

Commentary

Cochrane in context: Maternal dietary antigen avoidance during pregnancy or lactation, or both, for preventing or treating atopic disease in the child

Cochrane Review: Maternal dietary antigen avoidance during pregnancy or lactation, or both, for preventing or treating atopic disease in the child Kramer MS, Kakuma R. Maternal dietary antigen avoidance during pregnancy or lactation, or both, for preventing or treating atopic disease in the child. *Cochrane Database of Systematic Reviews* 2012, Issue 9. Art. No.: CD000133. DOI: 10.1002/14651858.CD000133.pub3.

This companion piece to the review, “Maternal dietary antigen avoidance during pregnancy or lactation, or both, for preventing or treating atopic disease in the child,” contains the following pieces:

- The abstract of the review
- A commentary from one or more of the review authors, explaining why the review team felt the review was an important one to produce
- A review of clinical practice guidelines from the American Academy of Pediatrics, the Canadian Paediatric Society and the National Institute for Health and Care Excellence (NICE), United Kingdom

Evidence-Based Child Health: a Cochrane Review Journal is now indexed by MEDLINE (<http://www.ncbi.nlm.nih.gov/pubmed>) and Scopus (<http://www.scopus.com>)

Abstract

Background Some breastfed infants with atopic eczema benefit from elimination of cow's milk, egg or other antigens from their mother's diet. Maternal dietary antigens are also known to cross the placenta.

Objectives To assess the effects of prescribing an antigen avoidance diet during pregnancy or lactation, or both, on maternal and infant nutrition and on the prevention or treatment of atopic disease in the child.

Search methods We searched the Cochrane Pregnancy and Childbirth Group's Trials Register (6 July 2012).

Selection criteria All randomized or quasi-randomized comparisons of maternal dietary antigen avoidance prescribed to pregnant or lactating women. We excluded trials of multimodal interventions that included manipulation of the infant's diet other than breast milk or of nondietary aspects of the infant's environment.

Data collection and analysis We extracted data from published reports, supplemented by additional information received from the trial participants we contacted.

Main results The evidence from five trials, involving 952 participants, does not suggest a protective effect of maternal dietary antigen avoidance during pregnancy

on the incidence of atopic eczema during the first 18 months of life. Data on allergic rhinitis or conjunctivitis, or both, and urticaria are limited to a single trial each and are insufficient to draw meaningful inferences. Longer-term atopic outcomes have not been reported. The restricted diet during pregnancy was associated with a slightly but statistically significantly lower mean gestational weight gain, a nonsignificantly higher risk of preterm birth and a nonsignificant reduction in mean birth weight.

The evidence from two trials, involving 523 participants, did not suggest a significant protective effect of maternal antigen avoidance during lactation on the incidence of atopic eczema during the first 18 months or on positive skin-prick tests to cow's milk, egg or peanut antigen at 1, 2 or 7 years.

One crossover trial involving 17 lactating mothers of infants with established atopic eczema found that maternal dietary antigen avoidance was associated with a nonsignificant reduction in eczema severity.

Authors' conclusions Prescription of an antigen avoidance diet to a high-risk woman during pregnancy is unlikely to substantially reduce her child's risk of atopic diseases, and such a diet may adversely affect maternal or foetal nutrition, or both. Prescription of an antigen avoidance diet to a high-risk woman during lactation may reduce her child's risk of developing atopic eczema, but better trials are needed.

Dietary antigen avoidance by lactating mothers of infants with atopic eczema may reduce the severity of the eczema, but larger trials are needed.

Authors' Commentary

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Atopic diseases such as eczema, asthma, hay fever and food allergies are among the most common chronic diseases in children and often persist into adulthood. Their increased prevalence over the last several decades has led to increased interest in preventive strategies. Many of these strategies are concerned with changes in diet, particularly in reducing the intake of foreign protein antigens such as cow's milk, egg and nuts by the mother and infant. Clinical practice varies widely with respect to advice given to pregnant and lactating mothers about avoiding these antigens, and the risks and benefits of such advice are unclear. We therefore systematically reviewed controlled clinical trials that assessed the impact of maternal antigen avoidance during pregnancy and/or lactation on reducing the risk of atopic diseases in children.

Keywords: eczema, atopic dermatitis, hay fever, asthma, food allergy, prevention

Guidelines

American Academy of Pediatrics, 2008 (1)	At the present time, there is lack of evidence that maternal dietary restrictions during pregnancy play a significant role in the prevention of atopic diseases in infants. Similarly, antigen avoidance during lactation does not prevent atopic diseases, with the possible exception of atopic eczema, although more data are needed to substantiate this conclusion.
Canadian Paediatric Society, 2013 (2)	Do not restrict maternal diet during pregnancy or lactation. There is no evidence that avoiding cow's milk, egg, peanut or other potential allergens during pregnancy helps to prevent allergy, while the risks of maternal undernutrition and potential harm to the infant may be significant. Breastfeed exclusively for the first 6 months of life. Whether breastfeeding prevents allergy as well as providing optimal infant nutrition and other manifest benefits is not known. The total duration of breastfeeding (at least 6 months) may be more protective than exclusive breastfeeding for 6 months.
National Institute for Health and Care Excellence, 2007 (3)	Healthcare professionals should inform women who are breastfeeding children with atopic eczema that it is not known whether altering the mother's diet is effective in reducing the severity of the condition. A trial of an allergen-specific exclusion diet should be considered under dietary supervision if food allergy is strongly suspected.

References for guidelines

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- National Institute for Health and Care Excellence. Atopic eczema in children: management of atopic eczema in children from birth up to the age of 12 years. 2007. Available from: <http://publications.nice.org.uk/atopic-eczema-in-children-cg57/guidance> [accessed on 20 March 2014].

If you would like to make a comment on the above article, you are invited to submit a letter to the Editor by email (child@ualberta.ca). Selected letters may be edited and published in future issues of the journal.