

Food anaphylaxis in older people

Food anaphylaxis has received increasing scientific and media attention in recent decades. While anaphylaxis and food allergy are not new conditions, numbers of hospital admissions, diagnoses and related prescriptions have been rising fast in high-income countries.¹ There is a controversy about how much of this rise is increased pathology and how much is due to changing patterns of behaviour in people with food allergy and their caregivers.² However, food anaphylaxis certainly presents a significant burden to those affected, largely due to the dietary and social restrictions which accompany food allergen avoidance, and to anxiety associated with the remote possibility of fatal food anaphylaxis.³ Until now, almost all published literature on food anaphylaxis has focused on young people, since systemic allergic reactions to food are most common in early childhood and fatal reactions mainly occur in adolescents and young adults. In this issue of *Clinical and Experimental Allergy*, El Hanache et al report the most comprehensive published assessment of food anaphylaxis in older people.⁴ They analysed data from a network of French-speaking allergists in Europe (the Allergy Vigilance Network) over a 20-year period, which included 191 people age ≥ 60 years with food anaphylaxis. The data may not be completely representative, as they depend on allergist report to the network and some regions reported more frequently than others, but overall these data paint a striking picture. First, the patterns of food anaphylaxis seem to differ in older people, with a predominance of seafood, mammalian meat, legumes, fruits and vegetables and a much more limited presence of reactions to nuts, milk or egg, which are the commonest triggers in younger people. Alpha-gal allergy and pollen-food syndrome featured prominently. Second, risk factors for a more severe form of food anaphylaxis appear to differ in this age group, with no

increased risk associated with atopy or asthma, in contrast to the association with asthma seen in younger people. Increased risk for severe food anaphylaxis was seen in people with cardiovascular disease, something which is a known risk factor for poor outcome from other anaphylaxis triggers in this older age group. Finally, the presence of co-factors known to exacerbate anaphylaxis in other settings was common, with the majority of cases accompanied by one or more co-factor such as exercise, alcohol or drugs [Figure 1](#).

Food allergy affects all age groups and all populations, but the prevalence of food allergy varies significantly internationally and within countries and regions.⁵ This suggests that primary prevention may be possible, and an important candidate in the search for interventions to prevent food allergy is vitamin D. In many regions, vitamin D deficiency or insufficiency affects large proportions of the population, in part due to reduced time spent outdoors with direct exposure to sunlight. Vitamin D has important immune effects and research groups have hypothesized that vitamin D deficiency or insufficiency in early life may contribute to allergic disease development. Intervention trials have not supported a benefit for vitamin D interventions during pregnancy or infancy on asthma prevention, but the use of vitamin D for eczema and food allergy prevention is less well-explored.⁶ In this month's issue, Zeng et al explore early life vitamin D status and risk of subsequent eczema or food allergy development.⁷ They systematically reviewed all cohort studies evaluating 25-hydroxy-vitamin D levels in maternal, cord blood or infant blood, maternal or infant dietary vitamin D intake or randomized controlled trials of vitamin D supplementation during pregnancy or infancy. They identified 33 separate populations from 16 countries/regions with a range of latitudes. Outcomes for food allergy were

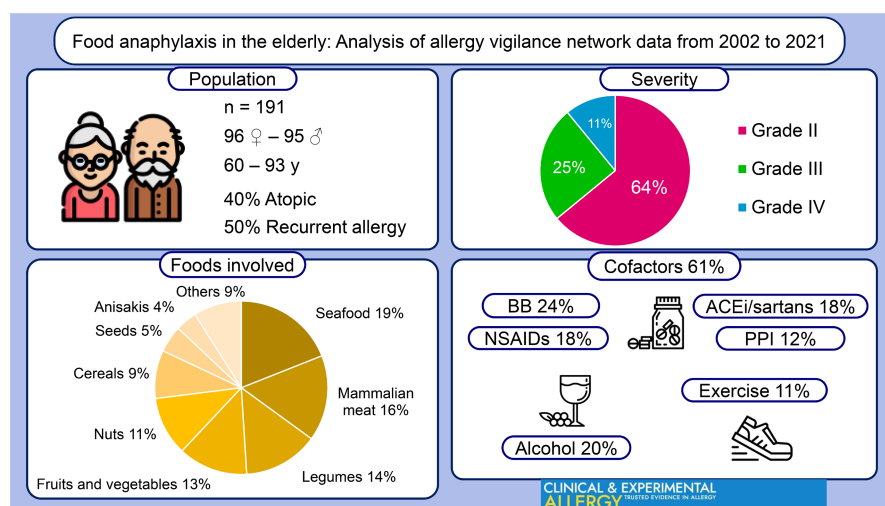
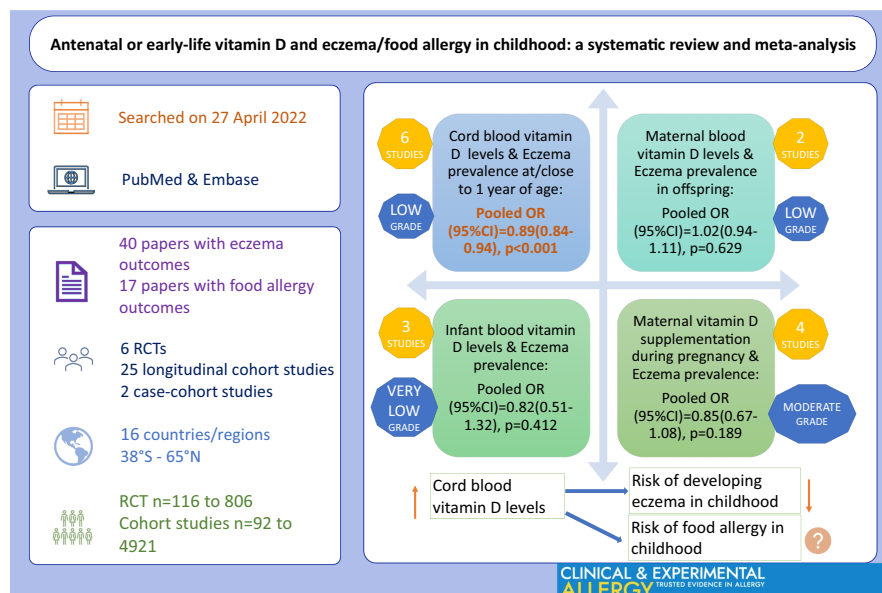


FIGURE 1 From El Hanache et al.⁴ Triggers of food anaphylaxis in older people were different from those previously reported for younger age groups, and involvement of co-factors in anaphylaxis episodes was common.

FIGURE 2 From Zeng et al.⁷ In a comprehensive and well-conducted systematic review, authors identified a possible relationship between cord blood vitamin D status and future risk of eczema development.



inconclusive due to a lack of data, but outcomes for eczema were very interesting Figure 2. In the cohort studies, they found consistent evidence that increased cord blood vitamin D levels were associated with reduced prevalence of eczema in the first year (Odds Ratio per 10nmol/L increase 0.89, 95% confidence interval 0.84, 0.94). In four randomized controlled trials of vitamin D supplementation during pregnancy, supplementation was associated with reduced eczema, but the evidence was insufficiently precise to firmly conclude that vitamin D supplementation at this time prevents eczema (Odds Ratio 0.85, 95% confidence interval 0.67, 1.08). Clearly, more work is needed to understand whether vitamin D supplementation during pregnancy can prevent eczema. As previously reported in this journal, eczema prevalence varies significantly internationally and global eczema rates in children appear to be slowly increasing, at a rate of approximately 1% every 10 years.⁸ If vitamin D status is causally related to eczema risk, then lower vitamin D status caused by reducing time spent outdoors might be a plausible explanation for global increases in eczema and food allergy.

Our final Editor's Choice article from this issue is a comprehensive review article by Paolino et al which assesses the status of non-biologic systemic treatments for eczema.⁹ While biologic agents are increasingly used as systemic treatments for eczema, their relative effectiveness compared with older non-biologic systemic agents is unclear, and newer non-biologic agents such as the janus kinase inhibitors have an emerging role. Paolino et al beautifully summarize data on mechanisms of action, clinical outcomes, relative effectiveness of janus kinase inhibitors and dupilumab and the current pipeline of biologic and non-biologic systemic drug development for eczema. This review article is essential reading for those whose clinical practice includes managing patients with severe eczema using systemic treatments.

AUTHOR CONTRIBUTIONS

RJB drafted the manuscript. MHS approved the manuscript.

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