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MAY 24, 2024
PROGRAM AND ABSTRACTS

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**9th ROMANIAN - GERMAN
MEETING on GASTROENTEROLOGY
Bucharest, May 24, 2024**

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Scientific Programme

Friday, May 24, 2024

- 08:00-08:30** Late registration on site
- 08:30-09:00** Opening Ceremony (Mircea Diculescu, Alexander Hann, Monica Acalovschi, Wolfram Zoller)
- 09:00-11:00** Session I: Digestive Diseases - from Prevention to Treatment
Chair: Wolfram Zoller, Mircea Mănuc, Monica Acalovschi
- 1. Martina Müller-Schilling** (Regensburg): UEG meets Romania and Germany
 - 2. Dan Dumitrascu** (Cluj-Napoca): The effect of Greek Orthodox fasting on gastrointestinal symptoms
 - 3. Simona Bătagă** (Tg. Mures): Changes and diseases in the GI tract of the elderly
 - 4. Stephan Schmid** (Regensburg): Interprofessional therapeutic drug monitoring of carbapenems improves ICU care in acute-on-chronic liver failure
 - 5. Markus Lerch** (München): The intestinal microbiome and the pancreas
 - 6. Marcel Tanțău** (Cluj-Napoca): Diagnosis of early digestive neoplasia
- 11.00-11:30** Coffee break
- 11.30-13.30** Session II: Diseases of the Liver
Chair: Liana Gheorghe, Ioan Sporea, Michael Sackmann, Paul J. Porr
- 1. Ioan Sporea** (Timisoara): To screen or not to screen? This is the question! (for MASLD/SLD)
 - 2. Peter Galle** (Mainz): Current systemic therapy and treatment strategy for advanced HCC
 - 3. Sebastian Müller** (Heidelberg): Ingestion of red blood cells by hepatocytes: A novel observation and its implication
 - 4. Zeno Spârchez** (Cluj-Napoca): Rebalanced hemostasis in advanced liver disease: thromboelastography vs. standard coagulation tests
 - 5. Liana Gheorghe** (București): Advances in the management of primary biliary cholangitis: A global updated perspective
 - 6. Lidia Ciobanu** (Cluj-Napoca): Pregnancy and metabolic associated fatty liver disease

- 13.30-14.40 Lunch**
- 14:10-14:40 Posters with Oral Presentations**
Chair: Laurențiu Nedelcu, Mircea Diculescu, Alexander Hann
e-Posters: Chair: Paul Porr, Sebastian Müller, Simona Bătagă, Adrian Goldiș
- 14:40-16.00 Session III: Inflammatory Bowel Diseases**
Chair: Dan Gheonea, Martina Müller-Schilling, Mircea Diculescu
1. **Tilo Andus** (Stuttgart): Actual treatment of inflammatory bowel disease
 2. **Andreas Sturm** (Berlin): Treatment of IBD in the frail patient: how to choose the best treatment option?
 3. **Adrian Goldiș** (Timișoara): Severe acute ulcerative colitis - a therapeutical challenge
 4. **Sevastița Iordache** (Craiova): New imaging techniques in IBD
- 16.00-16.30 Coffee break**
- 16.30-18:30 Session IV – Ultrasound and Endoscopy**
Chair: Gheorghe Cristian, Eugen Dumitru, Michael Jung, Marcel Tanțău
1. **Alexander Hann** (Würzburg): AI in colonoscopy
 2. **Michael Jung** (Mainz): Green endoscopy – environmental considerations and practical consequences
 3. **Cristian Gheorghe** (București): Ergonomics in endoscopy
 4. **Roxana Șirli** (Timișoara): Why should we perform CEUS in pancreatic pathology?
 5. **Andrada Seiceanu** (Cluj-Napoca): Therapeutic endoscopic ultrasound in pancreatic cancer
 6. **Ernst Michael Jung** (Regensburg): New possibilities of HiFr CEUS and CEUS Perfusion imaging for liver tumor chracterization and post treatment control
- 18.30-18.50 Closing remarks, Prize awards**

SESSION I: DIGESTIVE DISEASES - FROM PREVENTION TO TREATMENT

UEG meets Romania and Germany

Martina Müller-Schilling, MHBA

Department of Internal Medicine I, Gastroenterology, Hepatology, Endocrinology, Infectious diseases, and Rheumatology, University Hospital Regensburg, Regensburg, Germany

UEG (United European Gastroenterology) is Europe's largest community in digestive health with the vision "To reduce the burden of digestive diseases and improve digestive health" across and beyond Europe.

Above all matter UEG's Core Values: Integrity, Quality, Diversity, Independence, Respect, Accountability and Transparency "as an inclusive concept for all strategic drivers". UEG's strategic drivers include 1. UEG Week, 2. Education, 3. Research, 4. Journal, 5. Quality of Care, 6. Public Affairs.

The Romanian Society of Gastroenterology and Hepatology (SRGH) and the German Society of Gastroenterology, Digestive and Metabolic Diseases (Deutsche Gesellschaft für Gastroenterologie, Verdauungs-und Stoffwechselkrankheiten, DGVS) are both members of UEG. Romania and Germany are represented within the National Societies Forum (NSF) of the UEG as two of the 49 national societies, which in turn send delegates to the "Meeting of Members" (MoM), the parliament of the UEG. From there, delegates are sent to the Council, the governing body of the UEG. The Council is chaired by the Executive Committee (ExCom), consisting of the President, the Vice President (President elect), the Secretary-General, and the Treasurer. All are elected by the "Meeting of Members" (MoM). Another pathway to the Council is through one of the 17 European specialty societies such as EASL, EDS, EPC, ESGE, ESNM, to name a few, which also send delegates to the MoM and subsequently to the UEG Council. The MoM votes on the chairs of five committees and three groups: Scientific, Education, Quality-of-Care, Research, and National Societies Committee, as well as the groups for Public Affairs, Equality & Diversity, and the Young Talent Group.

In 2022 and 2023 Romania and Germany were both among the Top 10 attending countries of UEG week. Romanian Gastroenterologists are very active in the boards and committees of UEG with Prof. Monica Acalovschi as a member of the (2010 – 2011) General Assembly, the (2012 –

2014) National Societies Committee, and the (2016 – 2019) National Societies Forum. Furthermore, Prof. Dan Dumitrascu served as a member of the (2015 – 2018) National Societies Committee, the (2017-2018) Education Committee, and from 2019 – 2023 as the Chair of the National Societies Committee & Council Member. In addition, Prof. Anca Victorita-Trifan was elected to the (2016 -2019) Meeting of Members, and from 2020 – 2023 to the National Societies Forum.

Sorin Barbu was a member of the Quality-of-Care Committee from 2019-2022, Prof. Liliana Simona Gheorghe was elected to the Meeting of Members 2020-2023, Prof. Adrian Saftoiu was a UEG officer in the Public Affairs Committee from 2018 to 2021, and Catalina Vladut was a member of the Young Talent Group from 2020-2021.

Mihaela Udrescu serves as a member of the Scientific Committee (2024-2027) and a member of the Meeting of Members (2022-2025). Prof. Marcel Tantau is the current Romanian representative in the NSF.

Currently, the Treasurer, the Chair of the National Societies Committee, and the Chair of the Scientific Committee are from Germany.

UEG offers many opportunities to actively engage in shaping the future of European gastroenterology.

The Romanian-German symposium, with its tradition of scientific excellence in gastroenterology, represents the core values of UEG. By bringing together clinicians, researchers, and friends from Romania and Germany, it provides a platform to discuss and provide highest quality research and best clinical practice for optimal patient care.

The Effect of Greek Orthodox Fasting on Gastrointestinal Symptoms

Dan I Dumitrascu, Daniel Leucuta

Iuliu Hatieganu University of Medicine and Pharmacy Cluj-Napoca, Cluj County Clinical Emergency Hospital, Cluj-Napoca, Romania

Background & Aim: The relation between meals and gastrointestinal symptoms is well known but less understood. Diet is relevant for the occurrence of gastrointestinal symptoms,

including the disorders of gut-brain interaction. Different previous investigations have looked for the influence of special religious diets and symptoms. Fasting has also been investigated in different cultures and there are diverse reports from religious fasting in Muslims and Jews. Greek-Orthodox practicers observe long periods of fasting, which are the equivalent of a vegan diet. We looked for the occurrence of a vegan diet caused by religious fasting in a Romanian sample (80% Orthodox population).

Methods: We undertook a cross-sectional study on the Rome Foundation Global Study, Romanian subgroup respondents, who were asked several supplementary questions regarding Greek-Orthodox fasting.

Results: In our sample of more than 2000 Romanians, 35.5% were fasting. We found that 20% were fasting for Easter and Christmas (6, respectively 8 weeks), while 26% respected the weekly fasting of Wednesday and Friday. From these, only 12% presented digestive symptoms corresponding to functional gastrointestinal symptoms during fasting. There was no association between Orthodox religious fasting or weekly fasting and functional gastrointestinal disorders in the univariate and multivariate analyses.

Conclusion: One third of Romanians respect religious fasting. Contrary to expectations, our findings suggest that these practices do not appear to be significantly associated with the prevalence of disorders of gut brain interaction.

Changes and Diseases in the Gastrointestinal Tract of the Elderly

Simona Bataga

*University of Medicine, Pharmacy, Science and Technology
GE Palade, Targu-Mures, Romania*

The World Health Organisation (WHO) states that older people in developed world economies are commonly defined as those aged 65 years or more. Those aged 85 years or more are very old people.

Aging is inducing a progressive loss of physiological integrity that affects the whole organism, including the gastrointestinal tract.

As humans age, there are cellular and molecular changes, and the physiologic systems are declining. There is a new concept, frailty, that is characterized by a decline in functioning of multiple physiologic systems and is accompanied by increased vulnerability to stressors and increased morbidity and mortality.

The "frail gut" is characterised by a dysregulated immune response favouring a chronic low-grade mucosal inflammatory status, increased permeability, impaired absorption, and altered gut microbiota composition.

Aging is affecting all the functions of the gastrointestinal system: motility, digestion, absorption, and hormone secretion. These modifications are present from the mouth, esophagus, stomach, small and finally, large intestine.

There are present modifications such as: dysgeusia, xerostomia, dysphagia, pill esophagitis, dysphagia, chronic

atrophic gastritis, peptic ulcer disease, celiac disease, small bowel bleeding, SIBO, constipation, complicated diverticular disease, IBD, microbiota modifications, increased Clostridium infections and others.

There are studies about medications and methods to avoid or delay the aging, such as the Mediterranean diet, movement-based-mind body therapies, Metformin, probiotics, and others.

In conclusion aging is an important part of gastroenterology and more studies are required to prevent and delay it.

Interprofessional Therapeutic Drug Monitoring of Carbapenems Improves ICU Care in Acute-on-Chronic Liver Failure

Stephan Schmid¹, Chiara Koch¹, Katharina Zimmermann¹, Jonas Buttenschoen¹, Alexander Mehr¹, Vlad Pavel¹, Sophie Schlosser-Hupf¹, Daniel Fleischmann², Alexander Krohn³, Tobias Schilling³, Martina Müller-Schilling¹, Alexander Kratzer²

1) University Hospital Regensburg, Department of Internal Medicine I, Regensburg; 2) University Hospital Regensburg, Hospital Pharmacy, Regensburg; 3) Klinikum Stuttgart, Department of Interdisciplinary Acute, Emergency and Intensive Care Medicine (DIANI), Stuttgart, Germany

Background & Aims: Acute-on-chronic liver failure (ACLF), a critical complication in cirrhotic patients, often necessitates rapid and intensive medical intervention. The precision in dosing meropenem, an essential antibiotic for treating serious infections, is crucial for its effectiveness and safety. This research aimed to evaluate the benefits of implementing Therapeutic Drug Monitoring (TDM) for meropenem in ACLF patients within an Intensive Care Unit (ICU), utilizing a novel interdisciplinary methodology.

Method: This investigation was conducted in a specialized medical ICU, focusing on ACLF patients undergoing meropenem treatment. It featured a collaborative effort among doctors, hospital pharmacists, and nurses to refine meropenem therapy using TDM strategies. Administration of meropenem was continuous post an initial bolus dose, with weekly serum levels determined via high-performance liquid chromatography (HPLC). Assessment parameters included serum meropenem levels, adherence to the interdisciplinary team's guidelines, and overall antibiotic usage.

Results: Initial TDM revealed average serum meropenem levels at 20.9 ± 9.6 mg/L, with only 16.0% of patients within the targeted range and 84.0% above it. Consequent measurements in the second and third weeks showed better targeting with average concentrations of 15.2 ± 5.7 mg/L and 11.9 ± 2.3 mg/L, respectively. By the third week, 50% of patients achieved target serum levels. The interdisciplinary team's recommendations were fully implemented, leading to a 10.0% decrease in meropenem usage, from 42.1 to 37.9 RDD/100 patient days.

Conclusion: The integration of an interprofessional TDM approach for meropenem in ACLF patients markedly

enhanced drug dosing accuracy. This methodology not only aligned serum levels within desired therapeutic ranges more effectively but also contributed to a significant reduction in meropenem consumption. The study highlights the importance of collaborative, interdisciplinary teamwork in drug therapy optimization, particularly in complex ICU environments, thereby advancing patient safety and treatment efficacy.

The Pancreas and the Microbiome

Fabian Frost¹, Matthias Sendler¹, Markus M. Lerch²

1) University Medicine Greifswald; 2) LMU University Hospital Munich, Germany

The community of gastrointestinal organisms, the microbiome, affects the prevalence and pathophysiology of a variety of diseases. Acute and chronic pancreatitis are inflammatory diseases of the pancreas (1) and potentially affected by microbiome changes. When we studied the composition of the stool microbiome in 1200 healthy, carefully phenotyped volunteers, we found that no other factors such as food composition, medications, age, sex or smoking has a greater effect on the composition of the intestinal microbiome than exocrine pancreatic function (e.g. stool elastase concentration) (2). In patients with chronic pancreatitis, we found a greatly reduced taxonomic diversity of the stool microbiome and an increase in potentially pathogenic bacteria (3) - similar taxa as found in experimental pancreatitis or human pancreatic necrosis (4). Exocrine pancreatic function as well as intestinal microbiome composition both affected metabolite concentrations in patients' blood, such as serotonin (5). When samples were investigated after 5 years we found that not only high income and female sex predict long-term stability of intestinal microbiota composition, but also the capacity of exocrine pancreatic function (6). These studies imply that the exocrine pancreas is the most prominent regulator of the human intestinal microbiome and its stability, but also that pancreatitis is a disease associated with, and aggravated by, intestinal microbiome alterations.

References

- Hoffmeister A, Mayerle J, Beglinger C, et al. English language version of the S3-consensus guidelines on chronic pancreatitis: Definition, aetiology, diagnostic examinations, medical, endoscopic and surgical management of chronic pancreatitis. *Z Gastroenterol* 2015;53:1447-1495. doi:10.1055/s-0041-107379
- Frost F, Kacprowski T, Rühlemann M, et al. Impaired Exocrine Pancreatic Function Associates With Changes in Intestinal Microbiota Composition and Diversity. *Gastroenterology* 2019;156:1010-1015. doi:10.1053/j.gastro.2018.10.047
- Frost F, Weiss FU, Sendler M, et al. The Gut Microbiome in Patients With Chronic Pancreatitis Is Characterized by Significant Dysbiosis and Overgrowth by Opportunistic Pathogens. *Clin Transl Gastroenterol* 2020;11:e00232. doi:10.14309/ctg.000000000000232
- Glaubitz J, Wilden A, Frost F, et al. Activated regulatory T-cells promote duodenal bacterial translocation into necrotic areas in severe acute pancreatitis. *Gut* 2023;72:1355-1369. doi:10.1136/gutjnl-2022-327448
- Pietzner M, Budde K, Rühlemann M, et al. Exocrine Pancreatic Function Modulates Plasma Metabolites Through Changes in Gut Microbiota Composition. *J Clin Endocrinol Metab* 2021;106:e2290-e2298. doi:10.1210/clinem/dgaa961
- Frost F, Kacprowski T, Rühlemann M, et al. *Gut* 2021;70:522-530. doi:10.1136/gutjnl-2020-322753

Diagnosis of Early Digestive Neoplasia

Marcel Tantau

Iuliu Hatieganu University of Medicine and Pharmacy, Cluj-Napoca, Romania

Digestive endoscopy has to be considered as a clinical examination of the digestive mucosa.

Digestive cancers have the highest incidence and mortality. Endoscopic examination of the digestive mucosa is the mainstay of early diagnosis.

Endoscopic examination needs:

- Time: enough time must be dedicated for the examination. All guidelines emphasize and mandate a minimum time allocated for a correct examination.
 - Endoscopist: Dedicated, well prepared, meticulous, and attentive doctors are required to prevent preneoplastic lesions being overlooked. Artificial intelligence may give some help.
 - Excellent endoscopes: High-definition endoscopes are mandatory for examination. Virtual chromoendoscopy (NBI, FICE, iSCAN) increases slightly the detection rate, but is decisive for characterisation and delineation of lesions. Chemical chromoendoscopy can also improve the detection, the delineation and characterisation of lesions.
 - Patient: Preparation of the patient and good collaboration increase the chances of detection of early neoplasias.
- The presentation will highlight the practical application of the actual guidelines for a competent digestive mucosa examination.

SESSION II: DISEASES OF THE LIVER

To Screen or Not to Screen? This is the Question! (for MASLD/SLD)

Ioan Sporea

Timișoara, Romania

Fatty liver disease, with the new name of MASLD (Metabolic dysfunction Associated Steatotic Liver Disease) is very frequent in the developed world and about 30% of the population is affected by this entity. For some categories of patients (with obesity, type 2 diabetes mellitus and metabolic syndrome) the proportion is more than 50%.

The screening of the population at risk can be done with biological tests (mainly to the GP level), but with a low sensitivity and specificity, or by imaging methods. Ultrasound and ultrasound-based methods for the evaluation for fatty infiltration and for liver stiffness measurement are quite cheap, easily accepted by the patients and in some areas (such as Germany, Romania or Italy) are very frequently performed by clinicians.

Standard ultrasound is useful for the detection of liver steatosis, having typical signs. Fatty quantification (QUS) inside modern ultrasound systems allows a very precise evaluation of steatosis and ultrasound based elastography (VCTE, pSWE or 2D-SWE) is necessary for liver stiffness assessment. Some studies have shown that screening with ultrasound methods of the patients at risk for SLD is cost/efficient and can be proposed like a strategy.

Current Systemic Therapy and Treatment Strategy for Advanced HCC

Peter R. Galle

I. Medizinische Klinik und Poliklinik, University Medical Center Mainz, Germany

Over the last 15 years we have seen relevant advances in the systemic therapy of hepatocellular carcinoma (HCC). Drugs licensed in some countries now include four oral multi-tyrosine kinase inhibitors (sorafenib, lenvatinib,

regorafenib and cabozantinib), one antiangiogenic antibody (ramucirumab) and six immune checkpoint inhibitors, alone or in combination (atezolizumab in combination with bevacizumab, durvalumab in combination with tremelimumab, ipilimumab in combination with nivolumab, nivolumab, pembrolizumab and durvalumab in monotherapy). Prolonged survival in excess of two years can be expected in most patients with sensitive tumours and a well-preserved liver function that render them fit for sequential therapies. With different choices available, the robustness of the evidence of efficacy and a correct matching of the safety profile of a given agent with patient characteristics and preferences are the key in making sound therapeutic decisions. In Europe, the EASL Clinical Practice Guidelines were published in 2018 and will be updated in due course. A position paper on systemic therapy in HCC from EASL was published in 2022. European Society for Medical Oncology guidelines have been updated in an online version (2021 eUpdate). Both updates aim to help providing the best possible care for patients today and use a pragmatic approach. Basically, they recommend Atezolizumab plus Bevacizumab or Durvalumab plus Tremelimumab as the new first line standard and the “old” first line standard sorafenib or lenvatinib as an alternative option, in particular if there are contraindications against the use of the combination. In this setting, durvalumab monotherapy is also a first line option if the two combinations are unavailable or contraindicated. As a second line, the EASL position paper recommends after atezo/bev to use the available multi-TKI as per off-label availability, ESMO recommends available multi-TKI and adds ramucirumab as an option. Following sorafenib or lenvatinib, the “old” second line, regorafenib, cabozantinib or ramucirumab are available.

In view of the increasingly high numbers of systemic agents or combinations for the treatment of HCC, a head-to-head comparison and a defined analysis on sequential treatments is unlikely. Biomarker definition of subgroups with the potential of high response rates and/or improved survival is urgently needed.

In addition, in the field of systemic therapy for HCC several new combinations are currently being assessed in phase 3 trials and will mature over the next two years, requiring further adjustment of the guidelines.

A year ago, the IMbrave050 trial was presented, showing improved recurrence free survival after receiving Atezolizumab/Bevacizumab in early stages as an adjuvant treatment.

Furthermore, several trials investigated the potential of systemic therapy in intermediate stage HCC. This includes the recently presented EMERAL-1 trial, demonstrating improved PFS when systemic therapy with durvalumab plus bevacizumab was added to TACE. Two trials investigated systemic therapy vs. TACE in intermediate stage disease: the ABC-HCC and the REPLACE trial.

Ingestion of Red Blood Cells by Hepatocytes: A novel Observation and its Implications

Sebastian Müller

1) Center for Alcohol Research, University of Heidelberg, Otto Meyerhof Zentrum, INF 350, Germany; 2) VISCERA AG Bauchmedizin Bern, Switzerland

The liver is the major target of alcohol consumption resulting in alcohol-related liver disease (ALD), the most common liver disease. In ALD, both hemolysis and iron overload have been identified as independent risk factors for survival, however, the underlying mechanisms are still poorly understood. We have recently demonstrated that ethanol is able to prime red blood cells (RBC) for phagocytosis by macrophages, a process termed erythrophagocytosis.

We here further demonstrate that hepatocytes are likewise able to directly ingest aged and ethanol-primed RBCs. Direct ingestion of RBCs was directly observed using videomicroscopy both in hepatoma huh7 cells but also primary mouse hepatocytes. RBC efferocytosis by hepatocytes results in the rapid induction of the heme degradation enzyme *HO-1* (heme oxygenase 1) and its upstream regulator *Nrf2*, both peaking at a hematocrit of 0.05%. In addition, mRNA expression of the iron storage protein *ferritin* is strongly upregulated. Preliminary data further suggest that hepatocyte efferocytosis of oxidized RBCs is almost completely blocked by staurosporine and, in part, mediated by scavenging receptors such as *ASGPR1*, *ASGPR2* and *TLR4*. In a cohort of heavy human drinkers, we confirm correlation of hepatic *ASGPR1* with the heme degradation pathway (*HO-1* and *Nrf2* mRNA). However, the exact receptor-mediated mechanism needs to be further clarified. In addition, serum levels of *ASGPR1* decrease after alcohol detoxification and are highly associated with mortality, other markers of hemolysis but also erythrophagocytosis.

In conclusion, we demonstrate for the first time that hepatocytes can directly ingest and degrade RBCs through efferocytosis, a process that can be triggered by ethanol. Our observations are likely to have fundamental implications for RBC recycling and are highly suggestive for a novel mechanism of hepatic iron overload in ALD patients.

Rebalanced Hemostasis in Advanced Liver Disease: Thromboelastography vs. Standard Coagulation Tests

Zeno Sparchez

University of Medicine and Pharmacy Iuliu Hatieganu
Institute for Gastroenterology and Hepatology Prof. Dr.
Octavian Fodor Cluj Napoca, Romania

According to the changes in the standard coagulation tests cirrhotic patients were considered naturally anticoagulated. In the light of the new evidence, the theory of rebalanced hemostasis replaced the old concept. According to this model, the hemostatic alteration leads to a unique balance between pro-coagulant, anticoagulant, and fibrinolytic systems, balance that could prone to bleeding or thrombosis depending on various risk factors. The standard coagulation tests [INR (international normalized ratio), platelet count and fibrinogen] only explore parts of the hemostasis, not offering an entire image of the process. Rotational thromboelastometry (ROTEM) and thromboelastography (TEG) are both point of care viscoelastic tests (VET) that provide real-time and dynamic information about the entire hemostasis process, including clot initiation (thrombin generation), clot kinetics, clot strength, and clot stability (lysis). Despite prolonged PT/INR and low platelet counts, VET is within the normal range in many patients with chronic advanced liver disease.

Bleeding remains the dominant clinical issue in patients with liver diseases, especially when invasive interventions are required. VET has been shown to assess more appropriately the risk of bleeding than conventional laboratory tests, leading to a more appropriate use of blood products transfusion. Although VET has shown its benefit, more studies are needed to establish cut-off values for TEG and ROTEM in these populations and standardization of transfusion guidelines before invasive interventions in cirrhotic patients/orthotopic liver transplantation.

Advances in the Management of Primary Biliary Cholangitis: A Global Updated Perspective

Liana Gheorghe

Carol Davila University of Medicine and Pharmacy, Center for Digestive Diseases and Liver Transplantation, Fundeni Clinical Institute Bucharest, Romania

Primary biliary cholangitis (PBC) is a rare autoimmune liver disease that predominantly affects women in their fifth-to-seventh decades of life. It is characterized by a chronic, destructive

granulomatous lymphocytic cholangitis, involving interlobular bile ducts, leading to ductopenia, chronic cholestasis and progressive fibrosis and culminating in cirrhosis and end-stage liver disease. Diagnosis is based on the presence of 2 of the 3 following criteria: 1) biochemical evidence of cholestasis, mainly elevated ALP, 2) AMA or PBC-specific ANA seroreactivity and 3) evidence of non-suppurative destructive cholangitis (with/without granulomas) on liver biopsy. Although PBC patients usually present a long asymptomatic phase, debilitating symptoms, including pruritus and fatigue may alter their quality of life (QOL).

Effective treatment is essential to prevent disease progression and improve survival and QOL. Licensed disease-modifying treatment includes weight-based ursodeoxycholic acid (UDCA) 13–15mg/kg/day as first line therapy. Recently, based on data from the POISE randomised controlled trial, the FXR agonist obeticholic acid (OCA) was approved as add-on therapy for patients non-responders or intolerant to UDCA; its efficacy, safety and tolerability under real-world condition was recently demonstrated in a large cohort of patients. Off-label therapy with the pan-PPAR agonist bezafibrate might be used as an alternative based on BEZURSO trial data. The role of PPAR agonists as second-line therapy for improving outcomes and QOL in PBC patients was certified by the recently published studies with Seladelpar (RESPONSE trial) and Elafibranor (ELATIVE trial).

Pregnancy and Metabolic Associated Fatty Liver Disease

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Non-alcoholic fatty liver disease (NAFLD) is considered a high-risk obstetric condition, being an independent risk factor for hypertensive complications, postpartum hemorrhage, and preterm birth. In pregnant women the prevalence of NAFLD, assessed by ultrasound or fatty liver index is around 15-18% and reaches 50% in females with polycystic ovary syndrome.

Metabolic dysfunction-associated fatty liver disease (MAFLD) a new definition proposed in 2020, incorporates the associated metabolic abnormalities. Cohort studies and meta-analyses reported that pregnant women with MAFLD exhibited a high risk for gestational diabetes mellitus, hypertension, caesarean section, preterm born and macrosomia compared with those with NAFLD without metabolic dysfunction. This evidence highlights the role of metabolic factors that link these conditions. Maternal insulin resistance was positively associated with the placenta volume and negatively associated with the birth weight/placenta weight ratio. Impaired or reduced regulatory T cells and the presence of a proinflammatory cytokine environment in obesity and NAFLD might have a pathogenic role in preeclampsia.

In the absence of a specific medication for MAFLD, physical exercise should be recommended as it enhances insulin sensitivity, independently of weight loss, and modulates regulatory T cells, reducing the maternal and fetal risk. Also, breastfeeding should be promoted as it may offer protection against postpartum obesity and NAFLD.

SESSION III: INFLAMMATORY BOWEL DISEASES

Actual Treatment of Inflammatory Bowel Disease

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Recently, several new therapeutic options have become available to treat patients with inflammatory bowel disease. This allows more effective and more individualized treatment than before.

However, in many patients with uncomplicated disease, the older and well-known drugs such as 5-aminosalicylic acid, corticosteroids and thiopurines are still the fundament of treatment as they are effective, well known, and inexpensive.

Risankizumab was the first IL-23 antibody approved for the treatment of Crohn's disease in November 2022. Risankizumab 600-1.200 mg at week 0, 4 and 8 intravenously led to clinical remission in 42-45% in the ADVACE trial and in 40-42% in the MOTIVATE trial. In the FORTIFY maintenance trial remission was seen in 42-51% in the 180 mg and 360 mg s.c. groups. Interestingly, there was a strong carry over effect leading to relatively high maintenance rates in the placebo group with 41%. No concerning side-effects were observed. In the SEQUENCE trial Risankizumab showed a higher clinical and endoscopic efficacy compared to Ustekinumab after 48 weeks (61% versus 41% for clinical remission and 31% versus 15% for steroid free endoscopic remission).

Another IL-23 antibody, Mirikizumab has been studied in ulcerative colitis. In the induction study LUCENT-1 a significant superior remission rate of 24.2% was found with 300 mg i.v. Q4W versus placebo. Maintenance of remission with 200 mg i.v. Q4W was 49.9% after 52 weeks. No concerning side-effects were observed. A positive CHMP-opinion regarding approval by the EMA was published.

Sphingosin-1-phosphate receptor modulators trap lymphocytes in the lymph nodes reducing chronic inflammation in multiple sclerosis and inflammatory bowel disease. Ozanimod is the first S1PR-modulator approved for the treatment of ulcerative colitis after inducing remission in 18.4% a dose of 2 mg/d orally in the TRUE-NORTH trial and leading to a corticoid-free remission at week 52 in 31.7% of the

patients. The True North open-label extension safety analysis showed a very low rate of side-effects after 3 years treatment.

JAK-Inhibitors

Janus-Kinases (JAK-1-3 and TYK-2) are important signal transducers in inflammation. Therefore, inhibition of the JAKs is a powerful tool against inflammation.

Tofacitinib was the first JAK-Inhibitor approved for the treatment of ulcerative colitis. Induction with 2 x 10 mg orally resulted in clinical remission in 16.6-18.5% in the OCTAVE-1 and OCTAVE-2 studies. Maintenance with 2 x 5-10 mg/d was successful for remission in OCTAVE-sustain in 24.4 – 40.6% of the patients.

Since a significant higher rate side-effects (MACE and VTE) has been reported in a post-marketing study with tofacitinib in patients with rheumatoid arthritis compared to TNF-inhibitors, the PRAC of the EMA sent a warning letter recommending using all JAK-inhibitors only in patients without cardiovascular risk factors or if no other treatment option is available.

However, in the studies of tofacitinib in ulcerative colitis these side-effects have not been observed. Also, they have not been found in several register studies.

Filgotinib, an orally used JAK-1 selective JAK-inhibitor also was significantly superior to placebo in Ulcerative Colitis patients in the SELCTION-trial leading to clinical remission in 23.1% in the 200 mg/d dose. Long-term data for 4 years showed a very good, sustained response and no new safety-signals.

Upadacitinib, also an orally used JAK-1 selective JAK-inhibitor, led to an impressive remission rate of 26% - 33.5% in the induction trials U-ACHIEVE and U-ACCOMPLISH at a dose of 45 mg/d in patients with ulcerative colitis. Maintenance at 1 year showed 52% sustained remission rates. Side-effects (MACE and VTE) were on placebo-niveau.

Upadacitinib as the first JAK-inhibitor also showed significant activity in patients with Crohn's disease with clinical remission rates of 38.9% and 49.5% in the U-EXCEL and U-EXCEED-trials after 12 weeks. In the maintenance trial U-ENDURE 47.6% remained in remission after 1 year. No new safety signals were observed. In February 2023 a positive CHMP-opinion regarding approval by the EMA was published.

There are more new developments coming such as the IL-23-antibody Guselkumab and the S1P-R-modulator Etrasimod, which hopefully will become available soon.

In conclusion, the treatment does improve but is becoming more complex. The best sequence of treatment must be still found.

Treatment of IBD in the Frail Patient: how to Choose the best Treatment Option?

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The rising incidence of inflammatory bowel disease (IBD) and the growth of our ageing population are contributing to a rapidly increasing number of elderly IBD patients. About 25-35% of the IBD population are over the age of 60, of whom about 15% have been diagnosed relatively late in life, and about 20% are IBD patients who are now elderly with IBD having been diagnosed at a younger age. For elderly IBD patients, the disease course, treatment efficacy and possible side effects of therapy, and not least the extent to which patients' quality of life is affected differs in comparison to younger patients.

The first symptoms of IBD are more or less similar for adult and elderly patients; however, some elderly patients may have atypical presentations of their disease, thus adding to the diagnostic complexity. Abdominal pain and systemic complaints, such as fever and weight loss, are less frequently observed in elderly patients than in younger IBD patients. In line with a more colonic localization of CD, elderly CD patients more often suffer from rectal bleeding and less often report abdominal pain at first presentation. Elderly UC patients are more frequently hospitalised for the first flare than younger adult patients, whereas elderly CD patients more often undergo a surgical resection at that time, in contrast to adult-onset CD patients. The differential diagnosis is more diverse in the elderly, and one should exclude, among others, an infectious cause, ischemic colitis, diverticular disease or NSAID-induced colitis.

The approach to treatments and response rates to most treatments are similar in elderly patients with IBD when compared to those with younger age at presentation or onset of the disease and there is no evidence that the efficacy of medical treatment in elderly IBD patients differs from that for younger adult patients. However, infections and serious infections are more common in elderly IBD patients, especially in those patients receiving oral corticosteroids. The use of thiopurines in the elderly requires careful consideration and monitoring due to potential drug interactions and an increased risk for lymphoma, non-melanoma skin cancer and infection. Polypharmacy from existing co-morbidities may be more common in elderly IBD patients and the potential for drug interactions must be considered.

The indications for surgery do not differ between elderly and younger adult patients in both CD and UC, and age alone is not an accurate predictor of surgical risk in IBD patients. In UC, the surgical approach to older patients requiring pouch

surgery does not differ from that for younger adult patients. However, due to the possible presence of poor anal sphincter function, the option of pouch versus ileostoma should be discussed in elderly patients.

Diagnosis of IBD in elderly patients is more difficult than in younger patients. Whereas treatment options in general do not differ from young IBD patients, side effects occur more often in elderly IBD patients. In addition, polypharmacy and comorbidities complicate IBD therapy in the frail population. However, despite the challenges in elderly IBD patients, steroid free remission and a high quality of life are the ubiquitous treatment goals in all age groups.

Severe Acute Ulcerative Colitis - A Therapeutical Challenge

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About 10% to 20% of individuals with ulcerative colitis experience a more severe form, known as acute severe ulcerative colitis (ASUC). ASUC is a serious complication characterized by frequent bowel movements, bloody diarrhea, rapid heart rate, abdominal tenderness, fever, inflammation, and anemia. ASUC has a risk of developing toxic megacolon, the most critical complication of colitis. ASUC represents a medical emergency and can be life-threatening if left untreated.

The management should consider the prompt administration of IV fluids, steroids, sometimes antibiotics, and electrolytes, as well as ensuring steroid enemas and bowel rest. In the ASUC treatment, intravenous steroid medication is commonly used. However, this is ineffective in 30% to 40% of patients. In these cases, other therapies such as immunosuppressive drugs - Cyclosporine, Infliximab or Tacrolimus - are considered. Multiple studies show the fast response of these agents regarding health improvement and clinical response, some being the benefit of Cyclosporine, although its toxicity should always be considered, and the drug is reserved for some patients only.

Perioperative medication is controversial, with some treatments being shown to have increased postoperative complications. As surgery, a procto-colectomy with ileo-anal pouch construction is advised, with further attention given to pouch management and complications.

As for conclusions, in the case of fulminant colitis, the decision of surgical intervention is taken in a case-by-case manner. There is always a need for a multidisciplinary approach to the patient with fulminant colitis because, although the new medications available in clinical practice or from clinical trials can be used, their response is sometimes limited, and the only solution remains surgery. The new surgical techniques have made the minimally invasive path a more acceptable solution for undecided patients.

New Imaging Techniques in IBD

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Cross-sectional images in IBD have a well-known role in the assessment of the intestinal tract and extraluminal aspects as well. Entero-RM/Entero-CT is mandatory for the correct extension assessment of small bowel Crohn's disease. Nowadays, with the development of ultrasonography in the

evaluation of patients with IBD these expensive cross-sectional techniques could be replaced with intestinal ultrasound in selected cases. Although endoscopy with biopsies and pathological exams remains the main tool for diagnosis of IBD, CT, IRM, and US are extremely important in the assessment of the severity and complications of the diseases. The role of the US becomes more important in the follow-up during treatment, being reproducible and well-accepted by patients. The development of US algorithms allows this technique to be able to quantify the severity of the disease. Thus, endoscopy US, IRM, and CT represent complementary methods in the diagnosis and the follow-up of patients with IBD.

SESSION IV: ENDOSCOPY AND ULTRASOUND

AI in Colonoscopy

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Artificial intelligence (AI) has found its way into daily practice in endoscopy. In fields other than gastroenterology, significantly more AI systems have been approved as medical devices. These include the radiology and cardiology fields. In gastroenterology, however, there are a large number of randomized clinical trials on the use of AI. One reason for this are AI-based polyp detection systems. In the first randomized trials, they have shown great success in increasing the ADR. Other developments include polyp differentiation and real-time measurement of withdrawal speed. All these methods have been analyzed in randomized clinical trials. There have been both positive and negative results. The future of AI in colonoscopy lies in various AI applications that will make life easier for examiners. In addition to CADe and CADx, these include automated reporting and polyp sizing. Another important AI that we are eagerly awaiting is the one that gives you a measure of how much mucosal surface has been inspected. Only with such an AI will it be possible to understand whether the entire lumen has been visualized and whether this has been done under proper conditions (clean bowel).

In summary, AI in colonoscopy is a new technological development and we are only at the beginning of its movement. It is important that the introduction of this technology is accompanied by clinical studies. It is also important to understand what the technology does to us, i.e., to analyze the human-machine interaction. It is also important to analyze what happens after the introduction of this new technology, especially as it is difficult to conduct blinded studies with AI.

Green Endoscopy – Environmental Considerations and Practical Consequences

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Health care is regarded as responsible for 4.4 % of total greenhouse gas emissions (GHG) worldwide. Endoscopy ranks third within the system as the hazardous waste generating department in hospital/beds after anesthetics and pediatric intensive care. It is regarded as the second waste generator for clinical procedures monthly after radiology. It is assumed that > 85,000 metric tonnes of CO₂ emissions are produced annually in USA equivalent to 212 miles drive.

The reasons are: patient volumes, single-use-items, water consumption, patient and staff travel, and high energy consumption. In an ambulatory endoscopy center (Strasbourg/France) the carbon footprint is monthly expressed, mainly in travel (patient, staff, 45 %), medical and non-medical equipment (32%) and less in energy consumptions and consumables (7 %).

But among all consumables the highest carbon footprint is for single-use-items including detergents and chemicals for decontamination.

Every endoscopic procedure generates ca. 2kg of disposable waste from peri-procedural single use disposable material and supplies, and with regard to only reusable with single-use endoscopes, the total waste mass would increase by 40 %. Manufacturing counts hereby for > 90 % of GHG emissions.

ESGE/ESGENA 2022 recommends the “5 Rs” to be more environmentally friendly:

Reduce – Reuse – Recycle – Re-Think – Research.

First, Reduce unnecessary endoscopic procedures and lengthen follow-up intervals to reduce staff and personal travels. Avoid unnecessary biopsies and interventions. Re-use personal equipment whenever possible and avoid the use of plastic and single-use materials per procedure. Place accessible and labeled recycling bins to segregate individual recyclable components. Re-think how endoscopic procedure can be avoided, and if non-endoscopic diagnostic procedures are appropriate. Educate and train staff and create the position of a carbon footprint responsible. And finally, Research is needed to define green key performance measures.

References

1. Pohl H. Transitioning to sustainable care and green endoscopy. *Gastroenterol Hepatol (N Y)* 2023;19:233-236.
2. Rodriguez de Santiago E, Dinis-Ribeiro M, Pohl H, et al. Reducing the environmental footprint of gastrointestinal endoscopy: European Society of Gastrointestinal Endoscopy (ESGE) and European Society of Gastroenterology and Endoscopy Nurses and Associates (ESGENA) Position Statement. *Endoscopy* 2022;54:797-826. doi:10.1055/a-1859-3726

3. American Society for Gastrointestinal Endoscopy Sustainable Endoscopy Task Force; Hernandez LV, Agrawal D, Skole KS, et al. Meeting the environmental challenges of endoscopy: a pathway from strategy to implementation. *Gastrointest Endosc* 2023;98:881-888.e1. doi:10.1016/j.gie.2023.07.031
4. Shaji S, Anjan D, Baddeley R, et al. Green endoscopy: British Society of Gastroenterology (BSG), Joint Accreditation Group (JAG) and Centre for Sustainable health (CSH) joint consensus on practical measures for environmental sustainability in endoscopy. *Gut* 2023;72:12-26. doi:10.1136/gutjnl-2022-328460
5. Elli L, La Mura S, Rimondi A, et al. The carbon cost of inappropriate endoscopy. *Gastrointest Endosc* 2024;99:137-145.e3. doi:10.1016/j.gie.2023.08.018
6. Le NNT, Hernandez LV, Vakil N, Guda N, Patnode C, Joliet O. Environmental and health outcomes of single-use versus reusable endoscopes. *Gastrointest Endosc* 2022;96:1002-1008. doi:10.1016/j.gie.2022.06.014
7. Lacroute J, Marcantoni J, Petitot St et al. The carbon footprint of ambulatory gastrointestinal endoscopy. *Endoscopy* 2023;55:918-926. doi:10.1055/a-2088-4062

Ergonomics in Endoscopy

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From the document published by ASGE Training Committee in 2021 “ergonomics, as applied to endoscopy, can be defined as the study of endoscopists’ interactions with elements of their environment, including the endoscope and endoscopy unit, and redesigning these to minimize the risk of endoscopy-related injury, optimize endoscopist well-being, and maximize overall system performance”.

Endoscopy is a predominant component of gastroenterology work and training, but is associated with musculoskeletal (MSK) injuries, potentially leading to occupational injuries in endoscopists and limiting career longevity. Endoscopy is physically demanding, and most gastroenterologists report spending more than 40% of their time performing procedures. Three decades ago a high volume endoscopist performed 3-5 cases in a day, now many of us routinely perform 10-15 procedures a day, and some even more. If every procedure encompasses several hundred hand, wrist, elbow, shoulder, and neck movements in aggregate, it is easy to see how MSK injuries can occur. The prevalence of MSK injuries ranging from 29% - 89% in physicians performing endoscopy, has been summarized in several review articles. Sites of endoscopy related pain/ injury are: pain in neck, shoulder, back, pain in hand, wrist, elbow, pain in legs.

Education on how to apply basic ergonomics principles to endoscopy is fundamental to mitigating the physician’s risk of injury. Ergonomic training should start early during fellowship. In many busy endoscopy units, incorporating

good ergonomic principles during endoscopy may require a culture change where the use of ergonomic-specific checklists, micro-breaks during long procedures, mini-breaks between cases, and restructuring of endoscopic schedules to facilitate endoscopists’ health is accepted and considered as important as optimizing patient outcomes.

Why Should we Perform CEUS in Pancreatic Pathology?

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B-mode ultrasound (US) is a first-line imaging technique used for the evaluation of the pancreas. Contrast enhanced ultrasonography (CEUS) implies no radiation, it can be performed in patients with kidney failure, offering information regarding a lesion’s vascularization. It can be performed immediately after B-mode US, thus a positive diagnosis can be reached in a few minutes, by characterizing the lesions’ enhancement pattern.

CEUS is a valuable technique regarding the vascularization of the pancreatic parenchyma. Since the blood supply of the pancreas is entirely arterial, the pancreas enhancement following the contrast bolus begins almost simultaneously to the aortic enhancement (12-20s after bolus), followed by a progressive wash-out.

In acute pancreatitis (AP), CEUS is an accurate method which can differentiate between areas of pancreatic inflammation and areas of necrosis. Since it is non-irradiant it can be repeated as many times as needed, providing real-time information, even in patients with renal failure.

Due to CEUS’ ability to visualize microcirculation, it is an accurate tool to differentiate between cystic tumors and simple cysts of the pancreas, including the study of neoangiogenesis and for the noninvasive prognostic stratification of pancreatic tumors and for the evaluation of chemotherapeutic effects.

Therapeutic Endoscopic Ultrasound in Pancreatic Cancer

Andrada Seicean

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Pancreatic adenocarcinoma poses a significant challenge to modern healthcare due to its increasing incidence and low survival rates. Over 30 years ago, endoscopic ultrasound was developed to enhance the diagnosis of pancreatic diseases,

and more recently, it has evolved into a therapeutic procedure, particularly for pancreatic neoplasms.

Endoscopic ultrasound has played a crucial role in palliating duodenal obstruction in locally advanced or metastatic pancreatic head tumors with minimal ascites, demonstrating favorable and sustained functional outcomes, shorter hospital stays, and an acceptable complication rate. Additionally, endoscopic ultrasound hepatico-gastrostomy has been increasingly used for palliating jaundice in the presence of intrahepatic bile duct dilation in the left lobe. While choledoco-duodenostomies offer a palliative solution for distal biliary obstruction following failed ERCP, their use instead of ERCP for the preoperative drainage of jaundice remains a topic of debate. For small functional neuroendocrine pancreatic tumors, radiofrequency ablation during endoscopic ultrasound procedures serves as an ablative method, and the results of randomized controlled trials comparing this approach with surgery are awaited.

Dynamic Contrast Ultrasound Diagnostics (CEUS) of Liver Lesions and post Treatment Control with a New High-resolution Examination Technique (HiFR) and Perfusion Analysis

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Aim: To evaluate, if HiFR CEUS and external perfusion analysis (VueBox®) can answer on liver tumor diagnostics.

Methods: A multifrequency probe (C1-6 /Resona R9) and 1-2.4 ml ultrasound contrast medium were used for CEUS up to 5-6 min. Independent analysis of DICOM-CINE files was performed, correlated to follow-up, CT, MRI or histopathology.

Results: In 110 patients, the difference between the marginal peak enhancement (PE) of malignant and benign lesions was significant. In the peripheral area, the AUCs were lower in malignant lesions (144.8±139.3) than in benign lesions (123.6±119.8). The mean transit time (mTT) was shorter in malignant lesions in the center. In the liver parenchyma, however, the mTT was significantly longer in malignant lesions (141.6±107.9s) than in benign lesions (128.8±138.6 s). The rise time (RT) was significantly shorter central (66.5±30.9s) and peripheral (72.8±35.1s) in malignant lesions than in benign lesions (114.33±159.58s). The wash in rate (WiR) in benign lesions was 848.3±2,563.7 rU in the center. Wash-out rate (WoR) in the center, peripheral and in the liver, parenchyma showed a significantly lower wash-out in the malignant lesions.

Conclusions: HiFR CEUS with perfusion analysis enables the assessment of focal, diffuse, and post-interventional liver changes.

LIST OF POSTERS WITH ORAL PRESENTATION

Prospective Evaluation of an Explainable Deep Learning Model for the Hill Classification of the Gastroesophageal Valve

Ioannis Kafetzis¹, Philipp Sodmann¹, Bianca-Elena Herghelegiu¹, Karl Hermann Fuchs¹, Florian Seyfried², Alexander Meining¹, Alexander Hann¹

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Prognosis Scores Correlations and Utility for Liver Transplantation-free Survival Analysis in Patients with Large-duct Primary Sclerosing Cholangitis

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Development and Validation of the LION-ICU Score: A New Prognostic Tool for Patients with Liver Cirrhosis and Infections on the ICU

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Early Surgery or Late Surgery for terminal Ileal Crohn's disease? Outcomes from Real Life Data

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Anorectal Motility Disorders in Inflammatory Bowel Disease Patients

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High-Resolution Visualization of Intestinal Microcirculation using Ultra-Microangiography in Patients with Inflammatory Bowel Disease - a Pilot Study

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Prospective Evaluation of an Explainable Deep Learning Model for the Hill Classification of the Gastroesophageal Valve

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Background & Aim: Standardized evaluation of the gastroesophageal valve during gastroscopy, achievable via the Hill classification, is mandatory. We aimed to compare the performance of our AI model for determining the Hill classification with that of the examiner in a prospective, superiority study.

Design: During gastroscopies performed in clinical routine the physician assessed the Hill grade, while our AI model was running in the background. Endoscopists were blinded to the model outcome. The Ground truth was the majority vote of a three-member expert committee. The Main outcome was accuracy and secondary outcomes were per-class accuracy, precision, and recall.

Results: From October 2023 to January 2024, 150 patients were included and 131 were analyzed. Our AI model achieved an accuracy of 81% versus 61% of the physicians ($p < 0.01$). The lowest accuracy, sensitivity, and specificity per class were 88% (Grade 2), 60% (Grade 4) and 86% (Grade 1) for the AI and 66% (Grade 2), 31% (Grade 2) and 81% (Grade 1) for the physicians. Our AI generates a heatmap indicating the image parts influencing the prediction and demonstrating built-in explainability.

Conclusions: Our AI performs significantly better in determining the Hill classification compared to physicians. Thus, AI-physician interaction during examination should be investigated.

ClinicalTrials.gov, Trial register number: NCT06040723

Prognosis Scores Correlations and Utility for Liver Transplantation-free Survival Analysis in Patients with Large-duct Primary Sclerosing Cholangitis

Matei Manda^{1,2}, Speranța M. Iacob^{1,2}, Cristian Anghel^{1,2}, Mugur Grasu^{1,2}, Răzvan A. Iacob^{1,2}, Mihaela Ghioca^{1,2}, Irinel Popescu³, Ioana Lupescu^{2,4}, Cristian Gheorghe^{1,2}, Liliana S. Gheorghe^{1,2}

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Background: Primary sclerosing cholangitis (PSC) is a chronic progressive cholestatic disease with poor prognosis and unfavorable prognosis. The aim of our study was to assess the need for LT in patients with large-duct PSC.

Methods: The revised Mayo Risk Score (rMRS), Amsterdam Oxford Model (AOM), UKPSC, PREsTo, MELD-Na score, FIB-4 and APRI scores, Majoie endoscopic retrograde cholangiopancreatography classification on MRCP studies were analysed in 64 patients with large-duct PSC. Correlation analysis was performed for estimation of liver transplantation. A multivariate Spearman's rho analysis was used for prognosis scores inter-correlation.

Results: The median period of follow-up was 9.5 years since diagnosis. LT was performed in 23.5% of cases, 9.4% developed cholangiocarcinoma and 15.6% of patients died during follow-up.

Statistically significant areas under the ROC curves (AUC) for the calculated prognosis scores were seen for Sum IHD-EHD (AUC = 0.646, SE 0.06, $p = 0.004$), AOM score (AUC = 0.851, SE = 0.05, $p = 0.001$), and UKPSC-RSLT score (AUC = 0.768, SE 0.06, $p = 0.004$). Of the MRCP scores, Sum IHD-EHD score positively correlates with UK-PSC RSST score ($r = 0.48$, $p < 0.001$) and rMRS score ($r = 0.35$, $p < 0.004$).

Conclusions: The calculated MRCP classification showed moderate utility for predicting the need for liver transplantation.

Clinical prognosis scores had better performance for patients stratification.

Development and Validation of the LION-ICU Score: A New Prognostic Tool for patients with Liver Cirrhosis and infections on the ICU

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Background & Aims: Patients with liver cirrhosis are frequently admitted to intensive care units (ICUs) due to infections, leading to severe complications and increased mortality risks. Precise and early diagnosis and intervention are crucial for improving treatment outcomes. In this context, the application of medical scoring systems in ICUs plays a vital role in accurate diagnosis and severity assessment, crucial for the development of appropriate therapeutic strategies. This study aims to develop an optimized and efficient prognostic system for liver cirrhosis patients with infections in ICU settings. The proposed system is intended to surpass existing sepsis and liver-specific prognostic scores in terms of predictive accuracy and user-friendliness.

Method: The study involved a comprehensive analysis of 620 liver cirrhosis patients treated for infections at the ICU of the Department of Internal Medicine I, University Hospital Regensburg, between 2017 and 2019. Advanced statistical methods were used to develop and validate the LION-ICU Score, a prognostic tool specifically designed for this patient group.

Results: The LION-ICU Score has proved to be an innovative and user-friendly prognostic tool for liver cirrhosis patients with infections in ICU settings. It integrates parameters such as the Child-Pugh Class, serum urea levels, and respiratory metrics. It can be calculated at the bedside using basic clinical and laboratory data, eliminating the need for additional tools. In the validation cohort, the LION-ICU Score showed improved sensitivity and specificity in predicting in-hospital mortality compared to established scores such as SOFA, qSOFA, MELD, and Child score.

Conclusion: The newly developed LION-ICU Score is a robust and efficient tool for predicting in-hospital mortality in liver cirrhosis patients with infections, surpassing the predictive capabilities of conventional liver or sepsis scores. Its reliance on fundamental clinical and laboratory data allows for its global application in ICUs, enabling immediate bedside implementation for liver cirrhosis patients during episodes of suspected or confirmed infections.

Early Surgery or Late Surgery for terminal Ileal Crohn's disease? Outcomes from Real Life Data

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Background: Surgery for localized ileal Crohn's disease (CD) is usually reserved for patients with symptomatic stenosis who do not respond to medical treatment or for complications such as occlusive syndrome, perforation or fistulas. In many cases medical treatment is optimised or multiple switches between biologics are performed when facing a symptomatic stenosis or a stenosis that maintains an inflammatory pattern. Recent data recognizes surgery as an alternative to medical interventions as a first line treatment option for localized ileal CD.

Methods: In this retrospective study we included patients with localized ileal CD who are monitored in the Gastroenterology Department II, Fundeni Clinical Institute. Eligible patients had short (< 40 cm) asymptomatic ileal stenosis. We divided the patients into two groups. The first group included patients that received elective laparoscopic surgery in cases of stenosis persistence after 1 year of biologic treatment and the second group included patients that continued medical treatment. Both groups were followed up over a period of 3 years. Primary outcome was represented by the period with clinical remission. Secondary outcomes were represented by the number of treatment optimisations or switches and days of hospitalization between groups and the period with no mucosal inflammation at endoscopy and/or imaging studies.

Results: 42 patients with asymptomatic stenosing ileal CD were included: 14 patients underwent elective surgery for persistence of asymptomatic stenosis at 1 year after initiation of biologics. In this group, 12 patients (85.7%) maintained clinical remission at 3 years, 2 patients (14.2%) needed optimisation of current biologic and 1 patient needed switch on another biologic agent due to active disease in the 3 years follow-up. Twenty-eight patients continued biologics with stenosis persistence at 1 year. Eight (71.4% of the patients) maintained clinical remission at 3 years. All patients associated ileal inflammation to fibrotic pattern in radiological investigations during follow-up. Ten (35.7%) of the patients in this group developed intermittent abdominal pain, 13 (46.4%) patients benefitted from treatment optimisation and 4 (14.2%) of patients had multiple biologics switches. Two (7.14 %) patients underwent surgery due to occlusive syndrome. The number of hospitalization days per years was significantly higher in the group of patients with asymptomatic stenosing ileal CD who continued medical treatment.

Conclusion: Early surgery for asymptomatic stenosing CD may be a good alternative to biological treatment resulting in favourable long-term outcomes

Anorectal Motility Disorders in Inflammatory Bowel Disease Patients

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Background & Aim: Despite prolonged disease remission of IBD patients, induced by the new biological molecules, a significant number of them suffer from persistent debilitating symptoms with a major impact on their quality of life. Frequently, these symptoms are due to post-inflammatory motility changes and are misinterpreted as functional disorders. Our aim was to identify and characterize the anorectal motility dysfunction in IBD patients.

Method: We are conducting an ongoing prospective study which started in August 2019, which includes the IBD patients admitted to a Tertiary Gastroenterology Centre in Bucharest, with specific symptoms (anorectal pain, incontinence, difficult defecation). We performed high resolution anorectal manometry using Sandhill Scientific systems, the parameters being analysed using InSIGHT software. The manometric testing comprised measurements of anorectal pressure at rest, during squeeze, simulated evacuation, rectoanal inhibitory reflex (RAIR) and rectal sensory testing, in compliance with the International Anorectal Physiology Working Group protocol.

Results: We studied 30 patients: 18 patients with Ulcerative Colitis and 12 patients with Crohn's Disease, 18 females and 12 males, mean age 40 (± 12.85) years. Only 33% (10 patients) had rectal active involvement. Symptoms were reported by 87% (26) patients: anal incontinence (85%), difficult evacuation (35%) and urgency (46%); rectal inflammation was not correlated with the presence of symptoms in our study group ($p=0.28$). Perianal surgical interventions did not represent a risk factor for fecal incontinence ($p=0.18$), or for dyssnergic defecation ($p=0.1$). Modified manometric parameters were found in 23 patients (79%). Low resting pressures were registered in 48% of patients; 55% of them presented low squeeze pressures; during push maneuvers, 34% of patients had insufficient rectal propulsive force, presenting low rectal pressures and 59% of them lacked anal canal relaxation. We performed sensibility testing on 18 patients: 9 patients presented criteria for hypersensitivity, hence reduced rectal compliance; 7 patients presented rectal hyposensitivity, while only 2 patients had normal rectal sensation. The recto-anal inhibitory reflex (RAIR) was present only in 28% of the patients, reflecting the dysfunction of the enteric neural system.

Conclusions: Patients with inflammatory bowel disease (IBD) have significantly higher rates of functional anorectal disease. Therefore, pelvic floor investigation is an essential tool in the investigation and management of IBD patients with ongoing symptoms not considered to be related to an IBD flare.

High-Resolution Visualization of Intestinal Microcirculation using Ultra-Microangiography in Patients with Inflammatory Bowel Disease - a Pilot Study

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Background & Aim: The relevance of ultrasound in the assessment of intestinal morphology has gained importance in the diagnosis, prediction, and follow-up of patients with inflammatory bowel disease (IBD). Vascularization plays a major role in the complex pathophysiology of IBD. Changes in the microcirculation precede structural changes in the intestinal wall. Accordingly, an accurate, quantitative assessment of the intestinal microcirculation could be a crucial parameter for assessing disease activity and a short-term response to therapy in IBD. Hence, high-end devices with an excellent spatial resolution are required. It has already been shown that the visualization of blood flow within the intestine achieved through contrast-enhanced ultrasonography (CEUS) yields results comparable to MRI and CT-imaging in the assessment of disease activity in IBD. Furthermore, studies suggest that CEUS might be able to predict treatment response and outcome in patients with Crohn's disease undergoing immunomodulatory treatment early on. However, CEUS is not widely used in routine diagnostics.

The widespread standard procedure consists of visual assessment of intestinal wall thickness and increased perfusion as an expression of the inflammatory burden using conventional Doppler signals (CDS). UMA is a novel Doppler technique with optimized wall filtering that has a high sensitivity for low velocity blood flows, and optimized visualization of microcirculation, and thus the potential to bridge the gap between CDS and CEUS.

The aim of this pilot study was to compare intestinal vascularization assessed by Color Doppler Signals and UMA.

Methods: We investigated intestinal vascularization using UMA and CDS in 13 patients with confirmed inflammatory bowel disease (IBD). A heterogeneous population of 28 patients without structural bowel diseases served as a control. The RESONA R9 machine (Mindray Bio-Medical Electronics Co., Ltd) with the latest technical achievements was used.

The ultrasound examination of the abdomen was performed according to a fixed protocol, starting with the examination of the colon followed by the small intestine examination using a multifrequency linear sector transducer (2-9 MHz, Mindray,

Resona R9). The examination was conducted using three different UMA-submodes, being Color UMA (cUMA), Power-UMA (pUMA), Subtraction UMA (sUMA). Each highlighted either the velocity or the power intensity of microvascular blood flow and an additional option of background signal subtraction in the latter mode.

Results: Regular and dysregulated microcirculation in patients with and without IBD can be visualized and quantified using UMA. In 83% of IBD patients and 76% of non-IBD patients, a high resolution of intestinal perfusion could be achieved using UMA.

Conclusion: We found that UMA-ultrasound yields a higher sensitivity in the detection of the microvascular blood flow of the intestine than conventional Doppler ultrasound

in patients with IBD as well as non-IBD patients. Therefore, it has the potential of becoming another important part of the diagnostic toolkit for IBD patients. Its non-invasiveness and potential for widespread implementation alongside with the ability to yield real-time results could make it the first line exam, before endoscopy, MRI-scans and stool or blood analysis.

This is the first study to investigate intestinal vascularization using UMA in patients with and without structural bowel disease. Quantification and visualization of intestinal vascularization should be further investigated in prospective studies and could become an important milestone in intestinal ultrasound and help guide our therapy of patients with IBD in the future.

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1) Department of Gastroenterology, Fundeni Clinical Institute, Bucharest; 2) Carol Davila University of Medicine and Pharmacy, Bucharest

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2nd Department of Internal Medicine, Iuliu Hatieganu University of Medicine and Pharmacy, Cluj-Napoca, Romania

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Abdulrahman Ismaiel¹, Vera Ciornolutchii¹, Thelva Esposito Herrera², Daniel-Corneliu Leucuta³, Stefan-Lucian Popa¹, Dan L. Dumitrascu¹
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Calin Burciu^{1,2,3}, Roxana Sirli^{1,2}, Renata Bende^{1,2}, Deiana Vulelici^{1,2}, Bogdan Miutescu^{1,2}, Tudor Moga^{1,2}, Felix Bende^{1,2}, Alina Popescu^{1,2}, Ioan Sporea^{1,2}, Oana Koppandi³, Eftimie Miutescu³, Dana Iovanescu³, Mirela Danila^{1,2}
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1. The Influence of Dietary Patterns on Fatigue, Health-related Quality of Life, Anxiety and Depression in Patients with Inflammatory Bowel Disease in Remission

Tudor Stroie^{1,2}, Doina Istratescu^{1,2}, Carmen Monica Preda^{1,2}, Teodora Manuc^{1,2}, Mircea Manuc^{1,2}, Corina Gabriela Meianu^{1,2}, Adriana Andrei^{1,2}, Cosmin Alexandru Ciora^{1,2}, Mircea Diculescu^{1,2}

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Background & Aim: It is well known that dietary patterns can play an important role in the onset of inflammatory bowel diseases (IBD). In patients with established disease, they can influence the risk of relapse and the disease course.

The aim of the study is to explore the impact of dietary patterns on health-related quality of life (HR-QoL), fatigue, anxiety and depression in patients with IBD in corticosteroid-free clinical remission.

Methods: A total of 96 consecutive patients diagnosed with IBD that were in corticosteroid-free remission for at least 12 weeks were enrolled in this observational, cross-sectional study. During an interview, patients were asked about their dietary patterns. Twelve categories of foods were identified, 6 of them being considered “healthy” (vegetables and fruits >4 portions/day, cereals >3 portions/day, seeds >4 portions/week, cheese >1 portion/day, yoghurt >1 portion/day, fish >2 portions/week) and the other 6 “unhealthy” (fatty red meat >1 portion/day, sweetened beverages >1L/day, cured meat >2 portions/day, fried food >1 portion/day, chips >1 portion/day, mayonnaise >1 portion/day).

An “unhealthy” dietary pattern was considered if the proportion of “unhealthy” food categories from the total food categories consumed by the patient exceeded 50%.

Fatigue, HR-QoL, anxiety and depression were evaluated using the following self-administered questionnaires: FACIT-F, IBDQ-32 and HADS.

Results: Out of the 96 patients included, 60 (62.5%) were men. The median patient age was 38 years (IQR 31.5 – 45.5).

Sixty patients (62.5%) were diagnosed with CD, and 36 (37.5%) with UC. Most of the patients were treated with biologics (93.8%).

An unhealthy dietary pattern was identified in 58 (60.4%) patients.

Patients with an “unhealthy” dietary pattern experienced significantly more fatigue compared to patients with a “healthy” dietary pattern (mean FACIT-F score 40.3 vs. 44.4 points, $p=0.02$). Even though not statistically significant, patients with “unhealthy” dietary pattern had a trend towards a lower HR-QoL (mean IBDQ score 187.3 vs. 192.8, $p=0.24$). There were no statistically significant associations between the dietary pattern and anxiety and depression.

Conclusion: Patients with an “unhealthy” dietary pattern experience significantly higher levels of fatigue compared to patients that are eating “healthier” food. There is also a trend towards lower HR-QoL in this category of patients.

2. A rare Case of Severe Ulcerative Colitis Flare

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Background: We report the case of a female patient, diagnosed since 1993 with ulcerative colitis with clinical intolerance to thiopurines, who developed a severe flare, refractory both to anti-integrine and anti-TNF therapies. Regarding the first-line biological therapy in patients with severe forms of ulcerative colitis, current guidelines support the equal use of alpha 4 beta 7 integrin inhibitors or anti-TNF agents. Apparently, first-line use of anti-integrin antibodies does not influence the subsequent response to second-line biologic therapy. Therefore, the possible mechanisms that influence the response of these patients to anti-TNF agents may be related to a potential increased clearance of anti-TNF antibodies.

Case report: A 50 year old female patient was investigated in another medical unit for a severe flare of a limited to the rectum form of ulcerative colitis. Her clinical remission had been maintained until October 2023 using 5- amino salicylates acid agents and was referred to our department for further investigations and treatment, regarding the lack of response to oral corticosteroids and primary biological therapy based on alpha 4 beta 7 anti-integrin antibodies. The physical examination on admission revealed a severe form of inflammatory bowel disease and the lab tests showed a concurrent *Clostridium Difficile* infection and severe systemic inflammatory syndrome. The general condition worsened in the next days, despite our medical efforts to induce remission with intravenous corticosteroids, antibiotic therapy and maximum supportive treatment, which led us to consider second-line biological therapy based on infliximab. We obtained a clinical remission by using an optimized regimen of infliximab, the first 2 applications at 7 days interval and the third application at 14 days interval, when we also introduced a subtherapeutic dose of thiopurine. We maintained the clinical remission through a 14 day combo therapy, consisting of a therapeutic dosage of the anti-TNF agent and a half-therapeutic dosage of thiopurine. When we considered extending the interval between applications - to 6 weeks interval, to prevent the immunogenicity side-effect, the patient relapsed. This time we could not control the disease activity by returning to the accelerated regimen of infliximab at 4 weeks and neither by co administrating an optimal dose of thiopurine.

Conclusion: In patients with severe forms of ulcerative colitis, refractory both to intravenous corticosteroids and two biological agents, the proposed therapeutic options consider surgical treatment or the use of third-line immunosuppressive treatment. Because the optimal management of patients with inflammatory bowel diseases also consists of active patient involvement, both in disease monitoring and informed therapeutic decision, we started tertiary biological therapy based on tofacitinib.

3. COVID-19 Impact on Acute Cholangitis: A Retrospective Single Center Analysis

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Aim: This study investigates the etiological spectrum and clinical characteristics of acute cholangitis (AC) in 241 patients, analyzing the impact of COVID-19 infection on disease presentation and microbial profiles.

Method: This retrospective observational cohort study was conducted at a single tertiary gastroenterology department to explore the confluence of COVID-19 and AC. Data were gathered from patients diagnosed with both AC and COVID-19 during the period April 2020 - February 2022. Comprehensive clinical and demographic information, including COVID-19-specific details, cholangitis presentation, medical histories, laboratory findings, and treatment interventions, was systematically collected retrospectively. AC diagnosis was established based on the TG18 criteria, with all patients undergoing bile culture sample collection. The aim of this study is to analyze the clinical features of patients undergoing endoscopic retrograde cholangiopancreatography (ERCP), comparing those with and without COVID-19 infection.

Results: Among the cohort, malignant pathology (53.3%) was prevalent, notably pancreatic cancer. COVID-19-positive patients had a higher mean age compared to non-COVID counterparts, with abdominal pain being more prevalent in the former group (90% vs. 70.6%, $p < 0.025$). Moreover, COVID-19 infection correlated with an extended hospital stay (13.5 vs. 7.9 days, $p < 0.001$).

Bile culture results, stratified by Tokyo Guidelines severity grades and COVID-19 status, revealed distinctive microbial patterns.

Notably, COVID-19-positive cases exhibited a higher prevalence of sterile cultures in mild Tokyo severity (60%), while monomicrobial growth was prominent in grade I AC (25%, $p = 0.156$).

In our study, *Pseudomonas* spp. stands out with a significant difference in occurrence rates between the two groups. For patients with COVID-19, *Pseudomonas* spp. was found in 16.7% of cases, compared to 5.7% in patients without COVID-19 ($p = 0.0281$). This confirms a higher prevalence of these infections among patients suffering from COVID-19 compared to those without. Other Gram-negative bacteria such as *Escherichia coli* and *Klebsiella* spp. showed comparable prevalence between the two groups, while Gram-positive bacteria such as *Enterococcus* spp. exhibited no significant differences.

Binomial logistic regression highlights the substantial role of bacterial infections in COVID-19 status among AC patients. Approximately 26.5% of the variance in COVID-19 status can be attributed to differential bacterial profiles, with *Pseudomonas* spp. showing a significant association ($p = 0.018$).

Conclusion: This study provides valuable insights into the complex interplay between AC, COVID-19 infection, and microbial profiles, essential for optimizing diagnostic and therapeutic strategies. Additional research is required to examine the implications of these findings on patient outcomes and therapy.

4. Overlap Syndromes in Primary Biliary Cholangitis and Primary Sclerosing Cholangitis with Autoimmune Hepatitis or Between Them

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Background: The association between primary biliary cholangitis (PBC) or primary sclerosing cholangitis (PSC) and autoimmune hepatitis (AIH) is a known and defined entity that encompasses characteristics of both diseases. A rare type of overlap syndrome is between PBC and PSC, described only in few published cases.

Method: A retrospective analysis of the PBC and PSC patients from January 2012 and February 2024 was performed in a single center: 182 patients with PBC and 108 patients with PSC were included.

Results: An overlap syndrome with AIH was seen in 18.1% of the PBC patients and 10.1% of the PSC patients. Five patients had an overlap between PBC and PSC.

In 96.9% of the PBC-AIH, 72.2% of the PSC-AIH and all of the PBC-PSC patients were female. Four of the patients had a large-duct PSC and one had small-duct PSC.

Evolution to cirrhosis was seen in 25.8% of the PBC patients, 24.2% of the PBC-AIH patients, 23.1% of the PSC patients, 36.3% of the PSC-AIH and 2 out of 5 patients with PBC-PSC.

Conclusions: The rare association between PBC and PSC should not be excluded, but screened at the time of diagnosis. We suggest a MRCP evaluation at diagnosis of PBC and antibodies assessment in PSC patients.

5. Functional Dyspepsia and Intestinal Permeability: A Systematic Review and Meta-Analysis of Tight Junction Protein Studies

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Background: Disturbances in tight junction (TJ) protein expression, leading to compromised duodenal epithelial barrier function, may contribute to a heightened intestinal permeability, potentially influencing the pathophysiology of functional dyspepsia (FD).

Methods: We conducted a systematic electronic search of PubMed, EMBASE, and Scopus using predefined keywords.

Results: A total of 8 and 5 studies were included in our qualitative and quantitative analyses, respectively, comprising a population of 666 participants, including 420 FD patients. No significant differences were detected between FD patients and controls in the expression of claudin-1 (-0.102 [95% CI -0.303, 0.099]), claudin-2 (0.161 [95% CI -0.134, 0.456]),

claudin-3 (0.278 [95% CI -0.280, 0.837]), claudin-4 (0.045 [95% CI -0.264, 0.354]), ZO-1 (-0.221 [95% CI -0.683, 0.241]), ZO-2 (-0.070 [95% CI -0.147, 0.007]), B-catenin (-0.135 [95% CI -0.484, 0.214]), E-cadherin (-0.083 [95% CI -0.229, 0.063]), and occludin (-0.158 [95% CI -0.409, 0.093]). However, ZO-3 levels were found to be reduced in FD patients compared to controls (-0.148 [95% CI -0.223, -0.073]).

Conclusions: The expressions of claudin-1, claudin-2, claudin-3, claudin-4, ZO-1, ZO-2, B-catenin, E-cadherin, and occludin may not significantly differ between FD patients and controls. Nonetheless, decreased ZO-3 levels were observed in FD patients.

6. Evaluation of the Effective Restoration of the Intestinal Flora in Patients under Antibiotic Treatment

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Background & Aim: Antibiotic therapy is known to induce dysbiosis, which can trigger immune cell activation, inflammation and compromise the intestinal barrier integrity, leading to alterations in gut architecture. *Bacillus clausii* has a distinctive resilience to the acidic conditions of the stomach, allowing colonization of the intestine even in the presence of antibiotics. The aim of this study is to evaluate the effectiveness of *Bacillus clausii* as an adjunctive therapy in individuals undergoing antibiotic treatment for the eradication of gastroenterological bacterial infections, emphasizing the reduction of gastrointestinal symptoms.

Method: We conducted a prospective case-control study involving 43 subjects who were allocated to either receive antibiotic therapy combined with Bio-Sun Spor 1 capsule twice daily during the antibiotic treatment and for an additional 6 days post-antibiotic therapy or to solely undergo antibiotic therapy. All participants underwent systematic interviews and fulfilled a standardized questionnaire regarding their gastrointestinal symptoms at the initiation of the therapy and one month after.

Results: The Gastrointestinal Symptom Rating Scale exhibited significant improvement one month following the therapy in both groups, with a more pronounced difference observed in the intervention group: the median Gastrointestinal Symptom Rating Scale decreased from 46 points to 38 points (p-value < 0.001) in the intervention group and from 46.5 points to 39.5 points in the control group (p = 0.035). Additionally, a decrease was noted in the C reactive protein level exceeding the upper normal limit in the intervention arm, declining from 21.2% to 3% (p = 0.025).

Conclusion: This study demonstrates that the co-administration of *Bacillus clausii* with antibiotic therapy exerts

a favorable influence on the amelioration of gastrointestinal symptoms in patients with a bacterial infection in the digestive tract necessitating antibiotic treatment.

7. Haemorrhagic Duodenitis in a Patient with COVID-19 – a Case Report

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Background: Infection with the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) usually causes pneumonia that can progress to acute respiratory distress syndrome (ARDS). However, patients presenting with diarrhea, nausea, abdominal pain, vomiting or gastrointestinal (GI) bleeding are also increasingly described. Gastrointestinal symptomatology has been described in both critical and mild illness associated with the coronavirus disease 2019 (COVID-19). Moreover, the presence of a SARS-CoV-2 in stool samples suggests a possible “fecal-oral” or “fecal-respiratory” way of transmission of the virus. The host receptor angiotensin converting enzyme 2 (ACE-2) is highly expressed in the intestinal epithelia of the ileum and colon, allowing entry and replication of SARS-CoV-2 which can explain the presence of this virus in stool samples.

Case report: A 71-year-old male patient was admitted to our emergency department due to hematemesis. Because of the risk of developing aspiration pneumonia, the patient was endotracheal intubated in the intensive care unit. Gastroscopy showed an ulcerative duodenitis with diffuse bleeding, which however stopped spontaneously. Interestingly, virological and immunohistochemical investigations revealed the presence of Sars-CoV-2 in the duodenal biopsies. Moreover, the virus could be identified also in the bronchial secretion and in the stool. Treatment with Nirmatrelvir/Ritonavir was initiated, and the patient could be safely extubated and transferred to a gastroenterological ward after one week.

Conclusions: Extrapulmonary involvement of COVID-19 is being increasingly reported by authors. As already mentioned, gastrointestinal symptoms in COVID-19 are mostly represented by diarrhea, nausea, vomiting, and abdominal discomfort. Gastrointestinal bleeding is rather rare. A study from Germany found that about 8% of critically ill COVID-19 patients develop a severe duodenitis that can cause bleeding. Our present case confirms the causality between SARS-CoV-2 infection of the epithelial cells of the duodenum and GI bleeding. To date, very few studies and case reports could identify the virus in the epithelial cells of the gastrointestinal tract.

Clinicians should be aware of gastrointestinal bleeding in patients with COVID-19. If suspected, endoscopy should be immediately performed, and specific treatment should be initiated.

8. Lutetia: Training of Endoscopists with AI-generated Images of Colorectal Polyps

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Background & Aim: Colorectal polyps are described using the Paris classification. Previous studies have shown that the application of this system often varies greatly depending on the examiner. Especially young endoscopists were uncertain in the assessment. We have developed the AI-based learning platform Lutetia to establish a standardized training for the classification of precancerous lesions.

Method: We trained an AI using 25 million endoscopic images, that can generate images of different precancerous colorectal lesions. To show that the AI is able of producing realistic-looking images, we designed a pilot phase of the study in which we presented artificial polyps and real images of polyps obtained from endoscopy to novices and experts and asked them to discriminate between them. We used 36 real images and 31 were AI generated. We included one expert and three beginners in the pilot phase of the study. Beginners were defined as endoscopists who have performed less than 100 examinations or have been practicing for less than 2 years.

Results: The accuracy of beginners was 46% compared to that of experts with 65%. The sensitivity of the expert was 44% and the specificity 90%. Beginners achieved a sensitivity of 45% and a specificity of 47%.

Conclusion: AI can generate synthetic images with a high degree of authenticity. Those images will be used in a second step to empower physicians to recognize different Paris classes on the Lutetia platform.

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9. The Correlation between Fibromax and the Progression of Non-Alcoholic Fatty Liver Disease in Patients with Metabolic Syndrome: a Prospective Analysis

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Background: Non-alcoholic fatty liver disease (NAFLD) represents the hepatic expression of the metabolic syndrome, demonstrating a strong association with its components.

Methods: We enrolled 52 patients in our study, categorized as normal weight (48.1%), overweight (21.22%), and obese (30.8%), with or without type 2 diabetes mellitus and with or without insulin resistance. FibroMax testing was performed in

these patients to quantify the degree of fibrosis, HOMA index, and assessment of hepatic markers.

Results: NAFLD was evident in 42 patients, of whom 38.1%, 23.8%, and 38.1% were normal weight, overweight, and obese patients, respectively. Fibrosis was present in 16 patients, with percentages of 50%, 37.5%, and 12.5% in the normal weight, overweight, and obese patients, respectively. The HOMA index was elevated (between 2-3.5) in 61.9%, 33%, and 4.8% of obese, overweight, and normal weight patients, respectively; 94% of the obese patients showed an S2 or higher level on the SteatoTest, and 75% of them showed an N1 or N2 level on the NashTest.

Conclusions: The strong association between NAFLD and the metabolic syndrome, as well as the increased prevalence of hepatic fibrosis in these patients, underscores the need for careful monitoring and early intervention to prevent the progression of liver disease and associated complications.

10. Delta Infection versus HBV Monoinfection: any Difference in Risk Factors?

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Background & Aim: Data regarding HDV infection in Romania is scarce, hence our study aims to estimate the prevalence of delta hepatitis in our Hepatology and Liver Transplant Department and identify the risk factors for this viral infection.

Method: All adult patients admitted to our clinic in 2022-2023 with HbsAg+ were included. Data regarding severity of disease (MELD, MELD Na, MELD 3.0) and presence of HDV antibodies and HbeAg was collected. Questionnaire for risk factors for both HDV infection and HBV monoinfection was applied. Minitab Software was used for statistics.

Results: 510 patients were included and 196 were HDV antibodies positive, with a prevalence of 38.43% of HDV positive patients within the HbsAg population in our Hepatology Clinic, of younger age compared to the HBV group (p 0.031). HbeAg was present in 18.68% of HDV patients compared to 6.71% in HBV alone (p 0.004). MELD (p 0.000), MELD Na (p 0.002) and MELD 3.0 (p 0.011) were significantly higher in HDV patients compared to HBV monoinfection. Hence, 28.9% of HDV+HBV patients were on the transplant list compared to only 3.9% of HBV patients (p 0.000). The risk factors found for delta hepatitis were similar to those for HBV monoinfection, though a trend towards i.v. drug use and promiscuous sexual behaviour was seen in HDV, but not statistically significant (p 0.197).

Conclusion: High prevalence of HDV patients was seen in our Liver Transplant Clinic, with more advanced liver disease and younger age compared to patients with HBV monoinfection. The risk factors identified were similar for delta hepatitis and HBV infection alone.

11. Turmeric-induced Acute Liver Failure – a Case Report of an Idiosyncratic Drug-induced Liver Injury (DILI)

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Background & Aims: Herbal products and dietary supplements, such as turmeric, are used more often nowadays. Consecutively the concerns about potential hepatotoxicity raised. Turmeric recognized for its antioxidant properties and frequently used for its anti-inflammatory effects, has been linked to rare cases of acute liver failure. We present the case of a 43-year-old female patient exhibiting symptoms including jaundice, discolored stool, brown urine, pruritus, fatigue, and abdominal pain.

Method: We conducted continuous laboratory assessments of transaminases, cholestasis parameters, and coagulation status. Additionally, abdominal ultrasound examination and Doppler ultrasonography were performed. We ruled out other potential causes of acute liver failure through anamnestic, laboratory, and microbiological investigations.

Results: We assessed ALT, ALP, and bilirubin levels upon admission, revealing a mixed pattern of elevated liver enzymes consistent with drug-induced liver injury (DILI) (AST 3166 U/l, ALT 3152 U/l, GGT 398 U/l, AP 396 U/l, bilirubin 6.3 mg/dl). The patient had no history of alcohol consumption, drug use, trauma, family liver disease, or regular medication. Consecutively, we excluded those reasons as potential genesis. The patient reported using turmeric pills, which she bought in a drug store. Liver perfusion ultrasound showed no abnormalities, and laboratory and microbiological analyses ruled out autoimmune, infectious, metabolic, genetic and cholestatic causes of acute liver failure. Thus, the diagnosis of drug-induced liver failure was made, and prednisolone therapy was initiated, leading to rapid clinical improvement and complete recovery.

Conclusion: The widespread use of dietary supplements, such as turmeric, necessitates evaluation for potential links to severe hepatic damage. We highlight the diverse liver injuries associated with herbal remedies, impacting different hepatic and biliary cells.

12. Hyperammonemic Crisis in Citrullinemia – a Case Report

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Background: Citrullinemia is an inherited disease that causes the accumulation of ammonia and other toxic substances in the blood. To date, there are two types of citrullinemia described. Citrullinemia type I is a rare autosomal recessive inherited enzyme defect that results from deficiency of argininosuccinate synthase. Citrullinemia type I occurs in approximately 1/57,000 births. In the event of an exacerbation, the inability to form urea leads to elevated levels of ammonia and subsequently to a hyperammonemic crisis with the clinical presentation of hepatic encephalopathy.

Case report: We report a 33-year-old patient who presented to the emergency unit of a peripheral hospital and subsequently required intensive care treatment at the University Hospital in Regensburg. The patient presented with severe vertigo and nausea. Anamnesis revealed a history of vestibular neuritis that was treated with prednisolone and cotrimoxazole, as well as type I citrullinemia, which had been known since the age of 8.

The following day the symptoms worsened, the patient complaining of lethargy, ataxia and blurred vision. While mild hyperammonemia was detectable on admission with otherwise normal liver parameters, the blood ammonia level rose to 161.5 µg/dl on the second day and to 364.8 µg/dl on the third day. Of note, symptoms severity correlated with the levels of ammonia. Under therapy with glucose, sodium benzoate and hemodialysis, the ammonia levels were gradually reduced. The dialysis could be stopped, and the medication taken orally after just 72 hours. On the sixth day of treatment, the patient was transferred to a normal ward. Finally, a low-protein, high-carbohydrate diet, continued oral therapy, and avoidance of fasting periods were recommended.

The trigger for the exacerbation may be the treatment with cortisone and antibiotics, which could possibly have led to a catabolic situation with additional proteolysis. On the other hand, the patient reported eating meat that was unusual for him a few days before, which could have also triggered the hyperammonemia crisis.

Conclusion: Hyperammonemia crisis due to metabolic defects of the urea cycle (deficiency of argininosuccinate synthase) is a rare event. In these situations, the patients should be hospitalized for specific treatment. In patients in whom coma develops, dialysis may be necessary. Patients with citrullinemia should be periodically monitored in experienced centers. In severe cases, liver transplantation should be evaluated.

13. Long Term Follow up of Patients with Chronic Hepatitis C (CHC) and Liver Cirrhosis Treated in 2015-2016 with DAA

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Background & Aim: Over the past 10 years, the treatment of chronic viral hepatitis C has been revolutionized by the introduction of direct antiviral molecules into the therapy with a rate of HCV eradication of over 95%. The purpose of this paper is the long-term follow-up of patients with HCV cirrhosis treated in 2015-2016 and the tracking of mortality and complications.

Method: We conducted a longitudinal retrospective study, in which we included 266 patients diagnosed with HCV cirrhosis, in the records of the Gastroenterology Fundeni Clinical Institute clinic, who received direct antiviral treatment during 2015 - 2016. Demographic data, comorbidities, laboratory analysis and imaging investigations were obtained from the hospital's electronic database. The data regarding the death were obtained by accessing PIAS (the health insurance information platform), and where the cause of death was unclear, the family were contacted by phone.

Results: The lot consisted predominantly of women (53%), with a median age of 58 years (33-76), median BMI 27.3 (17.3-44.8), median follow-up time of 92 months. The most common comorbidities were type 2 diabetes (25%) and hypertension (23%). And 36 patients (13.5%) died within 8 years of follow-up: 23 liver deaths (15 with HCC, 8 with hepatic decompensation) and 13 due to non-hepatic causes (cardiovascular and other malignancies). The rate of hepatic decompensation was 14.5% and the rate of HCC occurrence during the 7 year interval was 8.6%. Decompensated cirrhosis ($p<0.001$), HCC occurrence ($p=0.002$), albumin values ($p<0.001$), INR ($p=0.004$) and total bilirubin ($p=0.004$), as well as the result of the FIB4 test ($p<0.001$) were statistically significant predictive factors for mortality.

Conclusions: The death rate was 13.5% in the 8 years of follow-up, mostly due to hepatic disease (64%), and decompensated cirrhosis, HCC occurrence, hypoalbuminemia. The increased INR and total bilirubin, increased FIB4 are statistically significant predictors for mortality.

14. Adiponectin as a Biomarker in Liver Cirrhosis – a Systematic Review and Meta-Analysis

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Background: The utility of adiponectin as a non-invasive biomarker in liver cirrhosis has garnered attention, but conflicting findings necessitate a systematic review and meta-analysis to elucidate its role in liver cirrhosis.

Methods: A comprehensive systematic search across PubMed, EMBASE, and Scopus databases was performed. The primary summary outcome measure was the mean difference (MD) in adiponectin levels.

Results: A total of 16 studies were included in our meta-analysis. Adiponectin levels were significantly elevated in liver cirrhosis patients, particularly in those categorized as Child-Pugh B, compared to control groups. In contrast, no substantial differences were observed in Child-Pugh A patients compared to controls. Additionally, significantly increased adiponectin levels were observed in primary biliary cholangitis (PBC) patients than in controls, as well as in liver cirrhosis compared to other chronic liver disease (CLD) patients, including non-alcoholic fatty liver disease (NAFLD), but not in viral hepatitis. Adiponectin levels did not significantly differ in patients with liver cirrhosis and hepatocellular carcinoma (HCC).

Conclusions: Increased adiponectin levels are linked to advanced liver cirrhosis, suggesting its potential as a marker for disease progression. While effective in distinguishing cirrhosis from certain liver conditions such as NAFLD, its ability to differentiate cirrhosis from viral hepatitis and HCC is limited.

15. Paraneoplastic Syndromes in Hepatocellular Carcinoma: A Retrospective Study Over Seven Years on Epidemiology and Survival Outcomes

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Background: Liver cancer remains a critical challenge worldwide, consistently ranking within the top causes of death related to cancer. In hepatocellular carcinoma (HCC), patients often exhibit symptoms indicative of cancerous growths or display atypical clinical signs, such as Paraneoplastic Syndromes (PNS). These can manifest as hypoglycemia, elevated cholesterol levels, increased platelet count, and elevated red blood cell count.

Method: Our research focused on evaluating the occurrence, clinical manifestations, and outcomes of survival related to PNS in individuals with HCC, as well as examining the influence of each PNS on the survival of these patients. Through a retrospective review, we analyzed clinical features associated with PNS and their impact on survival among a consecutive series of patients diagnosed with HCC at our institution over seven years. We compared these patients to those with HCC who did not have PNS. This investigation included a retrospective data review from 378 individuals diagnosed with HCC from January 2016 to October 2023.

Results: Findings indicated that 25.7% of these patients had PNS, with specific prevalence of hypercholesterolemia in 10.9%, hypoglycemia in 6.9%, erythrocytosis in 4.5%, and thrombocytosis in 3.4%. It was noted that patients with PNS were generally younger and predominantly male. Further analysis identified a significant link between PNS and certain factors, such as alpha-fetoprotein levels, tumor dimensions, and a notable statistical relationship with diabetes ($p < 0.05$). A more detailed examination of individual paraneoplastic syndromes showed a trend toward reduced survival among patients with PNS, with hypoglycemia being a significant association ($p < 0.0001$). A matched comparison also highlighted a trend toward decreased survival rates for patients with PNS, though without reaching statistical significance.

Conclusion: PNS are common in HCC patients and contribute to poorer prognosis and lower survival rates. Nevertheless, PNS do not, on their own, serve as independent predictors of survival. The prognosis impact of each PNS on HCC patients varies.

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