Elemental Diets: What you need to know
Dr. Jonathan Markowitz

Fortunately, there are several treatment options for eosinophilic esophagitis that have promise. As exciting as the new approaches to treating EoE are, there are already some more tried and true methods for controlling the disease that still play an important role. One of the first methods recognized for managing EoE was elemental diet—a method of removing all of the potential food antigens from the diet and supporting nutrition with a completely hypoallergenic formula. Sometimes the elemental diet includes generally safe food sources such as pure sugar.

Because EoE is related in many cases to food allergy, elemental diet makes sense as a treatment. There are several advantages to elemental diet, including a high response rate (up to 97% of patients respond to elemental diet based on several reported trials) and the ability to maintain a long-term remission without the use of medications. However, this approach has drawbacks as well. It can be difficult to maintain long term, can be costly, usually requires the use of a feeding tube to provide enough calories, and perhaps most importantly requires the patient to forego normal eating for an extended period of time. Despite the drawbacks, if done correctly it can be a tremendously useful and successful approach. With that in mind, it is worth reviewing some important guidelines for those who may consider an elemental diet.

When starting an elemental diet, it is important to have a team in place to ensure that the patient’s nutrition is maintained correctly. Important team members include a gastroenterologist, allergist, social worker and/or case manager, and especially a registered dietitian (RD). The RD should provide a nutritional assessment at the onset of treatment in order to estimate the total number of calories that will be needed to maintain adequate growth during the course of treatment. Further, an RD who has experience with EoE and/or food allergies can provide counseling on ways to make the various elemental formulas more palatable, which formula choices are available and appropriate for the patient, and can serve as an invaluable resource when diet questions arise, especially in the phase of food reintroduction. In general, it is advisable to have someone on an elemental diet weighed every week to ensure that calorie needs are being met; if not an adjustment in the amount of formula provided each day can be made.

The majority of the elemental formulas available today are nutritionally complete. This means that when used exclusively, they provide adequate amounts of calories and important nutrients such as essential fats, essential amino acids, vitamins, and minerals without needing extra supplements or other sources of nutrition. However, this is ultimately dependent on the amount of formula delivered each day. There have been cases where vitamin deficiencies developed in patients treated long-term with elemental formulas. It is vital that once the daily volume of formula feedings is determined, a calculation is made to predict whether the formula also provides the recommended daily allowances for micronutrients. If the elemental diet is used for an extended period of time, it may be necessary to monitor for specific deficiencies of nutrients such as vitamins, calcium, iron, and zinc.

Ultimately, the goal of elemental diet is the same as with any treatment for EoE: achieve a complete remission. In its most simple sense, remission of EoE can be defined as complete resolution of symptoms and of inflammation. Once remission is achieved, the goal is to systematically reintroduce foods and observe for...
emergence of symptoms and for the recurrence of eosinophilic inflammation. It should be emphasized that monitoring for both clinical and biopsy-proven recurrence is important. While symptoms may seem to be more important in determining disease status, it is well known that patients with EoE may go through periods without symptoms even when there is significant eosinophilia present. This is the basis on which the need for follow-up biopsies after treatment is justified. Recent research has shown that the presence of eosinophils in the tissue tends to predispose to the development of fibrosis. And, it is fibrosis that tends to correlate most with symptoms of dysphagia and the development of strictures in the esophagus.

As mentioned previously, one of the advantages of elemental diet is the high response rate. The vast majority of patients will go into a complete remission with elemental diet. However, in the small group of patients who do not respond, it is wise to take a step back and look for some potential clues to the failure. Some questions to ask include whether there are sources of contamination in the diet (e.g. sugars, starches, oils that usually are felt to be non-antigenic), whether the diet was given long enough (4 to 6 weeks is considered a standard trial period), whether other factors may be contributing to the eosinophils in the esophagus (e.g. reflux, environmental allergens), or whether the diagnosis of EoE is correct (EG may present similarly to EoE, but tends to be less responsive to dietary therapy). If a risk factor for failure is identified, then addressing it and trying the diet again is a reasonable option. If no risk factors for failure are found, it is probably a good time to consider other treatments.

References: