Why does Metabolic use a 1 hour SIBO test instead of 3 hours?

Small intestinal bacterial overgrowth (SIBO) occurs after excessive numbers of bacteria inhabit the proximal small intestine. We know bacteria are colonizing the proximal and not the distal small intestine for several reasons. First, the gold standard method for detection of SIBO is jejunal aspirates. Bacterial concentrations greater than 10⁵ organisms per milliliter is diagnostic for SIBO. Intestinal fluid of the proximal intestine is sampled, not distal intestinal fluid. Secondly, the consequences of SIBO are the result of competition between bacteria and the human host for ingested nutrients in the proximal intestine. Various functional consequences of bacterial infiltration cause enterocyte damage in the jejunum such as diminished disaccharidase activity, fat malabsorption, decreased amino acid transport and decreased vitamin B12 absorption. Thus, detection of proximal bacterial overgrowth is important.

The Metabolic SIBO breath test uses a 10 gram oral dose of lactulose for detection of proximal bacterial overgrowth. Breath samples are collected at 20, 40, and 60 minutes after dosing. Since SIBO occurs in the proximal intestine, we collect breath samples within 1 hour after lactulose ingestion. This truly reflects proximal intestinal bacterial activity, not distal or colonic activity. Lactulose is a carbohydrate that is not absorbed by humans. Lactulose is well known to measure oro-cecal transit time (for example see references 1-3). The mean oro-cecal transit time in normal healthy individuals is 70 to 90 minutes (ref 4-6). By 90 minutes, at least 50% of individuals would have lactulose in the colon. Thus, any SIBO breath test that collects longer than 60 minutes may be measuring colonic activity. Approximately 90 to 95% of individuals have colonic bacteria that can metabolize lactulose to hydrogen or methane gas. Diagnostic criteria of 20 ppm hydrogen and/or methane changes within 90 or 120 minutes will have higher positive rates of SIBO but this will reflect colonic activity not jejunal metabolism. The Metabolic SIBO breath test avoids false positive results by collecting breath up to 60 minutes.

References


