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weighted prevalence. We then used survey-weighted multivariable logistic regression models with linear and quadratic terms for age and their interactions with sex to test our hypothesis.
Results: The analytic sample comprised 13,722 adults aged 20-80 years. Weighted prevalences of the bowel-habit groups were as follows: normal, 79.6%; constipation, 9.4%; high-frequency normal, 4.6%; loose, 5.2%; and diarrhea, 1.2%. Age showed a quadratic association with constipation (P = 3.2e-4) and diarrhea (P = 5.7e-3), a positive linear association with loose stool (P = 7.9e-5), and no association with high-frequency normal stool ($P > 0.05$). Age-by-sex interactions were not statistically significant for any of the groups, though the main effect of sex was significant for constipation and high-frequency normal stool. Females, relative to males, had higher odds of constipation (OR 2.6, 95% CI: 2.1-3.3, P = 5e-10) and lower odds of high-frequency normal stool (OR 0.51, 95% CI: 0.38-0.68, P = 4.4e-5).
Conclusion: In this nationally representative sample of United States adults, we found that age was nonlinearly associated with constipation and diarrhea and linearly associated with loose stool. While we did not find that this age-bowel habit association differed significantly by sex, men and women had significantly different odds of constipation and high-frequency normal stool. These results offer insight into how bowel habits vary across the lifespan.

S1101

Association of Metabolic Dysfunction-Associated Steatotic Liver Disease With Lower Gastrointestinal Motility Disorders: A Nationwide Population-Based Study

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Introduction: Metabolic dysfunction-associated steatotic liver disease (MASLD) has systemic implications, potentially affecting gastrointestinal (GI) motility. This study aimed to assess the incidence and risk of lower GI motility disorders, specifically functional diarrhea, irritable bowel syndrome (IBS, including diarrhea-predominant [IBS-D], constipation-predominant [IBS-C], and mixed subtype [IBS-mixed]), and constipation, among patients with MASLD compared to matched controls.
Methods: We conducted a retrospective cohort analysis using the TriNetX United States Adults (≥18 years) diagnosed with MASLD (International Classification of Diseases-10 codes K76.0 or K75.81) who underwent abdominal imaging were included. Exclusion criteria encompassed conditions that could confound GI outcomes, such as inflammatory bowel disease, colorectal malignancies, prior gastrointestinal surgeries, and other liver diseases. A control cohort without MASLD was propensity score-matched (1:1) based on age, sex, body mass index (BMI), and comorbidities. Outcomes measured over a 5-year follow-up included the incidence of functional diarrhea, IBS (overall and subtypes: IBS-D, IBS-C, and IBS-mixed), and constipation. Statistical analyses included Kaplan-Meier survival analyses and calculations of risk ratios (RR) with 95% confidence intervals (CI).
Results: After matching, each cohort comprised 633,241 patients. Patients with MASLD demonstrated significantly higher risks of developing lower GI motility disorders compared to controls. Specifically, the risk of functional diarrhea was elevated (RR 1.60; 95% CI: 1.43–1.78). The overall risk of IBS was significantly increased (RR 1.62; 95% CI: 1.56–1.68), as were risks for IBS subtypes, including IBS-D (RR 1.82; 95% CI: 1.70–1.95), IBS-C (RR 1.71; 95% CI: 1.54–1.89), and IBS-mixed (RR 1.62; 95% CI: 1.56–1.69). Constipation was also more common in the MASLD cohort (RR 1.39; 95% CI: 1.37–1.42). Kaplan-Meier analyses demonstrated significantly reduced event-free survival probabilities in MASLD patients for all assessed outcomes (log-rank $P <$ 0.001).
Conclusion: Patients with MASLD exhibit a significantly increased risk of developing lower GI motility disorders, particularly functional diarrhea, IBS (all subtypes), and constipation. Clinicians should routinely evaluate GI symptoms in patients with MASLD.

S1102

GLP-1 Receptor Agonist Use for Reducing Symptom Burden and Medication Utilization in Non-Obese Women With IBS-D: A Propensity Matched Retrospective Cohort Study

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Introduction: Glucagon-like peptide-1 receptor agonists (GLP-1 RAs) are established therapies for diabetes and weight management. Their potential use in functional gastrointestinal disorders, such as irritable bowel syndrome (IBS) remains poorly defined. Current literature regarding GLP-1 RA therapy for IBS does not adequately stratify weight or IBS subtypes, especially diarrhea-predominant IBS (IBS-D). This study investigates the clinical impact of GLP-1 RA therapy on non-obese, non-diabetic women with IBS-D.
Methods: We conducted a retrospective cohort study using the TriNetX database. Females aged 18-75 with a diagnosis of IBS-D, BMI 20-29, and prior use of IBS medications were included. Patients with obesity, diabetes, *Helicobacter pylori* infection, inflammatory bowel disease, or celiac disease were excluded. Two cohorts were identified: those prescribed GLP-1 RAs and those prescribed non-GLP IBS medications such as alosetron, eluxadoline, or loperamide. Outcomes including abdominal pain, diarrhea, flatulence, gas, abdominal distension, and IBS medication use were evaluated over a 2-year window following the first documented prescription for either group. Propensity score matching (1:1) was performed based on age, BMI, and associated conditions including small intestinal bacterial overgrowth, resulting in 49 patients per group. Risk was reported as risk ratios (RR) with 95% confidence intervals (CIs) and a P-value < 0.05 was considered statistically significant.
Results: GLP-1 RA users had a significantly lower risk for abdominal pain (RR 0.56, CI 0.34-0.91, P = 0.014), and IBS agent use (RR 0.55, CI 0.35-0.85, P = 0.005). GLP-1 users had a lower risk for diarrhea (22% vs 38%, RR 0.58, CI 0.31-1.08, P = 0.08). No significant differences were observed for flatulence, gas or abdominal distension.
Conclusion: GLP-1 RA use was associated with decreased abdominal pain and less use of IBS-specific medications in non-obese, non-diabetic women with IBS-D. Although not significant, women using GLP-1 RAs also had lower risk for diarrhea, warranting future investigation with larger populations. These findings suggest a potential role for GLP-1 RAs in IBS symptom modulation independent of metabolic effects, warranting further prospective studies.

S1103 Presidential Poster Award

Advancing GI Motility With AI: A Transatlantic Multicentric Study of Cross-Site and Cross-Device Manometry Analysis

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Introduction: Since its early development, manometry has been fundamental in the diagnostic workup of functional esophageal and anorectal motility disorders. Nevertheless, these exams are hindered by complex data analysis and high interobserver variability. Additionally, there is still a significant gap between low (where conventional manometry is still performed) and high-resource settings (where high resolution devices prevail). In this context, artificial intelligence offers the promise of creating an unified framework for interoperable manometry classification. This study aims to develop and validate artificial intelligence models for classification of motility disorders in both conventional anorectal manometry (CARM), high-resolution anorectal manometry (HR-ARM) (according to London Classification) and high-resolution esophageal manometry (HREM) (according to Chicago Classification).
Methods: Multiple machine learning (ML) models were developed and tested after inclusion of exams from 4 centers in 3 countries. 827 ARM exams were used for development and testing of 4 ML models, with 90% of the data used for training and 10% for testing. 960 HR-ARM exams were used for development of ML models according to London Classification, with a 80%/20% patient split. Finally, 618 HREM exams were used for development of ML models according to Chicago Classification, with a 80%/20% patient split. Model's performance was evaluated through metrics as accuracy and the area under the receiver-operating characteristic curve (AUC-ROC).
Results: The xGBClassifier discriminated obstructed defecation from fecal incontinence in ARM with an overall accuracy of 84.6% and AUC-ROC of 0.939. Considering HR-ARM, Gradient Boosting Classifier identified disorders of anal tone and contractility with an accuracy of 85.6% and an AUC-ROC of 0.910. Finally, disorders of the esophagogastric junction outflow were identified by Gradient Boosting Classifier with an accuracy of 94.2% and AUC-ROC of 0.921, while the xGBClassifier detected disorders of peristalsis with an accuracy of 80.9% and AUC-ROC of 0.871.
Conclusion: In this study with an interoperable and multicentric design, the Gradient Boosting Classifier and xGBClassifier automatically identified motility disorders in ARM, HR-ARM and HREM. This study showcases the promise of AI-driven manometry, which could revolutionize functional gastrointestinal field trough increment in exam accessibility and accuracy.

S1104

Beyond Biofeedback: Expanding Perspectives on Pelvic Floor Physical Therapy for Evacuation Disorders

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Introduction: Pelvic floor physical therapy (PFPT) addresses coordination, strength and relaxation of the pelvic floor with potential to treat conditions including fecal incontinence and constipation. Emerging evidence supports PFPT for functional constipation and earlier referral not necessitating laxative failure. Rectal biofeedback is a neuromuscular technique using sensory feedback that is recommended in the treatment of dyssynergia. This study surveyed PFPT providers to describe perspectives and real-world practice patterns on managing evaluation disorders, including the use of biofeedback and other techniques including manual therapy, in the Chicagoland area.
Methods: We surveyed 149 PFPT practices identified through professional directories and word of mouth and contacted via email or phone. There were 48 individual respondents representing 58 practices; reasons for non-response were not recorded. Practice characteristics and treatment tools were aggregated. Select open survey questions were analyzed using thematic analysis.
Results: Most respondents (81%, n = 39) used biofeedback in their practice, most commonly rectal balloon training (54%, n = 26) and electromyography (EMG)-guided (46%, n = 22). Manual techniques, such as visceral mobilization and massage, were the second most common treatment procedure (63%, n = 30), with 27% (n = 13) using tactile biofeedback. Thematic analysis emphasized earlier adoption of PFPT for constipation regardless of dyssynergia, use of manual therapies instead of or to augment biofeedback, and recognition of referral and education gaps impacting access. When asked generally about misconceptions, 29% of therapists reported overemphasis on biofeedback by referring providers over manual therapy and education on mechanics of evacuation.
Conclusion: Our study describes types of rectal biofeedback provided in 1 ecological setting (Chicagoland) and physical therapist (PT) perspectives on treating constipation that may differ from recommendations in gastroenterology (GI). GI guidelines cite manometric or EMG-based biofeedback for PFPT, but our findings suggest a significant proportion of PTs may use tactile biofeedback and/or manual therapies, and therefore direct GI-PT communication may be useful for guiding referrals. Our findings suggest that a broader survey may improve management of PFPT referrals and can inform interdisciplinary consensus recommendations for care of patients with constipation.

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