Hydrogen breath tests for diagnosis of small intestinal bacterial overgrowth in functional bowel disorders

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Citation

Authors' conclusions
Hydrogen breath testing (HBT) may be used to identify small intestinal bacterial overgrowth (SIBO) in predisposed patients by assessing changes in hydrogen (H2) expiration following administration of glucose, lactulose, or other compounds. Rationale: When SIBO is present, fermentation by bacteria in the small intestine produces a large amount of H2, the magnitude and pattern of which may be used to distinguish SIBO-positive patients from SIBO-negative patients. Human cells are not capable of producing H2 on their own. Controversy: There are several potential sources for false HBT results, including: failure to adhere to a low-fiber diet the day before the test; presence of oral flora at the time of the test; rapid transit through the small intestine; and presence of carbohydrate malabsorption in chronic pancreatitis or celiac disease. A false-negative HBT may be caused by the presence of non-H2-producing bacteria (such as methanogenic bacteria) in the intestine and by delayed gastric emptying. Relevant Questions: What is the clinical validity of HBT for SIBO? What is the clinical utility of HBT for SIBO? What are the harms associated with HBT? Have definitive patient selection criteria been established for use of HBT for SIBO?

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