

The Moss Nutrition Digest

Timely Tidbits to Support Your Practice

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Addressing SIBO with an Elemental Diet

Elemental diets are liquid diets providing hydrolyzed or “predigested” forms of all the essential macronutrients (protein, fat, carbohydrate), along with all the micronutrients (vitamins and minerals) required by the body to function. Elemental diets are designed to allow the digestive system an opportunity to rest and repair, and are typically prescribed for patients with moderate to severe gastrointestinal impairment.

Elemental diets decrease digestive burden by providing all nutrients in “elemental” form. Instead of a food-based protein source like whey or pea protein, free-form amino acids are used. The simplest form of carbohydrate, the non-fermenting monosaccharide glucose (dextrose), is the sole carbohydrate source. Fat, while generally kept to a minimum, is also supplied in a basic form, along with a comprehensive suite of vitamins and minerals.

Small intestinal bacterial overgrowth (SIBO) is a digestive disorder characterized by GI pain, flatulence, bloating and distension. Depending on which bacteria are involved in the overgrowth, i.e. hydrogen producing vs methane producing bacteria, the patient may suffer from constipation, diarrhea, or an alternating mixture of both. SIBO often manifests as a companion to or result of irritable bowel syndrome (IBS), and is notoriously difficult to treat. Research suggests that elemental diets, which are absorbed entirely within the first few feet of small intestine and are believed to work by “starving” the microbial overgrowth, among other mechanisms, can make a great contribution to resolving symptoms in people with SIBO.

To help determine if an IBS patient is also suffering from SIBO, breath testing can be extremely useful. These tests measure breath levels of hydrogen and methane at periodic intervals, following consumption of a sugar solution. One of the most commonly employed breath tests for this purpose, the lactulose breath test (LBT), employs the sugar lactulose. Many consider the LBT to be the gold standard in diagnosing SIBO.

In a retrospective review, gastroenterologist Mark Pimental and his team at Cedars Sinai examined the effect of elemental diets on nearly one hundred IBS patients with abnormal fasting LBT results. Patients were instructed to consume a full elemental diet, i.e. no foods or beverages other than the elemental formula (and plain water) throughout the entire test period. This included no candy, gum, soda pop, or caffeinated drinks; however, pharmaceutical prescriptions were continued.

Criteria for success was based on whether or not LBT results normalized following 14 or 21 days of a full elemental diet. The tests were blinded prior to interpretation, with a normal breath test quantified as a rise in breath hydrogen or methane not more than 20 ppm, and not prior to the first 90 minutes following ingestion of the lactulose solution.

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Moss Nutrition Digest

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The proportion of subjects normalizing their LBT was evaluated at day fifteen, with the option given to non-responders to continue for an additional seven days. All patients also were encouraged to return for a follow up evaluation and retest after one month.

After fourteen days, 80% of patients on the full elemental diet normalized their LBT results. An additional five out of seventeen patients who continued for another week achieved normal LBT results, raising the overall success rate to 85%.

Of the 63 successful patients who returned for a one month follow up evaluation, 52 (83%) retested normal, and their SIBO was pronounced eradicated. Interestingly, about half of these successful cases presented with mixed/alternating IBS, while the other half were more or less evenly divided between diarrhea predominant and constipation predominant. Regardless of presentation type, the majority of patients with a normal lactulose breath test at this follow-up visit reported restored bowel regularity and significant symptom improvement, one month after completing their successful, initial trial of a 14 or 21 day full elemental diet.

REFERENCES

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