Editorial

Pass the Fish, Get a Bird, Hold the Bacteria

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In the depth of winter, dermatologists are now seeing the greatest number of patients with atopic dermatitis. Given the challenge of treating this condition, I thought it would be interesting to note 2 recently published studies that may impact our approach to therapy.

Alm et al[1] investigated the prevalence of eczema among infants in western Sweden, described patterns of food introduction, and assessed risk factors for eczema at 1 year of age. The investigators obtained data from a prospective longitudinal cohort study of infants born in western Sweden in 2003. More than 8000 families were randomly selected and were invited to participate and received questionnaires 6 months after the infant's birth. A second questionnaire was sent out when the infants were aged 12 months. Data for 4921 infants were compiled, providing information on family history, environment, perinatal history, tobacco use, breastfeeding, food introduction, and diseases.[1]

At 1 year of age, 20.9% of the infants had previous or current eczema.[1] Median age at onset was 4 months. In multivariable analysis, familial occurrence of eczema, especially in siblings (odds ratio, 1.87; 95% confidence interval, 1.50-2.33) or the mother (odds ratio, 1.54; 95% confidence interval, 1.30-1.84), was an independent risk factor. In the multivariable analysis, the investigators found that the introduction of fish before 9 months of age had a protective effect on eczema because fish is rich in omega-3 fatty acids, which could partly explain the effects found in this cohort. However, they found no influence of the type of fish ingested (lean/white or fat/oily) in this study. Therefore, it was somewhat difficult to ascribe the effect to omega-3 fatty acids only. Interestingly, they also discovered a protective effect of having a bird in the home, which may be due to reverse causation if families without atopic dermatitis keep more birds or it may be that birds promote exposure to endotoxin, as they are almost always kept inside, providing continuous indoor exposure. Finally, in this study, breastfeeding and time of milk and egg introduction did not affect the risk for atopic dermatitis.[1]

For the past several years, probiotics have been used by some clinicians in the treatment of atopic dermatitis. Boyle et al[2] performed a meta-analysis to assess the effects of probiotics for the treatment of eczema, looking at randomized controlled trials of live, orally ingested microorganisms for the treatment of eczema. The authors identified 12 trials involving 781 participants that met the inclusion criteria. All trial participants were children. There was no significant difference in participant- or parent-rated symptom scores in favor of probiotic treatment (5 trials, 313 participants). There also was no significant difference in participant- or parent-rated overall eczema severity in favor of probiotic treatment (3 trials, 150 participants). There was no significant difference in investigator-rated eczema severity between probiotic and placebo treatments (7 trials, 588 participants). In searching for adverse events, the investigators identified some case reports of infections and bowel ischemia caused by probiotics. The authors concluded that the evidence suggests that probiotics are not an effective therapy for eczema, and probiotic treatment carries a small risk for adverse events.[2]

These studies elucidate interesting and novel aspects that may affect our thinking on atopic dermatitis. Hopefully some of these findings will ultimately aid our patients.

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REFERENCES

1. Alm B, Aberg N, Erdes L, et al. Early introduction of fish decreases the risk of eczema in infants. *Arch Dis Child*. 2009;94:11-15.
2. Boyle RJ, Bath-Hextall FJ, Leonardi-Bee J, et al. Probiotics for treating eczema. *Cochrane Database Syst Rev*. 2008; (4):CD006135.