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Infant feeding and anti-tissue transglutaminase antibody concentrations in the Generation R Study.

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BACKGROUND:

Celiac disease (CD) has emerged as a common, but largely undiagnosed health problem. Numerous studies examined the influence of infant nutrition on the development of diagnosed CD. However, results are still inconsistent. In addition, the effect of infant feeding practices on the development of potential forms of CD might be different.

OBJECTIVE:

The objective was to examine whether the timing of gluten introduction and breastfeeding duration are associated with CD autoimmunity (CDA) in children at the age of 6 y.

DESIGN:

This study was embedded in the Generation R Study, a population-based prospective cohort study. Participants included 1679 Dutch children who were positive for human leukocyte antigen (HLA) DQ2/DQ8. Data on the timing of gluten introduction (<6 mo compared with ≥6 mo) and duration of breastfeeding (<6 mo compared with ≥6 mo) were obtained by questionnaire. Serum samples were analyzed for anti-tissue transglutaminase (anti-tTG) concentrations at age 6 y. Anti-tTG concentrations were categorized into negative (<7 U/mL) and positive (≥7 U/mL) values. Positive anti-tTG concentrations were further categorized based on ≥10 times the upper limit of normal (ULN) values of the test kit (≥7-70 and ≥70 U/mL). Multivariable logistic regression analyses were performed.

RESULTS:

Positive anti-tTG concentrations were found in 43 children, 26 of whom had concentrations ≥10 times the ULN (≥70 IU/mL). The introduction of gluten from the age of 6 mo onward and breastfeeding for ≥6 mo were not significantly associated with positive anti-tTG concentrations. In addition, the timing of gluten introduction and duration of breastfeeding were not significantly associated with positive anti-tTG concentrations below or above 10 times the ULN.

CONCLUSIONS:

Delayed introduction of gluten beyond the age of 6 mo does not increase the risk of CDA. In addition, breastfeeding for ≥6 mo does not decrease the risk of CDA in children at 6 y of age.

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