Breast milk against coeliac disease

L M Sollid

Should we advise mothers to continue breast feeding while gluten is introduced into their babies’ diets?

Coeliac disease is a multifactorial disorder developing as a result of a complex interplay between genetic and environmental factors. HLA and non-HLA genes are involved, and gluten is obviously a critical environmental factor as the disease goes into remission when gluten is eliminated from the diet. The important role of breast feeding is well established: the gradual introduction of gluten containing foods into the diet of infants while they are still being breast fed reduces the risk of coeliac disease in early childhood and probably also during the subsequent childhood period.


Background: While the importance of both genetic predisposition and exposure to dietary gluten in the causation of coeliac disease is beyond question, the recent epidemic of coeliac disease in children in Sweden has highlighted the role of other factors, including other aspects of infant feeding.

Question: Does breast feeding and/or delayed introduction of dietary gluten protect children from developing coeliac disease?

Design and methods: A population based case-control study covering the whole of Sweden and involving 627 incident cases of coeliac disease in children (<15 years) and 1254 controls matched for age, sex, and area selected from the National Population Register. Mailed questionnaires were returned by 96% of cases and 90% of controls.

Results: The risk of coeliac disease was reduced in children aged <2 years (80% of the cases) if they were still being breast fed when dietary gluten was introduced (adjusted odds ratio (OR) 0.59, 95% confidence interval (CI) 0.42–0.83). This effect was more pronounced in infants who continued to be breast fed after gluten was introduced (OR 0.36, 95% CI 0.26–0.51). The risk was greater when gluten was introduced into the diet in large amounts (OR 1.5, 95% CI 1.1–2.1) than when introduced in small or medium amounts. In older children these risk factors were of little or no importance. Discontinuing breast feeding at the time of introduction of gluten was estimated to account for 31% of cases and 45% when combined with large amounts of flour intake.

Conclusion: The gradual introduction of gluten containing foods into the diet of infants while they are still being breast fed reduces the risk of coeliac disease in early childhood and probably also during the subsequent childhood period.
the summer compared with those born during the winter. Notably, those born during the summer have gluten introduced into their diet during the winter when infections are more prevalent. Also, case control data indicated that coeliac subjects experienced three or more infection episodes significantly more often than the referents. These observations fit with the immunological model outlined above.

So what advice should we give to mothers? There is indeed a plausible explanation why continued breast feeding at the time of introduction of gluten protects against coeliac disease although it can be questioned whether the available data are sufficient to prove beyond doubt that this is causal. On the other hand, it is hard to envisage negative factors associated with breast feeding. Hence on balance, it seems justified to advise mothers to continue breast feeding while they gradually introduce gluten to their babies’ diets.

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