

Neonatal urticaria due to American ginseng or not?

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Acute urticaria is a common condition. Ingestion of food or drugs is often implicated in its pathophysiology, but no aetiology is found in a substantial number of cases despite extensive investigations.^{1,2}

A 10-day-old baby with a generalized urticarial rash was taken to hospital by his mother. He was breastfed for 5 days after birth, and had only occasional regurgitation when changed to formula feeding. The mother reported that she had given her son 15 mL of water that had been boiled with American ginseng. She had also brought some new baby-wear for him but there had been no change in detergent. The family had a strong history of atopy. The child's elder brother had asthma, allergic rhinitis, eczema, and allergy to peanut and egg. The father had eczema and the mother allergic rhinitis, and the child's sister had both.

On examination, the baby was afebrile and vital signs were stable. A generalized urticarial rash involving face, trunk, back and limbs was noted (Fig. 1).

The differential diagnosis included bacterial scalded skin syndrome, cellulitis, poisoning, and drug or food allergies. Investigations gave normal results for complete blood count and leucocyte differentials and C-reactive protein. Tests were negative for antiextractable nuclear antigens, but serum total immunoglobulin E was raised (142 kIU/L; normal 2–15).

The child was closely monitored in the neonatal unit. The florid urticarial rash disappeared completely without treatment within 4 h following admission.

Subsequent skin-prick tests (SPTs) with purified allergen extracts (ALK Abelló, Round Rock, TX, USA) showed negative reactions to cow's milk, soybean, and common aeroallergens [house dust, *Dermatophagoides*



Figure 1 Generalized urticaria in an infant.

pteronyssinus, *Dermatophagoides farinae*, *Aspergillus fumigatus*, mixed moulds, Bermuda grass, 10 Tree Mix A, *Blomia tropicalis* (storage mite), mixed cockroach, cat fur, dog hair]. The child remained well on formula feeds and was discharged 2 days later. One week later, the mother brought him back for SPT and supervised oral challenge. SPTs were performed with water-soaked softened ginseng, water boiled with ginseng, and 100% ethanol in which ginseng was immersed for 12 h, all of which gave negative results, with positive histamine and negative normal saline controls. Oral challenge was given with 10 mL of water boiled with the same amount and same stock of American ginseng (Fig. 2) used by the mother. There were no immediate or delayed symptoms of hypersensitivity to the ginseng. The mother did not use the babywear any longer and fed him with a hypoallergenic formula. When seen

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Figure 2 Slices of dry ginseng brought back by the mother.

2 months later, the infant had developed mild flexural eczema associated with itch and skin dryness, but there was no recurrence of urticaria.

Urticaria in neonates is uncommon,^{1,2} and the appearance is alarming. The differential diagnosis includes scalded skin syndrome, cellulitis and anaphylaxis. Despite extensive investigations, the aetiology may not be found and the condition is often labelled as idiopathic. The infant shows evidence of atopy with elevated IgE. Chinese parents like to start giving herbal medicines to their babies at a very early age. Although ginseng was found not to be the culprit in this case, the practice of feeding young babies with herbal remedies is not to be recommended.

Diagnosing food allergy is difficult. An SPT may be helpful but the sensitivity is low. Oral challenge is very useful but the child must be observed closely in hospital setting where immediate resuscitation facilities are available.

One possible weakness with the SPT in our case is that the infant's specific IgE to ginseng might have been depleted during the allergic episode, and thus the SPT may have been performed before a sufficient amount of the specific IgE was produced again. Ideally, SPT and

drug/food challenge should be carried out 2–3 months following the initial episode. We could also have prick-tested the mother with the ginseng. Although transplacental transmission of specific immunoglobulins is possible, it is generally believed that transplacental transmission occurs with IgG but not with IgE to any significant degree. The mother reported that she had consumed the American ginseng a number of times previously without any adverse effects.

We found that traditional Chinese medicine and herbal medicinal usage among Chinese parents is popular, especially among children with eczema and skin diseases.³ In a recent case, a grandmother picked plants from a local garden and prepared boiled water that was subsequently used to prepare milk for a baby, resulting in vomiting, shock and admission to the paediatric intensive care unit.⁴ The use of topical herbs may also be harmful. A 4-month-old infant developed extensive necrotizing fasciitis and gangrene from a small skin infection on his buttock that was treated with topical herbs.⁵

This report shows that urticaria can occur in a neonate. SPT and oral challenge are useful in excluding food hypersensitivity. Although the ginseng was innocent in our case, the practice of feeding neonates with unfamiliar herbal remedies should be discouraged.

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