Mechanisms of asthma and allergic disease – 1075. Probiotics in infants for prevention of allergic disease and food hypersensitivity

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Background
Probiotic (‘healthy’ bacteria) added to infant feeds have the potential to prevent sensitisation of infants to dietary allergens.

Methods
Standard methods of the Cochrane Neonatal Review Group were used. Searches were updated October 2011. Randomised and quasi-randomised controlled trials that compared a probiotic to control; or probiotic with added prebiotic (synbiotic) to control were eligible.

Results
Sixteen studies were eligible. Several ongoing studies and completed studies with no reported allergy results were identified. Eight studies reported adequate randomisation and allocation procedures and used a placebo. Only one study reported <10% losses after allocation. Overall, meta-analysis of 12 studies found a significant reduction in infant eczema (1876 infants; RR 0.77; 95% CI 0.67, 0.89; RD -0.07; -0.12, -0.03; NNT 14; 8, 33) from use of probiotic. Moderate ($I^2=32\%$) heterogeneity between studies was found. In subgroup analysis, a significant reduction in eczema was found in infants selected for risk of allergy and unselected infants; infants predominately breast fed; infants treated with L. Rhamnosus (3 studies, 542 infants, RR 0.61; 0.45, 0.82); infants treated with a combination probiotic B. bifidum, B. lactis and L. acidophilus (1 study, 68 infants; RR 0.58; 0.34, 0.97); and infants given a synbiotic (1 study, 925 infants; RR 0.81; 0.66, 0.99). There was no significant difference in all allergy, asthma, atopic eczema, allergic rhinitis, or food hypersensitivity.

Conclusions
Further evidence is required before a probiotic or synbiotic can be recommended for prevention of allergy. A well powered, independent trial is required to answer this question.

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