Soy formula for managing infant food allergy and intolerance


Introduction

Formula intolerance (FI) is an ill-defined, multi-component syndrome that affects a substantial number of infants at some point during the early months of life. Although non-allergic FI is generally not life threatening, it can be problematic for parents and infants, and is a frequent cause of physician office visits and consultation.

Clinical Review Purpose

The purpose of this paper was to review the clinical data regarding use of soy protein-based infant formula for managing infant food allergy and formula intolerance.

Review Summary

Soy formulas have been in use for more than 100 years. There is extensive clinical research demonstrating normal growth and development of infants fed soy-protein based infant formula.\(^1\)\(^,\)\(^2\) Soy protein-based infant formulas have a long history of safe, successful use in managing several serious digestive and allergic diseases in term infants, including:

- Immunoglobulin (Ig) E-mediated allergy
- Secondary lactose intolerance
- Hereditary lactase deficiency
- Galactosemia

Soy protein-based infant formulas are widely used with up to 36% of formula-fed infants having received soy-based formula by their first birthday.

In practice, switching formulas is a common choice in the effort to alleviate symptoms of FI. This decision is made in similar numbers by the mother and the pediatrician, and is commonly made for reasons other than suspected cow milk allergy. In one study of infants age 30-210 days (n=159), 36% were changed from cow milk-based formula mainly to soy-based formula.\(^3\) Forty-seven percent of the switch decisions were made by the mother, and 44% by the pediatrician. Improvement or complete resolution of the problem was reported in 80% of the infants.
While soy proteins can be allergens, and the possibility of soy allergy must be seriously considered in soy protein-based formula-fed infants who develop allergic symptoms, there are many clinical indications that IgE-mediated soy allergy is relatively infrequent, that the symptoms of soy allergy are relatively mild, and that the soy protein dose required to elicit an allergic reaction is much higher than for other major food allergens.

Soy-based infant formulas are not indicated for the following:
- Cow milk protein-induced enteropathy, enterocolitis, or non-IgE-mediated cow milk allergy
- Prevention of atopy and general allergy development (allergic hypersensitivity affecting parts of the body not in contact with the allergen)
- Patients with known active soy allergy
- Prevention or management of colic
- Most previously well infants with acute gastroenteritis
- Preterm infants who weigh <1800 grams
- Patients with sucrase-isomaltase deficiency or hereditary fructose intolerance, if the soy-based formula contains sucrose

**Review Findings**

Soy protein-based infant formula can be a useful resource in managing formula intolerance in infants. Available clinical data and formula usage patterns show that soy protein-based formulas are often recommended by pediatricians and chosen by parents as an effective way to resolve FI.

**Discussion**

This paper supports the recommendation that soy protein-based formulas play an important and legitimate role in the medical management of non-allergic formula intolerance that is recognized and appreciated by practicing pediatricians and parents. There is no safety reason to artificially limit the use of or access to soy protein-based formula in managing common infant feeding problems and formula intolerance where there are no medical contraindications.

**Conclusions**

Soy protein-based formulas support all of the requirements for normal growth and development in term infants. They have a long history of safe, successful use in managing a number of digestive and IgE-mediated allergic diseases. And the theoretical concerns about the safety of the isoflavones in these products are not supported in clinical trials using soy protein-based formula.
References


