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Real world diagnosis and treatment of small intestinal bacterial overgrowth in systemic sclerosis: results from a multicentre retrospective descriptive study.

Small intestinal bacterial overgrowth (SIBO) is a frequent complication in systemic sclerosis (SSc), affecting approximately up to one-third of patients and contributing to malabsorption and mortality. Currently, no standardized approach exists for the diagnosis or treatment of SIBO in SSc. This study aimed to describe diagnostic modalities and treatment strategies used for SSc-associated SIBO in real-world clinical practice.

We conducted a multicenter retrospective study of SSc patients aged ≥ 18 years with clinically diagnosed SIBO across three university-affiliated hospitals: the Jewish General Hospital (2004–2020), the Centre hospitalier de l'Université de Montréal (2010–2024), and the Centre hospitalier de l'Université de Sherbrooke (2014–2024). Data were extracted from electronic medical records using a standardized case report form.

Seventy-nine patients were included (81% female, 91% White, 54% limited SSc, 45% anti-centromere positive). Mean age at SIBO diagnosis was 61 years, with a mean disease duration of 6 years from first non-Raynaud manifestation. The most common symptoms were diarrhea (89%), bloating (82%), abdominal pain (53%), weight loss (49%), constipation (47%), and flatulence (26%). Parenteral nutrition was required in 21%.

The median delay from gastrointestinal symptom onset to SIBO diagnosis was 2 years (range 0–10). Breath tests (cholate or lactulose) were performed in 43% of patients, with 14/32 (44%) positivity. Seven patients also underwent fecal calprotectin testing, and only one underwent jejunal aspiration.

On average, patients received three different antibiotic regimens. The most frequently prescribed monotherapies were fluoroquinolone (44%), amoxicillin/clavulanate (33%), metronidazole (31%), tetracycline (21%), and rifaximin (10%), with response rates ranging from 47% to 65%. Vancomycin and cephalosporin monotherapies were rarely used ($\leq 6\%$). Rotating antibiotic therapies most commonly consisted of metronidazole (26%), amoxicillin/clavulanate (19%), tetracycline (17%), and fluoroquinolone (17%), with response rates of 89–100%. Rotating regimens based on rifaximin, sulfonamide, cephalosporin, or vancomycin were used infrequently ($\leq 6\%$).

Notably, all 18 patients with a negative breath test still received antibiotics, of whom 13/15 (87%) responded positively.

This study highlights significant heterogeneity in diagnostic modalities and treatment patterns used in the management of SSc-associated SIBO. Diagnosis was often delayed and relied primarily on clinical features rather than objective testing, likely reflecting the limited accuracy and availability of non-invasive tools such as breath tests. While monotherapy achieved symptom improvement in roughly half of patients, rotating antibiotic therapies were associated with substantially higher response rates. Given the morbidity associated with SIBO in SSc, there is an urgent need for more accurate, non-invasive diagnostic tools and evidence-based treatment guidelines.