 12 different physicians, with experience from 1 to >20 OTSCs per year. Mean patient age 75 years, 44% female, 56% male. 12% with Forrest 1a (squirting) (n = 4), 44% with Forrest 1b (oozing) (n = 15) and 44% with Forrest 2a (visible vessel) and evidence of bleeding (n = 15). 50% (n = 17) of cases were treated with adrenaline first. Clinical success was 97% (n = 33). In one case persistent bleeding lead to coiling of the arteriy . Recurrent bleeding requiring another OTSC or TTS placement was observed in 5 patients (15%).

Conclusion: OTSC application seems to have a steep learning curve and is an effective first line therapy for NVUGIH.

E8

Endoscopic submucosal dissection thread technique using conventional suture needle for difficult upper esophageal lesion: a case report

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Background: Numerous traction technique for endoscopic submucosal dissection (ESD) has been used and compared[1]. These techniques have appeared a valuable "second-hand" to perform, enabling adequate visualization of submucosal tissue and vasculature, allowing safer and more efficient dissection [2]. The known clip and line technique has been traditionally used with a clip but in the present reported case, it was not possible to attached a clip owing to use a different pragmatic approach.

Results: We report a clinical case of a 68-year-old patient planning for endoscopic mucosal dissection of stenotic lesion with thread pull with needle technique. Patient was known for an undifferentiated upper 1/3 carcinoma treated with exclusive targeted radiotherapy curative (50.4 Gy) with radiosensitizing chemotherapy. The presence of squamous cell carcinoma was proven by biopsies at 20 cm. The examination was carried out under general anesthesia with intubation, in the supine position. We find the area located astride a stenosis cervical located 20 to 22 cm from the AD, immediately under Killian mouth. The zoom and NBI appearance were highly suspicious of squamous cell carcinoma infiltrating the mucosa, or even the submucosa. In accordance with the decision of the tumor board, we proceed to resection of this area by submucosal dissection. Firstly, the distal part located under the lesion a posterior furrow was carried out. In a second step, we made a furrow above the lesion, then a tunnel. The lesion was then pulled using the two elastic clips method then with a suture's needle at the upper part of the lesion applied by a standard biopsy forceps. The resection was macroscopically complete except for small patches of 2 mm each, in contact with a strip of normal esophagus in order to limit the risk of stenosis.

Conclusion: Due to the very proximal and challenging location of an upper esophageal carcinoma lesion, current common thread technique for ESD was not applicable and we report the possible use of suture needle technique.

[1] Abe S, et al. Efficacy of Current Traction Techniques for Endoscopic Submucosal Dissection. Gut Liver. 2020.

[2] Khan Suliman et al., advancing endoscopic traction techniques in endoscopic submucosal dissection, Frontiers in Oncology, 2022.

E9

Safety of biliary intraductal radiofrequency ablation (bRFA) for unresectable extrahepatic biliary tract cancer (EBTC): ABLATIO- BILICA – Study protocol of a multicentre randomized controlled trial

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Background: Unresectable biliary tract cancer (EBTC) presents a clinical challenge with high mortality rates despite therapeutic advancements, e.g. immune checkpoint inhibitors (ICI) + chemotherapy (ICIC). One critical aspect is biliary obstruction, which compromises liver function and limits the applicability of chemotherapy. Endoscopic interventions with stent placement aim to alleviate biliary obstruction. Stent patency issues and tumor progression remain challenges, prompting the exploration of adjunctive therapies.

Aim: We aim to evaluate the safety and efficacy of bRFA in patients with EBTC undergoing standard-of-care ICIC-therapy with implications for improving outcomes and refining treatment strategies.

Methods: This is a randomized-controlled clinical trial (RCT) comparing standard-of-care (ICIC + endoscopic stenting, n = 12) versus standard-of-care plus bRFA (n = 24) being allocated in a 1:2 ratio. The primary endpoint is the incidence of severe treatment-related adverse events (grade 3 or 4) leading to ICIC discontinuation up to six months after enrolment.

Discussion: We believe that the results will offer valuable insights into the role of bRFA as a supplementary treatment in unresectable EBTC. In case, this safety-study does demonstrate no increase in severe adverse events in EBTC treated by ICIC then a RCT addressing the efficacy of bRFA in terms of overall survival in this setting will follow.

Trial registration: ClinicalTrials.gov, NCT06274879

Funding: Krebsforschung Schweiz (KFS- 5812-02-2023)

E10

Buried bumper syndrome, a natural history of 6 years' experience: case series

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Background: Buried bumper syndrome is a rare complication of percutaneous endoscopic gastrostomy and defined as the migration of the internal bumper of the tube in the gastric wall. Numerous endoscopic techniques have been described to manage this condition [1]. The prevalence range between 1.5 to 8.8 %. The condition should be prevented by turning and advancing the tube inside the gastric cavity once a week. Inadequate respect of this instruction and tension on the tube induced growth of the mucosa and internalization of the bumper in the gastric wall[2].

Results: We present a series of 11 cases of buried bumper managed in our center, from January 2018 to march 2024. We retrospectively looked to all the endoscopic procedure involving PEG in our endoscopic unit, using our endoscopic report's generating software and included all confirmed buried bumper on gastroscopy report. The mean age at the diagnosis was 54.5

years. Patients were female for 45 % (5 /11 patients). The mean time from Peg insertion to buried bumper diagnosis was 30.5 months (13-61) and median was 28 months. A successful management was achieved with therapeutic endoscopy in 72% of patients (7/11), and 4/11 patients were addressed to the surgical team for evaluation and management.

Conclusion: We report a series of cases of buried bumper with a large majority of therapeutic endoscopic efficient management.

1 Menni A, Tzikos G, Chatziantoniou G, Gionga P, Papavramidis TS, Shrewsbury A, Stavrou G, Kotzampassi K. Buried bumper syndrome: A critical analysis of endoscopic release techniques. World J Gastrointest Endosc 2023.
2 Mueller-Gerbes Daniela et al. Comparison of removal techniques in the management of buried bumper syndrome: a retrospective cohort study of 82 patients Endoscopy International Open 2017.

E11

Case Report: VacStent® therapy for colonic anastomotic leakage

Chantal Hasler[1], Tassili A.F. Weehuizen[1], Stephan Baumeler[1], Simon Bütikofer[1], Patrick Aepli[1]

1 Department of Gastroenterology & Hepatology, Luzerner Kan- tonsspital, Lucerne

Background: Endoscopic vacuum therapy (EVT) using sponges is recognized as an efficient approach for managing anastomotic leaks in the distal colon. However, the majority of patients needs additional proximal diversion and in case of anastomotic leakages it may not be possible to place the sponge into the cavity. The VacStent® merges the advantages of EVT and a fully covered self-expanding metal stent, accelerating wound healing and maintaining the natural anatomical pathway for unobstructed stool passage. The effectiveness of the VacStent® has been proven in treating upper gastrointestinal anastomotic leaks and esophageal perforations. It is con- ceivable that these advantages could extend to the colorectum.

Methods: Here we present the case of a 60-year-old patient with an anastomotic leakage following an anterior rectosigmoid resection with side-to-end descendorectostomy due to perforated sigmoid diverticulitis. The "VacStent GI Colon®", an 80 mm fully-covered, self-expanding NiTi stent with its middle 60 mm covered by a cylindrical polyurethane sponge and an inner diameter of 25 mm, was placed over the anastomosis and the defect. The VacStent® then was connected to a vacuum pump, providing continuous negative pressure at -125 mmHg.

Results: The VacStent® had to be changed twice: the first time 5 days after initial insertion, and then again 7 days later. EVT could successfully be discontinued after a total of 20 days, with no signs of anastomotic leakage observed neither endoscopically nor on CT abdomen with rectal contrast.

Conclusion: EVT in the distal colon using the VacStent® appears to be a successful and promising alternative to endoluminal sponge therapy, demonstrating rapid wound healing without the need for stool diversion.

E12

Endoscopic band ligation associated with complete esophageal obstruction: the Geneva experience

Dr. Ralph Briner, Dr. Marie Ongaro, Prof. Laurent Spahr, Prof. Jean-Louis Frossard

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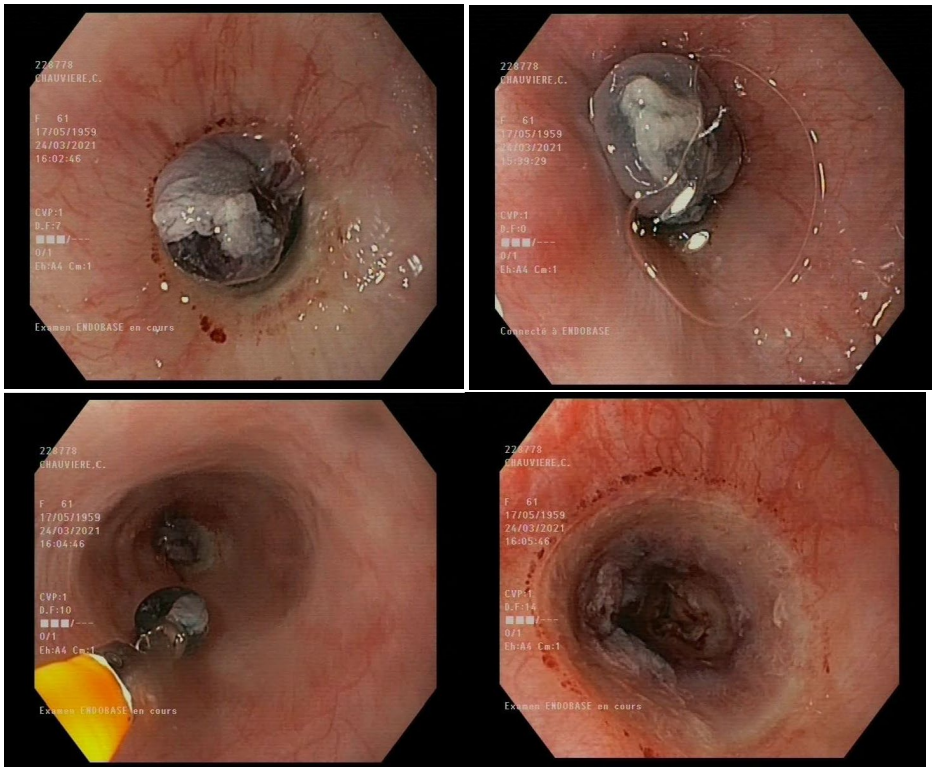
Gastro-esophageal varices is a frequent complication of cirrhosis and mortality associated with variceal bleeding is high. Endoscopic band ligation (EBL) can be done for primary prophylaxis when non-selective beta-blockers (NSBBs) induce adverse event, and when variceal active bleeding are found at endoscopy. EBL-related complications are rare and include ligation-induced ulceration, dysphagia and sometimes complete esophageal obstruction. We here present two cases who rapidly described aphagia within the first 24 hours after EBL. A barium enema procedure showed a complete obstruction of the lower esophagus, subsequently confirmed by endoscopy that additionally depicted a necrotic esophageal mucosa aspect upstream to the level of obstruction. Both cases were treated using biopsy forceps that allowed band removal. Esophageal lumen was restored without any bleeding. The barium esophagram and the CT-scan done the day after, showed no esophageal perforation and no stricture. The procedure led to resolution of symptoms and the patient tolerated regular diet and hydration 24 hours after the procedure. Esophageal obstruction after EBL is a rare complication described in only 19 case reports worldwide. Management by removal of the elastic bands with a biopsy forceps resulted in complete alleviation of symptoms and recovery, but this technique wasn't described in the literature. In case of discomfort with total aphagia, we recommend barium enema procedure and endoscopy to assess the cause and level of esophageal obstruction and to remove the band ligation with a forceps biopsy.

Patient #1



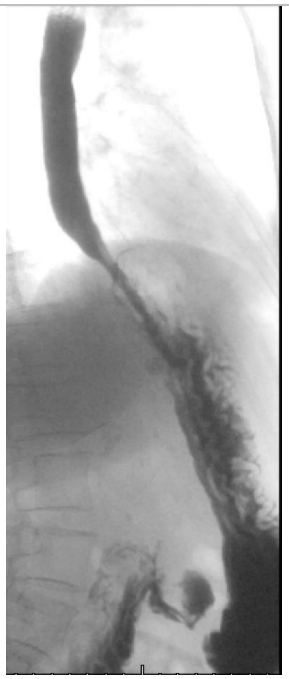
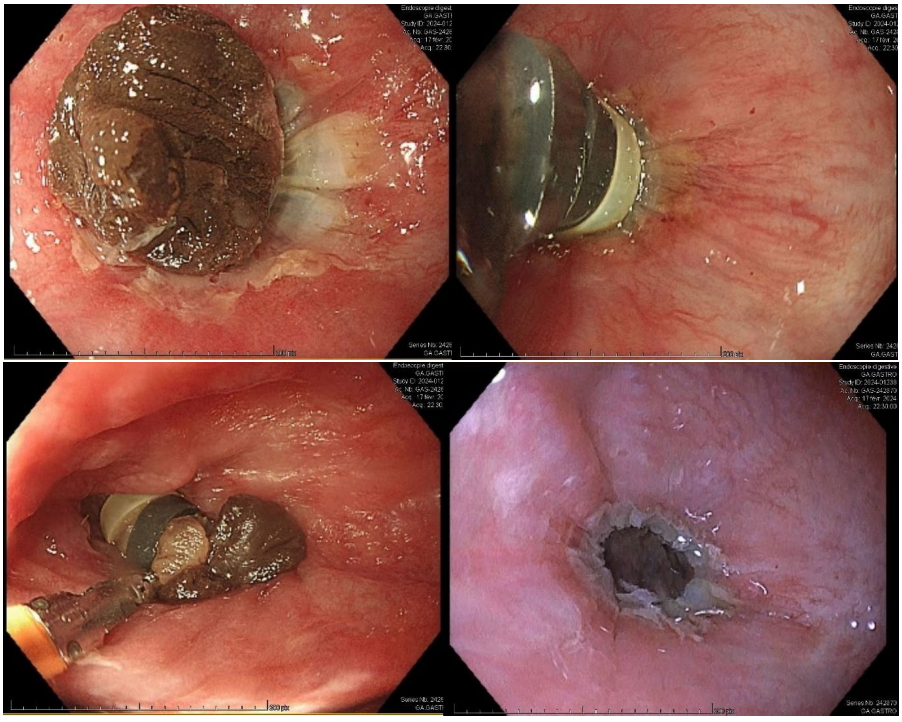


Fig. 1 (left): Mushroom sign, elastic band removal with biopsy forceps. Fig. 2 (right): Barrium swallow after elastic band removal.

Patient #2



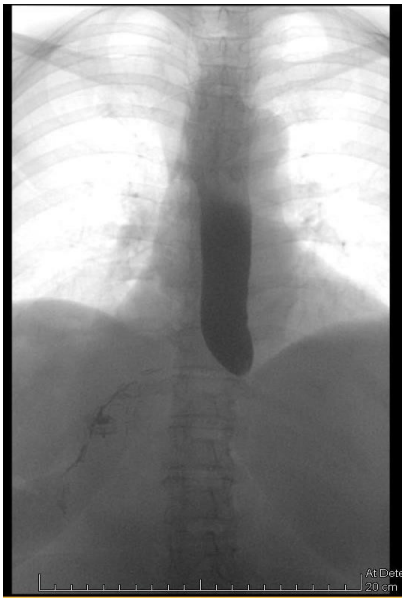


Fig. 1 (left): Mushroom sign, elastic band removal with biopsy forceps. Fig. 2 (right): Barrium swallow before elastic band removal.

E13

New Insights into Endoscopic Description of Anal Intraepithelial Neoplasia

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1 Clinic for Gastroenterology and Hepatology, Cantonal Hospital Lucerne

Introduction: Anal intraepithelial neoplasia (AIN or ASIL) is the precursor of anal carcinoma. Particularly in high-risk populations (immunosuppressed individuals, homosexual men, and HIV-positive individuals), there is a significantly elevated risk of anal carcinoma. In recent years, endoscopy has increasingly emerged as a widely available and straightforward tool for visualizing anal mucosa.

Methods: New high-resolution endoscopes (including near- focus) allow microscopic visualization of capillary structures. Visualization is improved by the addition of an inversely mounted distal cap. The consistent use of water insufflation in the inverse-mounted distance cap without drainage opening leads to a relevant additional magnifying effect.

Results: Using this new method, it has been demonstrated that the dot-like and mosaic patterns traditionally described as characteristic of AIN actually correspond to capillary spirals or window-like patterns. In contrast, the regular anal mucosa shows longitudinal capillaries that run parallel to the anal canal.

Discussion: This previously unreported vascular patterns described in the AIN screening literature could help to better identify these lesions in the future and to better define the margins in minimally invasive local ablation procedures.

E14

Oh Tannenbaum! – double colonic perforation caused by a plastic biliary stent and successful closure with OTSC

Manuel Lehner[1], Henriette Heinrich[1], Marius Zimmerli[1]

1 Clarunis Universitäres Bauchzentrum Basel

An 89-year-old woman was transferred to our clinic with chronic right lower quadrant abdominal pain, new constipation, and worsening pain over 4 days. She was stable, afebrile, with abdominal tenderness and localized resistance. Laboratory results showed elevated C-reactive protein (108.4 mg/L) without leukocytosis. Abdominal CT revealed a dislocated plastic biliary stent in the sigmoid colon with perforations at both ends, but no free air.

A year earlier, she had retrograde cholangiography with endoscopic papillotomy, biliary stone extraction, and a plastic biliary stent placement. A follow-up CT scan showed the stent had migrated to the sigmoid colon, causing a perforation, but no action was taken then.

We started antibiotic therapy and decided on endoscopic treatment. During colonoscopy, the stent was found penetrating the colonic wall on both ends. It was removed with forceps, and both perforations were closed using over-the-scope clips (OTSC). The patient continued antibiotics for a week with no complications and was asymptomatic at follow-up.

Stent migration occurs in 3%–21% of patients, but serious complications are rare. Colonic perforations were reported in 41 cases overall. OTSCs are effective for gastrointestinal perforations, providing immediate closure and often avoiding surgery. Only one case of a colonic perforation by a migrated biliary stent with endoscopic closure with an OTSC has been reported to date. We report a successful OTSC closure of a double colonic perforation caused by a migrated Tannenbaum Biliary Stent.

POSTERS: GASTROENTEROLOGY

G1

Improvements in histologic, symptomatic, and endoscopic aspects of eosinophilic esophagitis are maintained, or continue to improve, with long-term dupilumab treatment, regardless of prior esophageal dilation

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**Christoph Schlag is presenting on behalf of the authors*

Introduction: Esophageal dilation may provide rapid symptomatic relief in patients with eosinophilic esophagitis (EoE) and fibrostenotic disease but does not modulate the underlying inflammation and may lead to dissociation between histologic activity and symptoms. In Parts A and B of the Phase 3 LIBERTY EoE TREET study (NCT03633617), weekly (qw) dupilumab 300 mg improved histologic, symptomatic, and endoscopic aspects of EoE at Week 24 versus placebo in adults and adolescents, regardless of prior esophageal dilation history. The objective of this analysis was to assess the long-term (52-week) efficacy of dupilumab 300 mg qw vs placebo in patients with EoE with and without prior history of esophageal dilation.

Methods: Patients who completed Part B and received dupilumab 300 mg qw for a further 28 weeks in Part C of LIBERTY EoE TREET study were included in this analysis. Patients with and without a history of dilation were stratified for analysis. Patients were excluded from study enrollment if they required dilation during the screening endoscopy. Concomitant dilation during study treatment was prohibited but rescue dilation was permitted. Endpoints assessed at Week 52 were proportions of patients achieving peak esophageal intraepithelial eosinophil (eos) count ≤6 eos/high-power field (hpf) and <15 eos/hpf, absolute change from Part B baseline in Dysphagia Symptom Questionnaire (DSQ) total score, Endoscopic Reference Score (EREFS), and EoE-Histologic Scoring System (EoE-HSS) grade and stage scores.

Results: At Part B baseline, 32.5% and 41.8% of patients in the dupilumab and placebo groups, respectively, had a history of esophageal dilation. Mean (standard deviation [SD]) number of prior dilations were 2.5 (3.1) and 2.2 (2.8), and time since last dilation was 818.8 (962.0) and 1343.5 (2035.1) days, respectively. Dupilumab 300 mg qw improved proportions of patients achieving ≤6 eos/hpf, <15 eos/hpf, DSQ total score, EREFS, and EoE-HSS grade and stage scores at Week 24 versus placebo,

and improvements were maintained or continued to improve at Week 52, regardless of prior esophageal dilation history. Patients switching from placebo to dupilumab showed similar efficacy to patients originally randomized to dupilumab at study baseline (Table). Dupilumab safety in Parts B and C was consistent with the known dupilumab safety profile.

Conclusion: A history of esophageal dilation does not alter response to dupilumab; improvements in histologic, symptomatic, and endoscopic aspects of EoE with dupilumab 300 mg qw observed at 24 weeks were maintained or continued to improve with an additional 28 weeks of dupilumab treatment, regardless of prior esophageal dilation history. Esophageal dilation status did not lead to dissociation between histologic activity and symptoms.

Acknowledgments and funding sources

Data included in this abstract were originally presented at the Digestive Disease Week, May 19-21, 2024; Washington, WA, USA. Research sponsored by Sanofi and Regeneron Pharmaceuticals Inc.

ClinicalTrials.gov Identifier: NCT03633617. Medical writing/editorial assistance was provided by Susan Dyas, MSc, on behalf of Adelphi Communications, Bollington, UK, and was funded by Sanofi and Regeneron Pharmaceuticals Inc., according to the Good Publication Practice guideline. Editorial assistance for this encore abstract is provided by Aruna Meka, PhD, of Sanofi.

Table. Effect of dupilumab qw on histologic and endoscopic outcomes at Weeks 24 and 52, by history of esophageal dilation.

	Week 24 (Part B–C baseline)				Week 52			
	History of esophageal dilation		No history of esophageal dilation		History of esophageal dilation		No history of esophageal dilation	
	Placebo / Dupilumab 300 mg qw (n = 18)	Dupilumab 300 mg qw / Dupilumab 300 mg qw (n = 23)	Placebo / Dupilumab 300 mg qw (n = 19)	Dupilumab 300 mg qw / Dupilumab 300 mg qw (n = 51)	Placebo / Dupilumab 300 mg qw (n = 18)	Dupilumab 300 mg qw / Dupilumab 300 mg qw (n = 23)	Placebo / Dupilumab 300 mg qw (n = 19)	Dupilumab 300 mg qw / Dupilumab 300 mg qw (n = 51)
Proportion of patients achieving ≤6 eos/hpf, n/N1 (%)[a]	1/18 (5.6)	13/23 (56.5)	1/19 (5.3)	35/51 (68.6)	13/18 (72.2)	18/19 (94.7)	12/19 (63.2)	37/46 (80.4)
Absolute change from baseline in DSQ total score[b]	−14.6 (13.0)	−26.5 (14.2)	−15.8 (13.8)	−25.7 (16.5)	−25.8 (10.0)	−30.2 (15.3)	−28.9 (13.3)	−30.3 (15.6)
Proportion of patients achieving <15 eos/hpf, n/N1 (%)	1/18 (5.6)	21/23 (91.3)	2/19 (10.5)	45/51 (88.2)	15/18 (83.3)	19/19 (100.0)	14/19 (73.7)	46/46 (100.0)
Absolute change from baseline in EREFS total score	−1.72 (4.78)	−4.78 (3.44)	−1.56 (3.38)	−4.64 (3.39)	−6.06 (4.12)	−6.11 (2.47)	−6.16 (3.15)	−5.02 (2.96)
Absolute change from baseline in EoE-HSS grade score	−0.09 (0.45)	−0.95 (0.34)	−0.24 (0.51)	−0.92 (0.43)	−0.85 (0.45)	−0.95 (0.38)	−0.96 (0.34)	−0.97 (0.45)
Absolute change from baseline in EoE-HSS stage score	−0.07 (0.39)	−0.90 (0.34)	−0.25 (0.53)	−0.89 (0.40)	−0.78 (0.40)	−0.90 (0.36)	−0.96 (0.28)	−0.94 (0.38)

Data are mean (SD) unless otherwise stated. N1 = number of patients with non-missing values at each visit. aPatients were considered as non-responders after rescue treatment. MI was used if patients had dosing interruption due to COVID-19. Patients with missing peak esophageal intraepithelial eosinophil count at Week 24 were considered as non-responders if missing is not due to COVID-19 and were imputed by MI if missing is due to COVID-19. bValues after first rescue treatment were assigned using MI. COVID-19, coronavirus disease 2019; DSQ, Dysphagia Symptom Questionnaire; EoE-HSS, eosinophilic esophagitis-Histologic Scoring System; eos/hpf, eosinophils per high-power field; EREFS, Endoscopic Reference Score; MI, multiple imputation; qw, weekly; SD, standard deviation.

G2

Unveiling ChatGPT's Limitations in European Board of Gastroenterology and Hepatology Exam: Inconsistencies and Challenges in Complex Medical Reasoning

Cem Simsek, Petr Vanek, Ibrahim N Sendur, Marius Zimmerli, Cesare Hassan, Henriette Heinrich

Introduction: The integration of artificial intelligence (AI) in medicine has the potential to revolutionize healthcare. Exams, such as the European Board of Gastroenterology and Hepatology (EBEGH) exam, are currently the gold standard for assessing medical competency and provide credentialing across several EU countries. This study evaluates the performance of ChatGPT in the high-stakes EBEGH exam by assessing its strengths and limitations in managing complex medical content, focusing on its ability to handle various question types, cognitive task demands, and subspecialty domains.

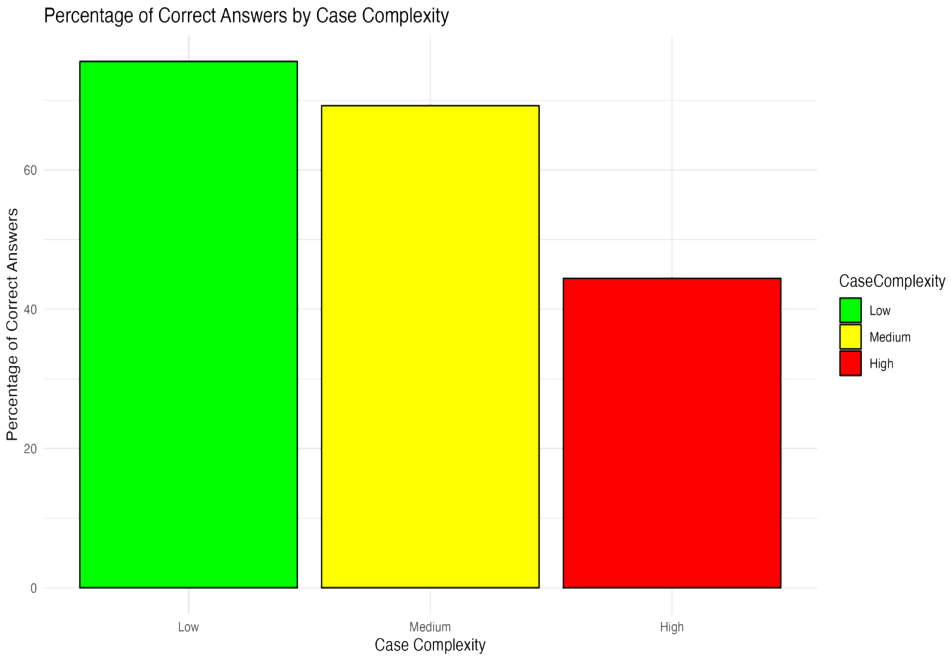
Methods: Utilizing a dataset of 200 EBEGH study questions, we analyzed ChatGPT's performance across question complexity, cognitive task demands, subspecialty domains, and patient-centeredness. The dataset ensured the same number of questions and a balanced representation of subspecialties and focused on textual questions, excluding visual questions. Each question was asked to the model 5 times, with the most frequent answer selected as the final response. A suitable prompt for the task was used for all questions. Logistic regression, ANOVA, and chi-square tests investigated the impact of these factors on the AI's likelihood of correct responses, performance variance, and categorical data associations. Krippendorff's Alpha evaluated ChatGPT's precision in replicating responses across multiple iterations. The study questions were categorized based on cognitive task complexity using Bloom's taxonomy, and the evidence base supporting each question was copied from the question bank reference . The model's performance was further analyzed in relation to the interdisciplinary nature of the questions and procedural knowledge requirements.

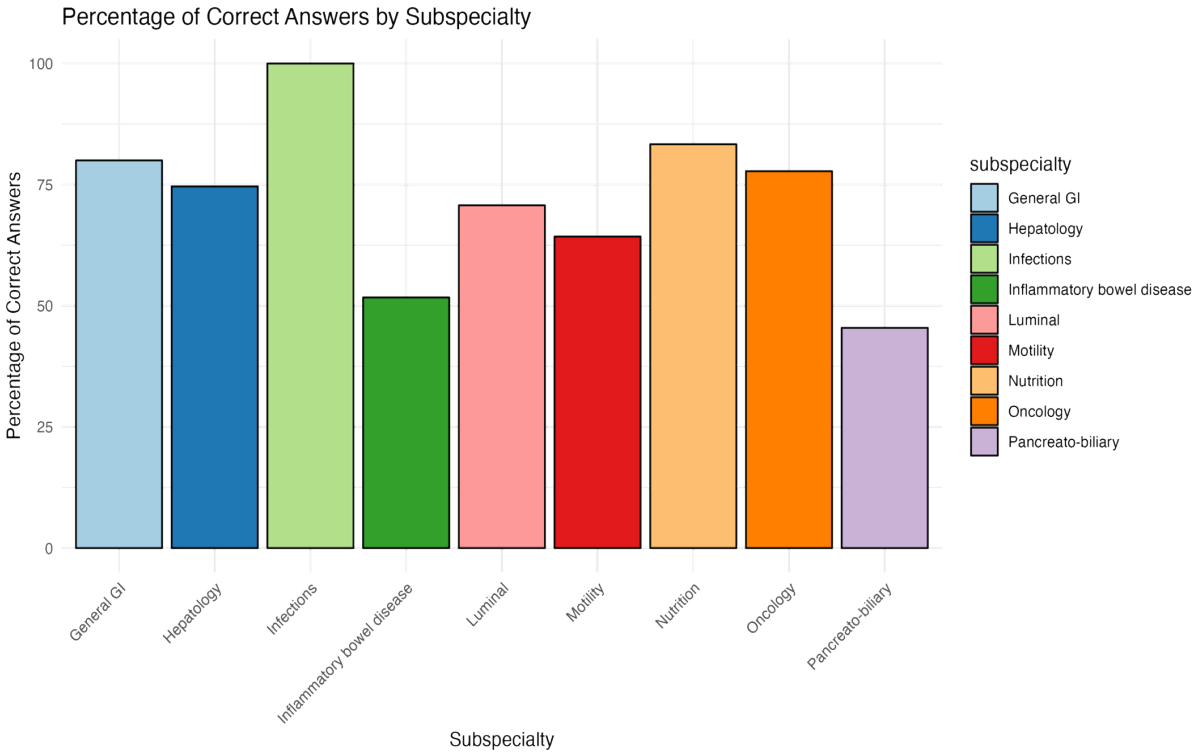
Results: ChatGPT correctly answered a mean of 67.5% (n = 135, range 121-142) of the questions, with performance significantly influenced by question complexity. Low complexity cases significantly increased the odds of correct responses by 3.87 times, (p = 0.001), while medium complexity cases showed a similar trend by 2.82 times (p = 0.013). Non-patient-centered questions significantly decreased the odds of correct answers (OR = 0.30, p = 0.030). The model demonstrated inconsistency in replicating responses (Krippendorff's Alpha = 0.00219). Questions requiring higher cognitive tasks, such as analysis and evaluation, posed significant challenges for the model (p<0.01). The AI's performance was not significantly influenced by the interdisciplinary nature of the questions or the requirement for procedural knowledge.

Conclusion: While ChatGPT effectively handles simpler queries, its performance in complex, specialized medical testing scenarios, such as EBEGH exams, is currently limited. The AI's performance varies across subspecialties, question types, and cognitive task demands, and it demonstrates inconsistency in replicating responses. These findings underscore the need for a cautious and nuanced approach to integrating AI in high-stakes medical examinations, particularly in domains requiring deep understanding and patient-centered considerations. The EBEGH exam's ability to effectively challenge ChatGPT demonstrates its value as a robust tool for evaluating medical knowledge and expertise.

Table 1. Characteristics of EBEGH test question set.

		n	%
Correct Answer		135	67.5
Question Type	Diagnostic	135	67.5
	Therapeutic	72	36
	Prognostic	34	17
	Clinical	172	86
Evidence Base	Research	142	71
	Expert opinion	9	4.5
	Guideline	189	94.5
Cognitive Task	Analyze	123	61.5
	Apply	133	66.5
	Create	3	1.5
	Evaluate	110	55
	Remember	151	75.5
	Understand	187	93.5
Center	Clinical focused	159	79.5
	Patient communication	29	14.5
	Not clinical case focused	44	22
Procedural Knowledge	Contraindications	15	7.5
	Indications	102	51
	Techniques	77	38.5
Interdisciplinary		9	95.5
Subdomain	Biliary	23	11.5
	Hepatology	67	33.5
	IBD	32	16
	Luminal and General GI	68	34
	Nutrition	9	4.5
	Pancreatology	28	14
	Infectious disease	7	3.5
	Pediatric	2	1
	Motility	19	9.5
	Oncology	12	6





G3

Metabolic dynamics of the small intestinal microbiota upon nutritional interventions

S.B.U. Jordi[1,2], J. Li[1,2], I. Bärtschi[1,2], J. Wyss[1], B. Stecher[3], U. Sauer[4], A. J. Macpherson[1,2], B. Yilmaz[1,2], B. Misselwitz[1,2]

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Introduction: The human small intestinal microbiota plays a decisive role in intestinal physiology. However, it remains barely investigated due to limited accessibility.

Methods: We utilise the access *via* Ileostomies in a randomised cross-over trial with two nutritional interventions (high carb vs. high fat). Stoma samples are collected from 30 stoma patients hourly (0-6h) after the intervention, along with blood and urine samples (0h, 3h, 6h).

Results: We characterise the small intestinal microbiota through taxonomy (16S sequencing), biomass, and metabolome analysis. Shotgun metagenomic and mRNA sequencing are performed at selected timepoints. Our comprehensive "multi-omics" analysis will identify and interpret the dynamics of bacterial pathways and networks. In parallel, we have created a bacterial isolate catalogue (>1000 isolates, ~200 species) form human samples to reproduce key interactions *in vitro*.

Conclusion: This study aims for a comprehensive analysis of small intestinal microbiota dynamics in the context of different nutritional interventions. The data and samples collected will enable hypothesis testing *in vitro* and lay the groundwork for future disease-specific investigations. Additionally, by establishing an extensive catalogue of well-characterised human-derived bacterial isolates, we create a resource for future experimental research projects.

G4

Dupilumab efficacy in eosinophilic esophagitis persists for histologic, symptomatic, and endoscopic outcomes regardless of concomitant high-dose proton pump inhibitor use

Marc E. Rothenberg[1]; Alain Schoepfer[2]; Evan S. Dellon[3]; Albert J. Bredenoord[4]; Erika Martire[5]; Xian Sun[6]; Elizabeth Laws[7]; Eric Mortensen[6]; Jennifer Maloney[6]; Lila Glotfelty[7]; Arsalan Shabbir[6]

*Presenting on behalf of authors

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Background: Proton-pump inhibitor (PPI) therapy is the most commonly used first-line therapy for eosinophilic esophagitis (EoE) but data informing long-term outcomes are limited.This pre-specified analysis of data from the phase 3 LIBERTY EoE TREET (NCT03633617) study assessed the efficacy of weekly dupilumab vs placebo in patients (pts) with and without concomitant PPI use.

Methods: Pts with peak intraepithelial eosinophil (eos) count ≥15 eos/high-power field (hpf) after ≥8 weeks' high-dose PPI were randomized to dupilumab or placebo. Pts on high-dose PPIs at screening remained on a high-dose regimen during the treatment period; switching of PPI types was permitted but new initiation of PPIs was prohibited. Endpoints at Week 24 were: proportion of pts achieving ≤6 eos/hpf, absolute change from baseline in Dysphagia Symptom Questionnaire (DSQ) score, % change in peak eos count, absolute change in Endoscopic Reference Score (EREFS) and Histologic Scoring System (HSS) grade/stage scores.

Results: In Parts A and B, respectively, 61.9% and 71.3% of pts in the dupilumab group and 64.1% and 72.2% in the placebo group were using PPIs at randomization. For pts treated with dupilumab vs placebo in Parts A and B, respectively, ≤6 eos/hpf was achieved by 69.2% (95% confidence interval [CI] 48.2–85.7) vs 8.0% (95% CI 1.0–26.0) and 59.6% (95% CI 45.8–72.4) vs 7.0% (95% CI 2.0–17.0) of pts using PPIs, and by 43.8% (95% CI 19.8–70.1) vs 0% (95% CI 0–23.2) and 56.5% (95% CI 34.5–76.8) vs 4.5% (95% CI 0.1–22.8) of pts not using PPIs. Least squares mean change from baseline in DSQ score for dupilumab vs placebo was –18.5 vs –12.9 and –21.8 vs –14.0 for pts using PPIs in Parts A and B, respectively, and –27.8 vs –3.8 and –28.4 vs –13.3 for those not using PPIs (Figure 1). Dupilumab improved outcomes vs placebo for secondary endpoints, with comparable results in pts with and without concomitant PPI use. Absolute change from baseline in EREFS score is shown in Figure 1. Dupilumab was generally well tolerated.

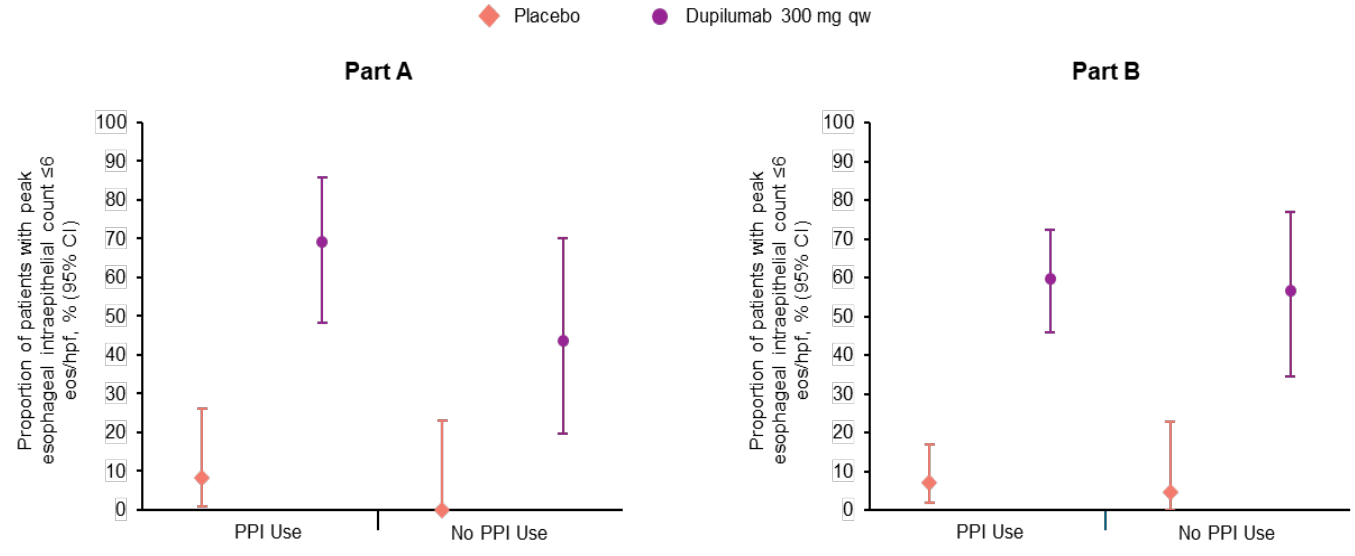
Conclusions: Dupilumab improved histologic, symptomatic, and endoscopic aspects of EoE in adults and adolescents, up to 24 weeks, regardless of concomitant high-dose PPI use.

Acknowledgements and funding sources: Data in this abstract were originally presented at the ACG 2023, 20–25 October 2023, Vancouver, Canada. Research sponsored by Sanofi and Regeneron Pharmaceuticals Inc. ClinicalTrials.gov identifier: NCT03633617. We would like to thank Leda P. Mannent of Sanofi for her contribution to this analysis. Medical writing/editorial assistance was provided by Susan Dyas, MSc, on behalf of Adelphi Communications, Bollington, UK, and was funded by Sanofi and Regeneron Pharmaceuticals Inc., according to the Good Publication Practice guideline. Editorial assistance for this encore abstract is provided by Soniya Biswas of Sanofi.

Figure 1. Effect of dupilumab 300 mg qw versus placebo on primary endpoints (A) proportion of patients with peak esophageal intraepithelial eosinophil count of ≤6 eos/hpf (B) absolute change from baseline in DSQ total score at Week 24. (C) absolute change from baseline in EREFS total score at Week 24, by concomitant PPI use.

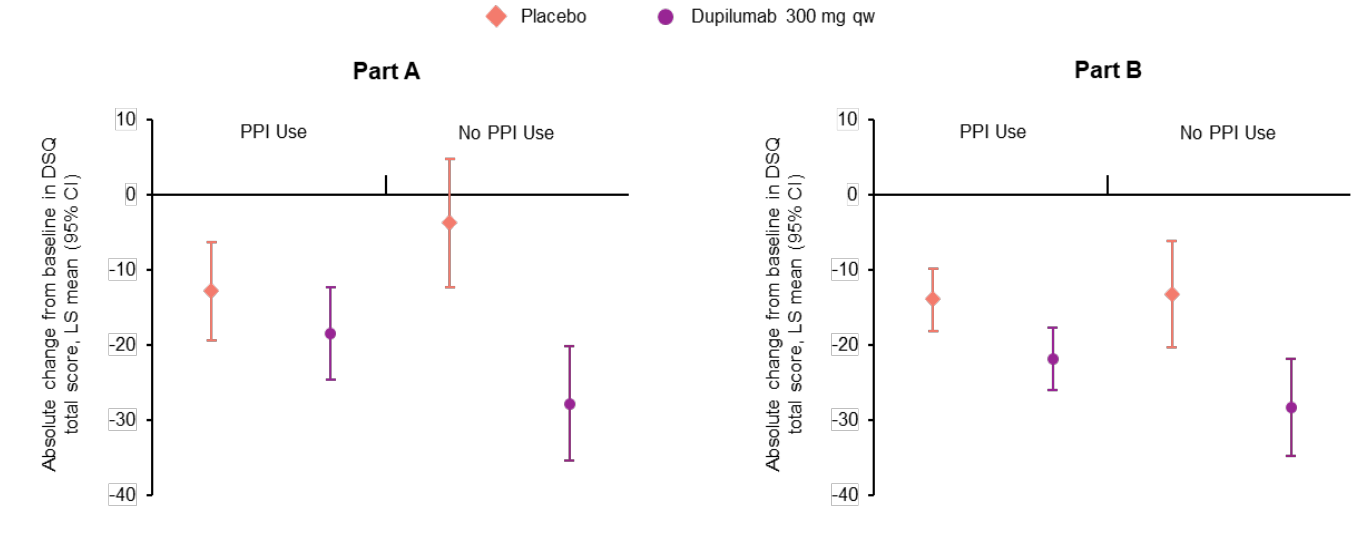
CI, confidence interval; DSQ, Dysphagia Symptom Questionnaire; EREFS, endoscopic reference score; eos, eosinophils; hpf, high-power field; LS, least squares; PPI, proton pump inhibitor; pt, patient; qw, once weekly; SE, standard error.

A



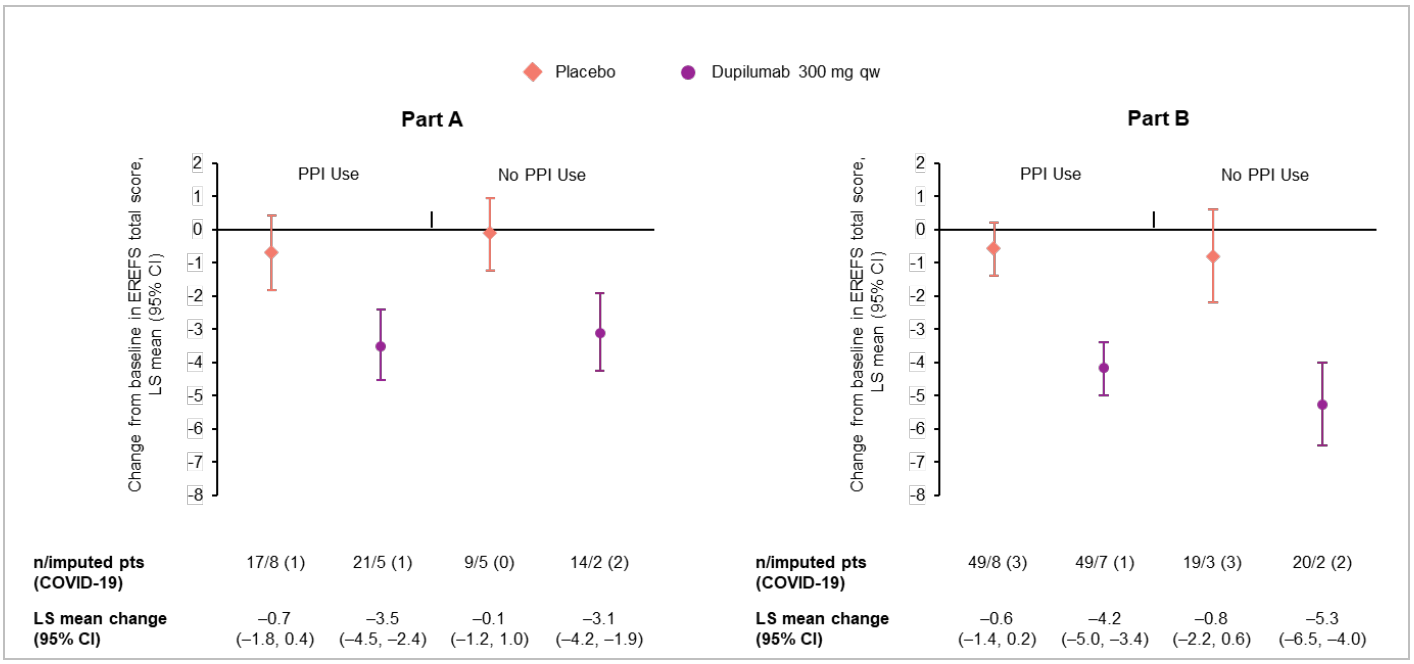
n	25	26	14	16	**n**	57	57	22	23
Proportion achieving ≤6 eos/hpf, n (%)	2 (8.0)	18 (69.2)	0	7(43.8)	**Proportion achieving ≤6 eos/hpf, n (%)**	4 (7.0)	34 (59.6)	1 (4.5)	13 (56.5)

B



n/imputed pts	18/7	24/2	10/4	14/2	**n/imputed pts**	47/10	42/15	12/9	21/2
LS mean change (SE)	−12.9 (3.4)	−18.5 (3.1)	−3.8 (4.4)	−27.8 (3.9)	**LS mean change (SE)**	−14.0 (2.1)	−21.8 (2.1)	−13.3 (3.6)	−28.4 (3.3)

C



G5

First description of upadacitinib as treatment for collagenous colitis with a concomitant lymphocytic disorder of the upper gastrointestinal tract

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Background: The medical treatment of a refractory collagenous colitis with a concomitant symptomatic lymphocytic disorder of the upper gastrointestinal tract is very challenging. Here, we present the first patient with a highly refractory disease who responded immediately to the JAK-1 inhibitor upadacitinib.

Case presentation: This 61-year-old female patient has been treated for various gastrointestinal disorders in our department for more than three decades. In 1992, at the age of 29 years, celiac disease was diagnosed (modified Marsh type 3a). Surprisingly, celiac serology as well as genetic analyses (HLA-DQ2/DQ8) were negative. Other etiologies of intraepithelial lymphocytosis and villous atrophy were ruled out. Despite an adherent gluten-free diet, severe watery diarrhoea persisted. In 1998, collagenous colitis was diagnosed with insufficient response to budesonide. In the following years, the patient has been treated with multiple therapies including mesalazine, bismuth subsalicylate, cholestyramine, loperamide, azathioprine, 6-mercaptopurine, methotrexate, cyclosporine, tacrolimus, infliximab, and vedolizumab. Unfortunately, all these therapies had to be stopped due to either non-response, loss- of-response or drug-related side effects. Only high dose corticosteroids were effective. Lower steroid doses lead to immediate flare-ups with severe watery diarrhoea with severe hypokalemia and recurrent episodes of prerenal kidney injury requiring several hospital admissions. In June 2023, upadacitinib at a dose of 30 mg qd was initiated resulting in a prompt clinical response with one formed stool per day. To date, she has had two flares. The first flare occurred after she stopped upadacitinib herself, while the second episode was caused by a viral infection when upadacitinib was reduced to 15 mg qd. Both flares resolved after increasing the dose to 30 mg qd.

Discussion: Lymphocytic disorders in the upper GI tract are frequently detected in patients with microscopic colitis (up to 13.7%). They occur more often in patients with lymphocytic colitis than in patients with collagenous colitis and there is an association with female gender. An association of microscopic colitis with celiac disease has been shown in several studies. However, the lack of celiac disease-associated antibodies and the missing HLA-DQ2 or -DQ8 genotype make celiac disease unlikely in this patient. Considering the similar course of the disease in the upper and lower GI tract (confirmed by endoscopy and histology), a common etiologic relationship, particularly an autoimmune disorder seems to be very likely in this patient. JAK-1 inhibitors reduce several proinflammatory cytokines such as interferon-ψ, interleukin-15, and interleukin-6, which are involved in the pathogenesis of microscopic colitis and lymphocytic disorders of the upper GI tract. Therefore, there is a mechanistic rationale to consider upadacitinib for the treatment of both diseases.

Conclusion: To our best knowledge, this is the first patient, in which upadacitinib was successfully used in a collagenous colitis with a concomitant lymphocytic disorder of the upper GI tract.

G6

Variety Beach: Real-world Treatment Patterns for Vedolizumab Intravenous and Subcutaneous Maintenance Dosing Observed Over 1 Year in Studies From Belgium, Austria and Switzerland.

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Background: Real-world data on VDZ treatment patterns in patients (pts) with inflammatory bowel disease (IBD) comparing VDZ IV or SC maintenance are still scarce.

Methods: Three observational studies enrolled pts in Belgium, Austria and Switzerland. Adults initiating VDZ IV induction or continuing VDZ IV maintenance with the option to switch to SC, were eligible. The primary endpoint was VDZ treatment persistence at 1 year. Administration route, dosing frequency, reasons for regimen change and safety endpoints were also assessed.

Results: Of 377 pts enrolled, 373 (UC = 218, CD = 155) were included. At enrolment, 287 (77%) (UC = 159, CD = 128) received VDZ IV maintenance for median 2.8 (0–12.6) years and 86 (23%) (UC = 59, CD = 27) started VDZ induction. Pts enrolled on VDZ IV maintenance had a persistence rate at 1 year of 79% (227/287) and of these 39% (88/227) switched from VDZ IV maintenance to SC during the study. Patients enrolled on VDZ induction, showed a VDZ treatment persistence of 66% (57/86) at 1 year and of these 56% (32/57) switched to VDZ SC during the study (Figure 1). Overall, the most common reasons for administration route changes were pt decision 98/161 (61%), end of induction with planned switch (10%) and disease adequately controlled (6%). Adverse events (AEs) occurred in 48 pts (13%) and serious AEs in 6 pts (2%).

Conclusion: Real-world data from prospective observational studies in Belgium, Austria and Switzerland reported high persistence of VDZ IV and SC maintenance treatment over 1 year. Decisions on route of administration change were most frequently driven by patients. Safety results were consistent with the known safety profile of VDZ.

Acknowledgements: We thank the patients who participated in the trial and the study investigators (physicians and study coordinators) and members of the VARIETY BEACH study team especially Natalie Walterskirchen, PhD. This study was sponsored by Takeda. Medical writing was funded by Takeda.

Disclosures: Filip Baert: Grant/research support: AbbVie, Amgen, Janssen, and Takeda; Speaker fees: AbbVie, Celltrion, Ferring Holding SA, Janssen, Merck Sharp & Dohme, Pfizer, and Takeda; Honoraria: AbbVie, Amgen, Arena, Celltrion, Ferring Holding SA, Fresenius Kabi AG, Galapagos, Janssen, Merck Sharp & Dohme, Pfizer, and Takeda. – Luc Biedermann: Consulting fees: Abbvie, Amgen, BMS, Falk, Janssen, Pfizer, Lilly, Takeda, Sanofi, Esocap. Advisory boards: Takeda, Sanofi, Abbvie, Lilly, Falk, BMS, Pfizer. – Christoph Högenauer: Grant/research support: Takeda; Honoraria: AOP Orphan, Abbvie, Astro Pharma, Eli Lilly, Ferring, Fresenius, Galapagos, Gilead, Janssen, Merck Sharp & Dohme, Pfizer, and Takeda. – Petr Hrúz: Grant/research support: Takeda, iQone; Advisory boards: AbbVie, Bristol-Myers Squibb, MSD, iQone, Takeda, Janssen, Sandoz, Pfizer, Falk Pharma. – Edouard Louis: Educational/research grants: AbbVie, Fresenius Kabi, Janssen, Pfizer, and Takeda; Speaker fees: AbbVie, Bristol Myers Squibb, Celgene, Dr Falk, Ferring, Galapagos, Janssen, Pfizer, and Takeda; Advisory boards: AbbVie, Arena, Bristol Myers Squibb, Celgene, Eli Lilly, Ferring, Gilead-Galapagos, Janssen, Pfizer, Takeda; Consultancy for AbbVie. – Alexander Moschen: Research Support: AbbVie, Takeda, Pfizer, Nestlé; Consultant: Pfizer, Amgen, Janssen, Endpoint Health, Sidekick; Personal fees: Takeda, AbbVie, Janssen, Amgen, Astro Pharma, Dr. Falk, Ferring, Fresenius, Gebro Pharma, MSD, Nestlé, Norgine Vifor, Novartis, Pfizer, Gilead-Galapagos, Eli Lilly. Gottfried Novacek: Fees from AbbVie, MSD, Takeda, Janssen, Sandoz, Pfizer, Astro Pharma, Falk Pharma, Ferring, Galapagos, Bristol-Myers Squibb, and Vifor. – Stephan Vavricka: Consulting fees and advisory boards: Abbvie, Alphasigma, Biogen, BMS, Bromatech, Falk, Ferring, Janssen, Pharmacosmos, Pfizer, Pierre-Fabre, Lilly, Takeda, Sanofi, Tillotts. – Geert Van Gassen, Beate Stemberger, Caroline Mächler, Employees of Takeda and hold Takeda stock/stock options

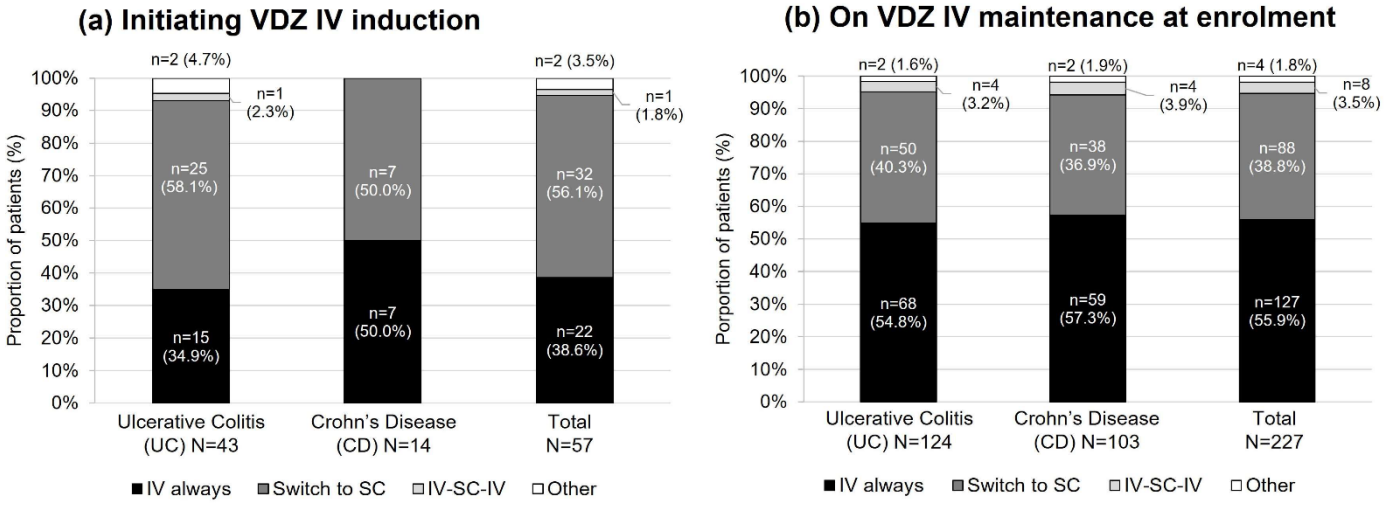

Figure 1. VDZ IV/SC treatment patterns in patients persistent on VDZ at 1 year for those (a) initiating VDZ IV induction or (b) continuing VDZ IV maintenance in the VARIETY BEACH study. IV, intravenous; SC subcutaneous; VDZ, vedolizumab.

G7

Update 2024 on the Swiss Eosinophilic Esophagitis Cohort

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Background and aims: The Swiss EoE Cohort Study (SEECS, starting in 2016) collects longitudinal data on adult patients with eosinophilic esophagitis (EoE) to better characterize natural history, long-term treatment outcomes and clinical uptake/impact of emerging treatment options, safety aspects, EoE-specific quality of life, and socio-economic impact.

Patients and methods: Patients are included using validated online instruments (via redcap) for capture of symptoms, EoE-specific quality of life, endoscopic and histologic activity. A follow- up visit is performed once a year. A biobank (located at CHUV) stores biopsies and blood samples. In addition to patients with EoE, samples of patients with gastro-esophageal reflux disease (GERD) and esophagus-healthy controls are collected. SEECS is supported by the Swiss National Science Foundation. Approval from the major Swiss IRB's has been granted.

Results: As of May 2024, 731 patients with EoE, 29 with GERD, and 33 esophagus-healthy controls have been included. Recruitment performance is on track with anticipated 70 EoE patients per year. Biosamples have been provided to collaborators for evaluation of novel diagnostic and therapeutic approaches. As of May 2024, eleven papers were published with SEECS data and several projects are ongoing.

Conclusions: Over the last years, SEECS evolved into one of the largest prospective long-term cohort studies in the world for adult EoE patients. Besides fostering research collaborations in the field of translational and clinical science, it is an excellent tool to monitor efficacy and safety aspects of novel therapeutics after market approval.

G8

Patient preferences regarding medical treatment options in eosinophilic esophagitis

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Background: Until a few years ago, there existed only off-label medical treatment options for eosinophilic esophagitis (EoE) such as proton pump inhibitors (PPI) or swallowed topical corticosteroids (STC) with various formulations and ingredients. Since the approval of a budesonide orodispersible tablet (BOT), the first biological agent (Dupilumab) has been approved by the EMA and FDA. Currently, many phase 3 trials with different drugs are running, resulting in various treatment options in the next years. However, data about patients' perspectives are lacking.

Methods: We developed a web-based survey using SurveyMonkey and sent a questionnaire comprised of 47 questions about patients' preferences regarding medical treatment options to patients with established EoE in Switzerland, Austria and Germany.

Results: A total of 69 patients (60.9% male) from Switzerland (52%), Austria (30.6%) and Germany (17.4%) answered the questionnaire. A topical therapy was ranked first (94% of patients) in terms of patient's preference followed by a s.c. therapy every 4 weeks (65%) and by an oral therapy with systemic effect (43%). Although one third does not have reservations against long-term therapy, nearly half of patients (46%) are skeptical about long-term treatment. However, a third of patients are not aware that STC are locally effective medications with nearly no systemic effect.

Conclusion: Patients with EoE prefer topical agents over other available routes of administration. Patient education should be carried out to address reservations about long-term treatment.

G9

Treatment of Ulcerative Colitis in Suspected Primary Immune Deficiency Disorders: A Case Study

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Background: Primary immunodeficiencies (PIDs) are a heterogeneous group of genetic disorders caused by defects in the immune system that predispose patients to infections, malignancies, and autoimmune diseases.

Methods: We report the case of a young female patient diagnosed with ulcerative colitis (UC) in 2008, including a suspected PID with multiple organ manifestations.

Results: The 19-year-old woman presented in late 2023 with abdominal symptoms suspicious of UC activity previously diagnosed with pancolitis at the age of 8 and initially treated with mesalacine. Comorbidities are cerebellar atrophy, Hidradenitis suppurativa, psoriasis vulgaris, aphthous stomatitis, Arthritis, Evans syndrome characterized by hemolytic anemia, immune thrombocytopenia in early childhood, and primary sclerosing cholangitis treated with ursodeoxycholic acid. Endoscopy revealed mild macroscopic and histological activity as a suspected PID with elevated polyclonal IgM and almost absent memory B cells. Vedolizumab therapy was started for UC, considering current intravenous immunoglobulins (IVIGS) therapy to prevent infections. Due to a lack of response after 6 months, the treatment was switched to Infliximab in September 2023, improving UC and arthritis. The therapy has to be changed to Golimumab and Azathioprine and again with colitis improvement due to developing Anti- Infliximab-Antibodies.

Conclusion: This case underscores the importance of coordinating immunoboards as part of multidisciplinary treatment approaches. Whole exome sequencing is temporarily undertaken to shed light on possible underlying genetic determinants.

G10

Epidermoid Metaplasia in Esophageal Lichen Planus: A Case Report

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Background: Esophageal epidermoid metaplasia (EEM) is a rare, under- recognized condition characterized by focal or diffuse white plaques on endoscopy. EEM is associated with various factors, including alcohol and tobacco use, gastroesophageal reflux disease, Barrett's esophagus, and esophageal lichen planus (ELP). ELP primarily affects middle-aged women, presenting with dysphagia. While no standardized treatment for ELP exists, topical steroids often provide symptomatic and histological improvement. Both ELP and EEM are linked to an increased risk of squamous dysplasia and esophageal squamous cell carcinoma (ESCC).

Case Presentation: A 79-year-old female presented with a 4-month history of dysphagia, without weight loss or reflux symptoms. Endoscopy revealed friable mucosa, signs of mucosal sloughing, diffuse white plaques in the proximal esophagus, and luminal narrowing. Histology confirmed EEM, with hyperkeratosis, a prominent granular cell layer, and inflammation. No signs of eosinophilic or lymphocytic esophagitis were found. Achalasia was ruled out by esophageal manometry. Proton pump inhibitor therapy failed to improve symptoms or endoscopic findings. Dermatologic examination revealed a lacy reticular pattern on the buccal mucosa and a genital lesion consistent with lichen planus, suggesting ELP as the underlying diagnosis. Treatment with topical steroids (buccal and genital lesions) and budesonide (esophagus) led to clinical improvement. Given the elevated risk of ESCC, the patient is undergoing close endoscopic surveillance.

Conclusion: ELP is an underdiagnosed cause of dysphagia or unexplained esophagitis and should be considered in relevant clinical scenarios. The co-occurrence of EEM warrants close monitoring or endoscopic intervention due to the premalignant potential and the heightened risk of ESCC.

G11

Case Report: calcifications of the Colon due to primary hyperparathyroidismus

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Background: Primary hyperparathyroidism (PHPT) has been associated with organ calcifications and gastrointestinal ulcerations. However, extensive intestinal calcifications in severe PHPT have not been previously reported.

Case Presentation: A 76-year-old man presented with acute severe pancreatitis attributed to hypercalcemia in the context of primary hyperparathyroidism (PHPT). Subsequent to severe pancreatitis, the clinical course was complicated by the development of septic shock and intestinal ischemia, leading to an open right hemicolectomy. Notably, no calcifications were observed in the resected specimen at that time. Initially, medical management was pursued for hyperparathyroidism. However, as the patient experienced painful calcifications in the gluteal muscles, bladder, remaining colon, and lung, a decision was made to proceed with parathyroidectomy following recovery. Subsequently, the patient presented with hematochezia, leading to a partial colonoscopy. During digital rectal examination, palpable calcifications were noted. Endoscopic evaluation revealed fleck-like calcified areas in the remaining colon. This finding was histologically confirmed.

Conclusion: In severe cases, PHPT may not only be linked with gastrointestinal ulcerations but can also result in partial calcification of the intestinal wall. This observation emphasizes the importance of considering PHPT as a potential etiological factor in patients presenting with intestinal calcifications, particularly in the absence of other apparent causes.

G12

A Case Report of Acute Esophageal Necrosis

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Background: Acute Esophageal Necrosis (AEN), also known as "black esophagus," is a rare clinical condition. Here, we report a case of an acute esophageal necrosis in a patient with multiple comorbidities.

Case Description: A 60-year-old male patient with peripheral arterial disease, microangiopathy, diabetes mellitus type 2 and membranous glomerulonephritis presented at the emergency department with coffee ground emesis. Laboratory findings revealed a drop in hemoglobin from 93 g/l to 66 g/l. A gastroscopy was performed for suspected upper gastrointestinal bleeding, revealing longitudinal black discoloration with fibrin of the esophageal mucosa extending 5 cm below the upper esophageal sphincter until the gastroesophageal junction with a sharp border. Endoscopic findings were highly suggestive of AEN. A conservative therapy approach was chosen with restriction of oral intake and high-dose proton-pump inhibitors. A gastric tube was not inserted due to the increased risk of complications. After 5 days a liquid diet was successfully established. A follow-up gastroscopy was scheduled after 8 weeks. Unfortunately the patient died beforehand due to his comorbidities.

Conclusion: AEN is a rare disease with a reported prevalence of 0.001% to 0.28%. It appears endoscopically as a circumferentially black-colored esophagus. Risk factors for AEN include malignancy, cardiovascular disease, diabetes mellitus, renal failure, malnutrition and male gender. However, the exact etiology remains unclear. Several factors such as local hypoperfusion, breakdown of the protective mucosal barrier and reflux of gastric acid contribute to tissue damage and are suspected to setting off a cascade culminating in tissue necrosis. Most patients with AEN show signs of upper gastrointestinal bleeding (70-90%). In patients without signs of perforation, bowel rest and intravenous PPI therapy are the mainstay of treatment. The reported mortality is up to 13-32% but only 6% die as a direct result of AEN. The most feared complication is esophageal perforation in 7% of patients, but esophageal strictures can also develop in 10% of patients.

G13

Design of the Phase 4 REMODEL study assessing the effect of dupilumab on esophageal function and remodeling in adults with active eosinophilic esophagitis

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**Luc Biedermann is presenting on behalf of the authors*

Background: Eosinophilic esophagitis (EoE) may progress to esophageal remodeling and stricture formation. Impedance planimetry using the endoluminal functional lumen imaging probe (EndoFLIP) provides a quantitative assessment of esophageal remodeling and stricture formation in EoE. Through simultaneous measurement of esophageal luminal dimensions and pressures during volume- controlled distension, the biomechanical properties of the esophageal wall can be objectively assessed. In a proof-of-concept study, dupilumab significantly improved esophageal distensibility vs placebo in patients with EoE. Here we present the design of the multicentric, Phase 4 REMODEL study (NCT06101095), assessing the effect of dupilumab on esophageal function and remodeling in adults with active EoE.

Methods: Patients will be randomized 2:1 to receive dupilumab or placebo for 24 weeks, followed by 104 weeks of open-label dupilumab for all patients. Patients included will be aged ≥18 years, have a documented diagnosis of EoE by consensus guidelines, baseline endoscopic biopsies with a demonstration of intraepithelial eosinophilic infiltration on central reading, an average of ≥2 episodes of dysphagia (with intake of solids) per week in the 4 weeks prior to screening, and body weight ≥40 kg. Key exclusion criteria are hypereosinophilic syndrome or eosinophilic granulomatosis with polyangiitis, any esophageal stricture unable to be passed with a standard, diagnostic, 9–10 mm upper endoscope, and any critical esophageal stricture that requires dilation at screening.

Results: The primary endpoint will be change from baseline to Week 24 in esophageal distensibility plateau, as measured by EndoFLIP. Secondary endpoints will include percentage change from baseline to Week 24 in esophageal distensibility plateau, and absolute and percentage change from baseline in esophageal distensibility plateau, change from baseline in EoE-Endoscopic Reference Score, and EoE- Histology Scoring System stage and grade scores at Weeks 24, 76, and 128. Target enrollment is 64 patients.

Conclusions: The results of REMODEL will evaluate the efficacy of dupilumab for remodeling consequences of EoE. Also, the results will help inform practitioners' decision-making in the management of fibrostenotic phenotypes of EoE. Novel aspects of this phase 4 study include the use of esophageal distensibility as a primary endpoint and over 2-year prospective evaluation of the effectiveness of dupilumab in EoE.

Acknowledgments: Data included in this abstract were originally presented at the CURED Research Conference and Patient Education Program, April 4-7, 2024; Cincinnati, OH, USA. Research sponsored by Sanofi and Regeneron Pharmaceuticals Inc. ClinicalTrials.gov Identifier: NCT06101095. Medical writing/editorial assistance was provided by Susan Dyas, MSc, on behalf of Adelphi Communications, Bollington, UK, and was funded by Sanofi and Regeneron Pharmaceuticals Inc., according to the Good Publication Practice guideline. Editorial assistance for this encore abstract is provided by Aruna Meka, PhD, of Sanofi.

G14

Polyglycosan inclusion myopathy as gastrointestinal neuromuscular disease: a challenge to diagnosis and treatment

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Background: The polyglucosan inclusion myopathy is a very rare condition that belongs to the gastrointestinal neuromuscular diseases. The accumulation of polyglucosan bodies in the smooth muscles of the gastrointestinal tract can cause intestinal motility disorders up to intestinal failure. The diagnostic and therapeutic pathway of this disease is often tortuous and complex.

Case presentation: A 54 year-old caucasian woman presented with an 30-year history of diarrhea, vomiting, malnutrition and intermittent ileus. She had no response to conservative (prucalopride, octreotide, 5-HT agonists) as well as surgical treatment (subtotal colectomy, small bowel resection). Endoscopy revealed a dilated small intestine with duodenal manometry demonstrating gastrointestinal dysmotility. A fecal microbial transplant (FMT) resulted in temporary improvement only. During laparoscopic placement of a gastric pacemaker full thickness small bowel wall biopsy was performed finally, evidencing the presence of polyglucosan bodies. The gastric pacemaking and the introduction of a Glucagon-like-2 agonist resulted in clinical and nutritional improvement. The latter however, did require discontinuation due to side effects.

Conclusion: After thorough routine diagnostic work-up full thickness biopsy with histopathological analysis should be considered in cases of suspected longstanding gastrointestinal dismotility of unclear origin. Polyglucosan inclusion myopathy is one of the potential rare etiopathogenesis unmasked by this approach. Treatment of polyglucosan inclusion myopathy is extremely difficult and refractory to common prokinetic therapeutics. Experimental utilization of FMT or off-label use of GLP-2-analogs can be considered but did not deliver long-term benefit in the presented case.

POSTERS: HEPATOLOGY

H1

Liver fibrosis screening in patients >50 years undergoing a screening colonoscopy: a pilot prospective monocentric study

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Background and Aims: Advanced liver disease is a leading cause of morbidity and mortality, often diagnosed late. EASL recommends liver fibrosis screening using FIB-4 score ≥1.3 followed by transient elastometry (TE) ≥8 kPa to identify high-risk patients. Age, a significant risk factor, is not included in current guidelines. This study aimed to assess the performance of EASL criteria in individuals aged ≥50 undergoing screening colonoscopy.

Method: From 2018-2023, individuals aged ≥50 undergoing screening colonoscopy were recruited for liver fibrosis screening at our institution. Screening involved FIB-4 score assessment and TE using the FibroScan M or XL probe. FIB-4 scores ≥1.3 and TE ≥8 kPa indicated positive screening, leading to further evaluation. Patients with known liver disease and severe comorbidities were excluded.

Results: The study included 99 participants, predominantly male (52%), with a median age of 57 years. Main characteristics: median BMI 27 kg/m², type 2 diabetes (18.2%), treated hypertension (44.4%), and dyslipidemia (28.3%). The median FIB-4 score was 1.19, and the median TE value was 4.3 kPa. Thirty-five subjects (35.4%) had FIB-4 ≥1.3; 4/35 (11.4%) had both FIB-4 ≥1.3 and TE ≥8 kPa, screening positive. Overall, 10 (10.1%) subjects had TE ≥8 kPa, with 60% having dysmetabolic disease, 20% mixed alcohol-related and dysmetabolic, and 20% unknown. Three subjects had probable advanced liver disease with TE ≥12 kPa, with mixed alcohol-related and dysmetabolic aetiologies. Notably, 6/10 (60%) subjects with TE ≥8 kPa had FIB-4 <1.3, missing detection by current screening. These subjects had similar age but lower BMI compared to those with both elevated FIB-4 and TE. Among subjects with TE ≥12 kPa, 67% had FIB-4 <1.3, including one with biopsy-proven cirrhosis.

Conclusion: In this pilot study of individuals aged ≥50 undergoing screening colonoscopy, 4.0% had both FIB-4 ≥1.3 and TE ≥8 kPa, indicating intermediate-high risk according to EASL. However, 6.3% had TE ≥8 kPa without raised FIB-4, suggesting suboptimal performance of this strategy. "False-negative" FIB-4 was associated with lower BMI, indicating potential inadequacies in non-obese populations. Limitations include small cohort size and single-center study. Further research should explore these findings in larger, multicentric cohorts.

H2

Pre-operative transjugular intrahepatic portosystemic shunt in patients with severe portal hypertension: A single centre experience with elective surgery

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Background and Aims: The pre-operative use of transjugular intrahepatic portosystemic shunt (TIPS) in elective surgery patients is debated, balancing its potential to mitigate portal hypertension and post-operative decompensation against the lack of randomized evidence and risks like hepatic encephalopathy (HE). Our study aims to analyze the post-operative outcomes in a cohort of 12 patients who underwent pre-operative TIPS placement.

Method: Retrospective study of patients with severe portal hypertension who underwent pre-operative TIPS placement (VIATORR® TIPS Endoprosthesis) before elective surgery between 2015 – 2024 at our tertiary centre with approximately 25 TIPS procedures per year.

Results: Among 182 patients who received a TIPS at our institution, 12 (7%) patients were identified who have received a pre-operative TIPS before elective surgery (average age 62 (range 38–79) years; average follow-up 17 months. 11/12 patients had liver cirrhosis and one patient suffered from porto-sinusoidal vascular disorder (PSVD). Planned surgeries were in 5/12 oncological (colorectal, renal, ovarian, esophageal 2x), 5/12 bariatric, 1 kidney transplantation and 1 hernia repair. Mean pre- operative HVPG was 17 (range 10–22) mmHg. At time of TIPS placement average MELD score was 14 and Child-Pugh score 8. TIPS reduced portal pressure by 6.9 (range 2–16) mmHg leading to a reduced pre-operative porto-atrial pressure gradient of 6.5 (range 2–10) mmHg. 7/12 of the planned operations were successfully performed with all the patients alive six or more months despite transient post- operative episodes of hepatic encephalopathy (5/6) and/or ascites (2/6). 2/12 operations are still in planning, while 2/12 planned operations had to be cancelled since the patients died (unrelated to TIPS). Finally, the only PSVD patient develop grade 3- 4 HE despite TIPS reduction and TIPS had to be closed before kidney transplantation.

Conclusion: In our carefully selected patient series, pre-operative TIPS effectively reduced portal hypertension, facilitating successful surgery in most cases. However, this is not an established practice and is considered a limited option for patients with severe portal hypertension undergoing elective surgery. Its use requires meticulous interdisciplinary evaluation, taking into account factors like HVPG, the type of surgery, and potential deferral for liver transplantation. Our findings highlight the urgent need for more definitive research in this critical area of clinical practice.

H3

Eligibility for Nucleos(t)ide Analogue Treatment Disconti- nuation in Patients with Chronic Hepatitis B

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Background: Chronic hepatitis B (CHB) is a global public health challenge, associated with significant morbidity and mortality. Nucleos(t)ide analogue (NA) treatment is crucial for disease management, and its discontinuation is increasingly being discussed as a therapeutic strategy to achieve functional cure. Here, we aimed to assess the proportion of patients who are eligible for NA discontinuation in a real-life outpatient clinic setting.

Methods: We retrospectively analyzed the medical records of all adult patients with CHB from our outpatient clinic who were on NA treatment between 2011 and 2021. Patients were assessed for eligibility for NA discontinuation according to the latest EASL Clinical Practice Guidelines (J Hepatol 2017;67:370-398).

Results: A total of 506 consecutive patients with chronic HBV infection were included. 192 patients (37.9%) were on NA treatment in the 2011-2021 period, 60 (31.3%) for HBeAg-positive and 132 (68.8%) for HBeAg-negative CHB. 138 patients (71.9%) were male and 137 (71.4%) were born in a medium-to-high HBV prevalence area. Median follow-up was 69 months (range, 0-155 months). Only 27 patients (i.e. 14.1% of the treated population) were eligible for NA discontinuation, 8 patients (29.6%) with HBe seroconversion and at least 12 months of consolidation treatment as well as 19 patients (70.4%) with HBeAg-negative CHB, at least 3 years of virological suppression and a possibility of close follow-up monitoring. No patient achieved HBsAg loss or HBs seroconversion on NA treatment.

Conclusion: In clinical practice, only a limited proportion of patients with CHB are potentially eligible for NA discontinuation.

H4

Liver fibrosis screening in patients with overweight and / or type 2 diabetes

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Background: The prevalence of liver fibrosis, particularly among patients with metabolic syndrome, is rising. Current EASL guidelines recommend liver fibrosis screening in at-risk populations. This study aimed to evaluate a pragmatic, cost-free liver fibrosis screening intervention at a tertiary medical center and present the preliminary findings.

Methods: We conducted a free liver fibrosis screening event at our division using liver ultrasound (US) to detect steatosis and Transient Elastography (TE) by FibroScan® to assess liver fibrosis (defined as ≥8 kPa). Inclusion criteria were a BMI >25 kg/m² or a diagnosis of type 2 diabetes. Participants were recruited voluntarily through hospital posters and social media campaigns by our communication department.

Results: All screening slots were filled within one week, resulting in the screening of 46 patients. The baseline characteristics were: median age 48.5 years (IQR 38- 59), 30 (65%) were women, median BMI was 29.9 kg/m² (IQR 27.4-33.8), 9 (20%) had type 2 diabetes, and 9 (20%) had dyslipidemia. Steatosis on liver US was detected in 35 (76%) patients, and liver fibrosis was identified in 3 (6.5%) patients. When comparing patients with and without steatosis, the median BMI was higher (35.2 vs 29.2 kg/m²), age was greater (61 vs 46 years), and the prevalence of type 2 diabetes was marginally higher (20% vs 18%). Among patients with steatosis, the etiology of liver disease was mostly MASLD (33/35, 94%), with a minority having metALD (2/35, 6%). In the 3 patients with TE >8 kPa, the etiology was MASLD, and all had steatosis identified. Only one patient who booked a screening did not attend, and anecdotally, many patients could not be screened due to space limitations.

Conclusion: These data reinforce the established association between higher BMI, hypertension, and diabetes with an increased risk of MASLD. Steatosis was identified in 76% of at-risk patients, and liver fibrosis in 6.5% of cases. MetALD was diagnosed in only 4.3% of patients. This prospective real-life study demonstrates the feasibility and potential effectiveness of implementing liver fibrosis screening in at-risk patients within a Swiss healthcare setting.

H5

Safety and benefit of liver biopsy after allogenic stem cell transplantation (ASCT): a retrospective single-centre study

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Background: Liver complications following ASCT are frequent with multiple potential causes, including graft-versus-host- disease, sinusoidal obstruction syndrome, drug-induced liver injury and infections. Liver biopsy (LB) is often necessary for definite diagnosis, but only rarely performed in transplant centres due to safety concerns. We explored the value and complications of LB in patients treated with ASCT in our centre.

Methods: this retrospective study (HUG 2011-2021) included 109 patients (age 51 yrs [18-75]) and 145 LB (65.5% via the transjugular route, 33% percutaneous, 1.3% unknown). Median time between ASCT and LB was 333 days. Acute leukemias, non-hodgkin lymphomas and myeloproliferative disorders were the major indications for ASCT. Criteria for safety after LB included pain, bleeding, infection, transfer to ICU and death. To assess benefit, we compared pre- and post- LB diagnosis and determined if LB led to any changes in clinical management.

Results: (data expressed as n and %, DX: diagnosis)

	COMPLICATIONS	
	Percutaneous LB	Transjugular LB
Pain (n)	5	
Bleeding (n)	1	3
Infection (n)	1	
Transfer ICU (n)	3	
Death (n)	0	

BENEFIT			
POST LB DX		*CHANGES IN MANAGEMENT*	
Different dx (n,%)	82 (56.6)	Yes (n,%)	86 (59.7)
Identical dx (n,%)	48 (33)	No (n,%)	57 (38.9)
Remained undetermined (n,%)	15 (10.3)	Unknown (n,%)	2 (1.4)

Conclusions: Our study suggests that LB in patients treated with ASCT and altered liver function tests is a safe procedure with very few significant adverse events, and is associated with changes in diagnosis and modification in clinical management in a substantial number of cases.

H6

Cystic Dilatations and Intrahepatic Bile Stones are associated with a worse Prognosis in Patients with Primary Sclerosing Cholangitis

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Background and Aims: Primary sclerosing cholangitis (PSC) is a chronic inflammatory disease of the bile ducts of unknown aetiology. Our study aimed at identifying prognostic factors in patients with PSC in order to improve patient management.

Method: This retrospective analysis included PSC patients followed in a tertiary referral center for cholestatic diseases from 1984 to 2023 with at least one year of follow-up.

Results: 302 patients with PSC were included. Median follow-up time was 8.17 years (4.7-13.14). 69.5% of patients were male with a median age at diagnosis of 29 (20.25-32) years. 74.8% had an inflammatory bowel disease (IBD) and 9.6% had a cirrhosis at diagnosis. 16.7% of patients were listed for liver transplantation and 5.6% of patients had a liver related death. Thirteen (4.3%) patients developed cholangiocellular carcinoma. Patients with cystic dilatations on MRCP had a hazard ratio of 2.21 (95% CI 1.26-3.88, p = 0.006) and patients with intrahepatic bile stones on MRCP had a hazard ratio of 3.08 (95% CI 1.9-4.96, p<0.001) for either listing for LT or liver related death. Survival without being listed for LT was not influenced by the presence of IBD or the use of immunosuppression.

Conclusion: Cystic dilatations and intrahepatic bile stones on MRCP are associated with a worse outcome in patients with PSC.

H7

Hepatitis C Elimination in Bern: The Role of Retrieving Lost-to- Follow-Up Patients in Achieving Microelimination

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Background: The number of chronic hepatitis C virus (HCV)-infected patients lost to follow-up (LTFU) poses a significant threat to HCV elimination. The aim of our study was to retrieve patients with HCV LTFU and provide them with consultation regarding treatment.

Methods: We screened our database from 2014-2023 for patients with a positive HCV PCR at their last follow-up.

Results: We identified 270 patients in total. Of these, 162 (60%) patients were not eligible for contact due to reasons such as death (n = 102), expected short life expectancy (n = 8), documented treatment (n = 40), or regular follow-up without a desire for treatment (n = 12). The remaining 108 patients (40%) were eligible for contact. We successfully reached 71 (65.7%) of these patients, and 43 had already received treatment. The remaining 29 patients either received no treatment and no surveillance (n = 17), no treatment but were monitored by their family doctor (n = 11), or were under surveillance following unsuccessful first line treatment (n = 1). These 29 patients received consultations. Of those, 18 patients agreed to come for a follow-up visit, three patients considered coming for a follow-up visit, and eight patients did not wish to have a follow- up. Overall 6.6% (n = 18) of the initially screened patients were retrieved for treatment through the study.

Conclusions: Screening the clinical database for patients with HCV and LTFU is a crucial step towards the microelimination of HCV in Switzerland. The next step is to expand this strategy to other centers across the country.

H8

Successful Treatment with Rituximab of a Plasma Cell-Rich Acute Rejection After Liver Transplantation

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Background: Antibody-mediated rejection (AMR) occurs rarely after liver transplantation (incidence <1%). Plasma cell-rich rejection, possibly a subset of acute AMR, poses diagnostic challenges due to limited criteria and scarce literature reports. Rapid recognition and timely initiation of treatment are hindered by insufficient diagnostic and histological guidelines and the limited number of documented cases. In the absence of standardized treatments, various therapeutic approaches have been proposed including high-dose steroids, plasma exchange, intravenous immunoglobulin (IVIG), rituximab, bortezomib and eculizumab.

Methods: We describe the successful management of an unusual case of AMR after liver transplantation.

Results: A 68-year-old patient underwent AB0-compatible orthotopic liver transplantation (OLT) for decompensated liver cirrhosis of mixed aetiology (MetALD and alpha1-antitrypsin deficiency). Immediate post-transplant immunosuppression included high-dose steroids, basiliximab and tacrolimus. After initially excellent graft function, one month after transplantation a histologically confirmed T-cell-mediated rejection (RAI score 5/9) occurred, with a good response to steroids and mycophenolate mofetil. Over a period of several months, histological evidence of a plasma cell-rich acute rejection (without C4d deposits) was obtained twice (7 and 13 months post-OLT) and there was no serological evidence of donor-specific antibodies (DSA), angiotensin II type 1 receptor- or endothelin 1 type A-antibodies at any time. Despite repeated adjustments of immunosuppressive therapy (high dose methylprednisolone, increased doses of mycophenolate mofetil and tacrolimus, administration of anti-thymocyte globulin and IVIG), relapse of the histologically proven plasma cell-rich rejection occurred. Assuming that a plasma cell-rich rejection is a separate entity or that a mixed type (combined mixed antibody- and cellular-mediated) of rejection is present, treatment with rituximab was started (initially three doses at bi- weekly intervals). In the meantime, steroids were discontinued and liver function has stabilized.

Conclusion: This case demonstrates the complexity of diagnosing and treating AMR after liver transplantation, especially in the absence of DSA and C4d deposits. It remains unclear whether plasma cell-rich rejection is a subset of acute rejection or a separate entity. This successful outcome underscores the potential efficacy of rituximab in managing refractory AMR and highlights the need for individualized treatment strategies in such rare and challenging cases.

H9

Indocyanin green (ICG) elimination rate as a non invasive method to measure metabolic function in liver disease: preliminary results

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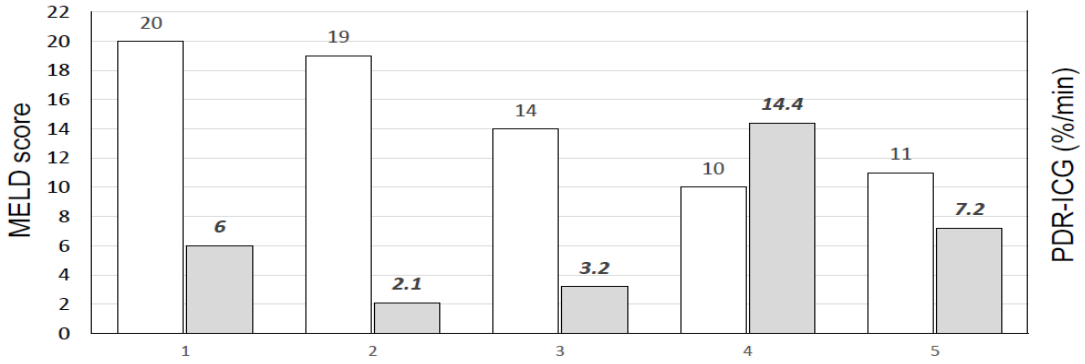
Gastroenterology/Hepatology HUG Genève

The degree of liver insufficiency is commonly determined using the Child- Pugh and MELD « static » scores. Plasma disappearance rate of ICG (ICG-PDR), a water soluble inert compound captured by hepatocytes and excreted in bile, allows a dynamic

assessment of liver metabolic function. We explored the faisability of this test in consecutive patients admitted for liver disease evaluation. Methods: This noninvasive bedside measurement of ICG-PDR uses a finger clip pulse densitometric method (LiMON system) after an infusion of BW-based quantity of ICG (*Verdye, Diagn Green, Ireland*) in the peripheral vein. Normal value of ICG-PDR is >18 %/min. Study population included 5 hemodynamically stable patients with biopsy-proven cirrhosis (n = 4) or extensive fibrosis (n = 1), mean Child-Pugh score 8.2, mean MELD 14.8. Results: (*see Table and Graph, PDR-ICG values appear in grey color*). Low values of PDG-ICR were measured in patients, with considerable variations between individuals and only modest correlation (r = 0.65) with the MELD score.

Conclusions: The noninvasive bedside measurement of ICG-PDR is feasible in patients with chronic liver diseases. These preliminary data suggest this dynamic test could bring additional information regarding metabolic function of the liver

Pt #	Age (yrs)	etiology	Child-Pugh score	MELD	Bilirubin (umol/L)	PDR (%/min)
1	70	OH	10	20	14	14.4
2	48	OH	8	19	112	6
3	51	OH	9	14	49	7.2
4	72	OH	8	10	38	2.1
5	63	Post HCV	7	11	38	3.2



H10

Chloroform Intoxication: A Rare Cause of Acute Liver Injury

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Background: Chloroform is an organic halogenated hydrocarbon that primarily causes sedation and respiratory depression and was used as an anesthetic agent since 1848. In larger doses, the drug may also cause liver damage. Its toxicity is thought to occur due to similar mechanisms as paracetamol-poisoning: Metabolism via CYP450 enzymes leads to formation of free radicals and toxic metabolites such as dichloromethane and phosgene. These substances interact with glutathione and cell components, leading to decreased molecular and cellular function and cell death. Alcohol consumption up-regulates CYP450 and increases the likelihood of these toxic effects. Onset of liver injury is usually delayed after exposure. A rise in transaminases and worsening of liver function are described after an interval of 24-48 hours with a typical peak after 72 hours. There is no specific antidote, but treatment with N- acetylcysteine, to restore glutathione reserves, can be evaluated.

Methods: We present a patient with a rare case of acute liver injury (ALI) due to self- induced intoxication with chloroform and alcohol.

Results: We evaluated a 56-year-old patient with a history of chronic alcohol abuse, who had been on a binge, drinking four bottles of whisky within four days. In addition, he reported inhaling 500 ml of chloroform to help him fall asleep. He presented to our clinic three days after this event with profound jaundice, nausea and dizziness. Blood results showed massively elevated transaminases (ALT 8,300 U/l, AST 4,312 U/l) and bilirubin (250 umol/l), as well as compromised coagulation (INR 2.0, FV 38%). Sonography showed liver steatosis without signs of chronic liver disease and patent liver vasculature. Assuming acute drug-induced liver toxicity, N-acetylcysteine was started and substitution of vitamin K. To assess for additional ethylic steatohepatitis and advanced fibrosis, liver biopsy was performed. Histology demonstrated extensive centrilobular, partially confluent necrosis and mixed vesicular steatosis (70-80%), with no fibrosis and only mild inflammation. These changes seem to be typical with chloroform toxicity. Continued supportive therapy lead to a rapid improvement in liver function, and the patient was discharged shortly after.

Conclusions: Patient with chloroform-intoxication can recover rather quickly from neurological and respiratory symptoms. Clinicians should be aware that liver injury might be delayed and therefore prolonged clinical and laboratory surveillance is needed. It is crucial to rule out other differential diagnoses of ALI, initiate N- acetylcysteine and evaluate early for liver transplantation.

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ISSN online supplement: 2504-1622

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