

## LB34-T

**DOES SARCOPENIA IMPACT POSTOPERATIVE OUTCOMES IN CROHN'S DISEASE PATIENTS?**

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**Rationale:** Sarcopenia (a reduction in muscle mass and function) has been found in 16% to 68% of Crohn's disease (CD) patients [1–5]. Recent research has shown that it impacts quality of life and may lead to suboptimal CD treatment outcomes. We aimed to assess the impact of sarcopenia on postoperative outcomes within one year.

**Methods:** Retrospective data was collected on CD patients who had bowel resection with ileocolonic anastomosis between 2015 and 2022. Sarcopenia was defined using skeletal muscle index (SMI), which was calculated with the skeletal muscle area (SMA) at L3 vertebrae from routine MRI/CT scans. We recorded any infectious and non-infectious complications within 30 days after surgery and endoscopic recurrence (Rutgeerts score  $\geq 2$ ) within one year. Statistical analysis included demographics and inferential analyses.

**Results:** This study included 56 CD patients [55.4% male, median age of 32.0 (18–68), 72.0% non-smokers, 44.6%  $\geq 1$  previous surgery]. Sarcopenia was found in 65.8% (25/38) of patients. Sarcopenic patients had a significantly higher preoperative Harvey-Bradshaw index compared to non-sarcopenic patients ( $7.3 \pm 3.7$  vs  $3.5 \pm 2.3$ ,  $p=0.001$ ). 13.2% (7/53) of patients experienced infectious complications, and all of them were sarcopenic. Patients with a higher SMI were 26% less likely to experience infectious complications (OR 0.74 (CI 0.55–0.99) ( $p=0.044$ )). Endoscopic recurrence was found in 40.0% (12/30) of patients within one year. After adjusting for age, patients with a lower SMA were 1.1 times more likely to experience endoscopic recurrence within one year (OR 1.07 (CI 1.01–1.20) ( $p=0.029$ )).

**Conclusion:** Sarcopenia is highly prevalent in preoperative CD patients regardless of age. Preoperative sarcopenia was associated with increased risk of postoperative infectious complications and endoscopic recurrence. Further research is needed to confirm these study findings.

**References:** [1] Yasueda, A., et al., Sarcopenia hinders the decline in disease activity after surgery for people with Crohn's disease: Preliminary results. *Nutrition*, 2022, 94: p. 111526. [2] Nardone, O.M., et al., Impact of Sarcopenia on Clinical Outcomes in a Cohort of Caucasian Active Crohn's Disease Patients Undergoing Multidetector CT-Enterography. *Nutrients*, 2022, 14(17). [3] Hong, J.T., et al., Sarcopenia measurements and clinical outcomes in Crohn's disease surgical patients. *ANZ J Surg*, 2022. [4] Celentano, V., et al., Preoperative assessment of skeletal muscle mass during magnetic resonance enterography in patients with Crohn's disease. *Updates in Surgery*, 2021, 73(4): p. 1419–1427. [5] Zhang, C., et al., Prevalence of Sarcopenia and Its Effect on Postoperative Complications in Patients with Crohn's Disease. *Gastroenterol Res Pract*, 2021, 2021: p. 3267201.

**Disclosure of Interest:** None declared

## LB35-T

**THE BREATH VOLATOLOME AND ITS ROLE IN THE STUDY OF THE GUT MICROBIOTA, METABOLISM, AND NUTRITION: A SYSTEMATIC SCOPING REVIEW**

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**Rationale:** The current methods applied to sample the gut microbiota are invasive or challenging regarding their accuracy (1). In contrast, the breath test is an increasingly performed tool in human health evaluation since it is non-invasive, rapid, easy to use, and safe (2). Although a promising tool in

this area of research, its applications and interpretation lack standardization (2). Therefore, the aim is to identify how and to what extent the breath volatolome can be applied to study the link between the gut microbiota, nutrition, and health.

**Methods:** Each step of the review process has been performed systematically by two independent reviewers (LL and MA). The search strategy was established for PubMed, Embase, and the Cochrane Library literature databases. The Grey literature was also explored in the “HAL archives ouvertes”, DART-Europe, and clinical trial registries. The study selection was performed using Rayyan 1.1.1 (Rayyan Systems, Inc., USA) based on, first, the title and abstract, and second, the full text. Preclinical in vivo, interventional, and observational studies that focused on the inorganic and organic compounds in the exhaled air and the gut microbiota were considered for inclusion, regardless of the study setting or the participants' characteristics. Then, the data of all selected studies will be extracted, summarized, and discussed.

**Results:** From the three literature databases, 3773 records were identified after the duplicates were removed. Based on their title and abstract, 252 references were included in the full-text selection process, of which 78 were finally retained in the review. The data extraction allows to propose that gas ( $H_2$ ,  $CH_4$ ,  $H_2S$ , ...) as well as a huge panel of microbial derived volatile metabolites (e.g., short-chain fatty acids, indoles, phenols, alkanes, ...) can namely reflect the existence of disease related dysbiosis or the efficacy of dietary or drug interventions targeting the gut microbiota in healthy individuals or diseased patients.

**Conclusion:** The present systematic scoping review will lead to a discussion on the relevance and performance of the different breath tests in the characterization of the gut microbiota, and the highlight of the potential metabolic pathways linking the two measures will also be of interest.

**References:** 1. Tang Q, Jin G, Wang G, Liu T, Liu X, Wang B, et al. Current Sampling Methods for Gut Microbiota: A Call for More Precise Devices. *Front Cell Infect Microbiol*. 2020;10:151.

2. Hammer HF, Fox MR, Keller J, Salvatore S, Basilisco G, Hammer J, et al. European guideline on indications, performance, and clinical impact of hydrogen and methane breath tests in adult and pediatric patients: European Association for Gastroenterology, Endoscopy and Nutrition, European Society of Neurogastroenterology and Motility, and European Society for Paediatric Gastroenterology Hepatology and Nutrition consensus. *United European Gastroenterology Journal*. 2022;10(1):15–40.

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## LB36-T

**NUTRITIONAL OUTCOMES FOLLOWING INTESTINAL TRANSPLANT: PRELIMINARY FINDINGS FROM THE CAMBRIDGE INTESTINAL TRANSPLANTATION UNIT**

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**Rationale:** Intestinal transplant (ITx) is one of the most recent organ transplantations that offer nutritional autonomy. The aim was to describe the nutritional outcomes following ITx transplantation over a 7-yr follow up period.

**Methods:** Retrospective study conducted on all patients who had a small intestine (SB), liver/small intestine (LSB), modified multi-visceral (MMVT – intestine and stomach) and multi-visceral (MVT – intestine, stomach and liver) transplantation at Addenbrooke's Hospital (UK) between 2014–2021. Nutritional outcomes included: anthropometrics (mid-upper arm circumference-MUAC, triceps skinfold-TSF, mid arm muscle circumference-MAMC) at pre-ITx, and nutritional routes (PN, EN, oral intake) post-ITx.

**Results:** 74 patients [mean age 41yr (SD: 13), 51% female] were included in the study. Short bowel (42%) and cirrhosis (20%) were the main underlying aetiologies leading to transplantation. Graft types included: LSB (7%),