

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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We agree with Dr. Kriegshäuser that neither lactulose nor glucose breath testing is definitive for small intestinal bacterial overgrowth (SIBO), and that orocecal transit may confound interpretation, particularly after lactulose. Our recommendation thus remains as regards the preferred substrate at a given center within a standardized protocol, rather than claiming a substrate with universal diagnostic superiority [1].

The cited pooled estimates favor specificity in glucose, but are derived from heterogeneous protocols and are thus an imperfect reference standard. Jejunal aspirate culture is invasive and vulnerable to contamination and sampling error, while glucose testing is not immune to false-positive results when unabsorbed substrate reaches the colon [2]. Conversely, rapid cecal arrival may produce an early hydrogen rise after lactulose. Thus, an isolated positive test in a patient with nonspecific symptoms and low pretest probability should neither establish a diagnosis of SIBO, nor automatically lead to antibiotic therapy.

The present protocol is of interest, since it goes beyond the measurement of hydrogen alone, requiring the simultaneous measurement of hydrogen and methane. Methane ≥ 10 ppm at baseline or any time supports methane-producer status/intestinal methanogen overgrowth according to context; moreover, a methane rise >10 ppm may contribute to interpreting carbohydrate malabsorption, particularly when conversion of hydrogen to methane attenuates the hydrogen response [1,3]. Recent analyzers also measure oxygen, thus allowing the identification of diluted or inadequate end-expiratory samples that require recollection. When oxygen-based correction algorithms are used, they require validation and cautious interpretation [4]. The new features increase

analytical completeness and decrease errors related to sampling, but are still not able to localize intestinal gas or remove confounders related to transit.

Thus, the "preferred local standard" reflects harmonization of preparation, collection, measurement, reporting and interpretation across Israeli centers. Substrate selection and interpretation must remain individualized according to symptoms, risk factors, anatomy and transit.

References

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