

A national consensus guideline on the performance and interpretation of hydrogen- and methane-based breath tests for carbohydrate malabsorption, small intestinal bacterial overgrowth, and intestinal methanogen overgrowth

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I read with great interest the paper by Perets *et al.* recommending lactulose breath testing (LBT) as the preferred local standard for the diagnosis of small intestinal bacterial overgrowth (SIBO), while explicitly acknowledging the need to interpret the results according to pretest probability and orocecal transit-related limitations [1]. I highly appreciate this work, however, I would like to draw the readers' attention to some considerations not in favor of LBT as a standard for the diagnosis of SIBO.

First, metadata on the performance of hydrogen (H₂) – and methane (CH₄) breath testing for the detection of SIBO demonstrated that the pooled sensitivity of lactulose ranges from 32% to 53%, with a pooled specificity from 62% to 78%, whereas the pooled sensitivity of glucose as a substrate varies from 48% to 61%, with a specificity from 79% to 87%, when compared with cultures from jejunal aspirates [2].

Second, recent American College of Gastroenterology (ACG) guidelines proposed that LBT is positive for SIBO when there is a significant rise in breath H₂ (i.e. $\Delta H_2 \geq 20$ ppm) within 90 min of sugar ingestion [3]. Should the patient have an underlying condition that promotes small intestinal stasis, such a rise of H₂ has a higher likelihood of resulting from SIBO. In the absence of such conditions, the pretest probability of SIBO is lower, and a positive result has a higher likelihood of being false positive because of accelerated orocecal transit [4,5]. In these patients, a positive LBT cannot be interpreted properly without concomitantly determining the orocecal transit [4].

Third, the proponents of LBT argue that, since glucose is primarily absorbed in the proximal duodenum, it has limited sensitivity for detecting distal overgrowth, referring to SIBO in the jejunum and ileum [6]. In contrast, it has already been shown that (a) glucose can reach the cecum [7], which, of

course, occurs in a dose-dependent manner, and (b) the concept of distal overgrowth, particularly within the ileum, lacks physiologic validity [6,8]. Nevertheless, LBT may be preferred in patients with diabetes or delayed orocecal transit [6,9].

References

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