

A case report of flaxseed anaphylaxis in an infant: Lessons to be learned



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Flaxseed allergy is uncommon. An 11-month-old infant developed severe anaphylaxis after ingesting flaxseed. (J Allergy Clin Immunol Global 2022;1:85-6.)

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Flaxseed allergy is uncommon but certainly not rare. It is also not new, as it was in fact first reported almost 90 years ago.¹ From a clinical perspective, it may be more common in patients with other seed allergies, and it appears to be increasing in prevalence, although there are no data to document its past or current prevalence.² The use of flaxseed in a variety of food products has also increased rapidly in recent years, a trend that is expected to continue and even accelerate.³ There are only a few cases of reported flaxseed anaphylaxis in the literature, and these have been in adults.⁴⁻⁶ Here we report a case of severe anaphylaxis to flaxseed in an 11-month-old infant.

The child was the product of a full-term cesarean section delivery and was breast-fed. The parents noted dry skin when the child was 2 months of age; it was treated with a combination of topical steroids and moisturizers. By the time the child reached the age of 6 months, the family began feeding her solid foods. Because of the child's atopic dermatitis, the family's primary care physician recommended that the mother and child avoid egg and milk. By the time the child reached 8 months of age, her atopic dermatitis had become more severe and she was referred to pediatric dermatology, where use of more potent topical steroids improved her eczema. She was otherwise healthy.

At 11 months of age, the child ate about 1 tablespoon of a 4-ounce Little Journey Pouch (ALDI, Batavia, Ill) containing apple, beet, and flaxseed. The child developed ear redness 2 hours later; it resolved without treatment. A few days later, the child ingested the remainder of the pouch, with immediate onset of an erythematous rash and

TABLE I. Allergy test results

Food	Serum IgE level (kU/L)	Skin prick test results (wheal size/flare size)
Egg*	0.93	
Milk*	7.82	
Peanut*	0.64	
Flaxseed	52.90	
Whole flaxseed in saline†		5 mm/0 mm
Crushed flaxseed†		25 mm/50 mm

*The patient subsequently passed oral food challenges to egg, milk, and peanut.

†Testing was conducted by using flaxseed from the child's stuffed animal.

irritability that quickly progressed to lethargy and poor responsiveness. The parents called 911. The child received a dose of epinephrine in the ambulance and was then treated with steroids and antihistamines in the emergency department and observed for 5 hours. The child had no reoccurrence of symptoms during the observation period.

The patient was referred for an allergy evaluation. The initial testing included measurement of serum levels of IgE to flaxseed and other common food allergens (Table I). On the basis of the child's history and test results, it was determined that flaxseed was the likely cause of the anaphylaxis. When asked about other exposures to flaxseed, the mother reported that since infancy, the child had close contact with a flaxseed-stuffed animal (Warmie; Warmies, East Dundee, Ill). The child was then brought back to the clinic, where skin testing was done with the flaxseed from inside the Warmie (for the testing results, see Table I).

It is well accepted that sensitization to foods frequently occurs via cutaneous exposure, especially through a disrupted skin barrier, with subsequent symptoms following ingestion.⁷ Although other routes of sensitization to flaxseed cannot be discounted in this infant, we propose that flaxseed sensitization most likely occurred through skin exposure resulting from regular contact with the flaxseed-stuffed animal. A similar phenomenon has also been reported with buckwheat, especially in Asia, where buckwheat allergy is common, as is the use of pillows filled with buckwheat.⁸⁻¹⁰

On a final note, we would like to raise one additional, hypothetical concern. The popularity of flaxseed owing to its many health benefits has led to an increasing use of topical flaxseed oil for a variety of skin conditions, including eczema.¹¹ Although the family reported no use of flaxseed-based moisturizers in this case, given that these are mostly unrefined (cold-pressed) oils, there is a real chance that inadvertent sensitization could occur if the oil were to be applied to the skin of infants with atopic dermatitis.

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