CONCLUSIONS. Longer duration of breastfeeding favorably influences lung growth in children. However, in the presence of maternal asthma, longer breastfeeding is associated with decreased airflows.

REVIEWER COMMENTS. There seems to be a differential effect of the relation of breastfeeding to lung function on the basis of the asthmatic background of the mother. Breastfed children with nonatopic, nonasthmatic mothers had an increased FVC and no decrease in their airflows. However, children of mothers with asthma with longer breastfeeding did not demonstrate any improvement in FVC but had a significant reduction in airflows, suggesting that the risk for increased asthma in this group may be partly a result of altered lung growth. Children with longer breastfeeding who had atopic but nonasthmatic mothers had intermediate findings, and they showed a similar increase in FVC compared with those with nonatopic, nonasthmatic mothers but a decrease in airflows similar to children with asthmatic mothers. These findings may support the speculation that the milk of mothers with atopy or asthma may differ with regard to immunologically active substances; thus, breastfeeding in these groups may have a different effect on growth and/or development of the airways. It goes without saying that the clinical significance of these findings is unknown. Human milk is uniquely suited to the feeding of infants. There are many well-documented benefits of breastfeeding. For children of nonasthmatic mothers, this study demonstrates a further benefit of breastfeeding. Additional study is needed to draw firm conclusions for other infants.

URL: www.pediatrics.org/cgi/doi/10.1542/peds.2008-2139H

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Solid Food Introduction in Relation to Eczema: Results From a Four-Year Prospective Birth Cohort Study

PURPOSE OF THE STUDY. To assess the association between the introduction of solid foods in the first 12 months and the occurrence of eczema during the first 4 years of life in a prospective study of newborns.

METHODS. Data were taken from annually administered questionnaires from a large birth cohort (recruited 1995–1998) comprising an intervention and a nonintervention group. Outcomes were doctor-diagnosed and symptomatic eczema. Multiple generalized estimation equation models were performed for the 2 study groups.

RESULTS. From the 5991 recruited infants, 4753 (79%) were followed up. The 2 study groups were different in their family risk of allergies and feeding practices. No association was found between the time of introduction of solids or the diversity of solids and eczema. In the nonintervention group, a decreased risk was observed for avoidance of soybean/nuts, but an increased risk was seen in doctor-diagnosed eczema for the avoidance of egg in the first year.

CONCLUSIONS. The evidence from this study supports neither a delayed introduction of solids beyond the fourth month nor a delayed introduction of the most potentially allergenetic solids beyond the sixth month of life for the prevention of eczema. However, effects under more extreme conditions cannot be ruled out.

REVIEWER COMMENTS. The dilemma of when to introduce solid foods during infancy continues. The data from this investigation support the notion that it is unnecessary to delay solid foods beyond the fourth month of life or allergenic solid foods beyond the sixth month of life to prevent eczema. Specifically, this investigation found no significant effect of timing or diversity of solid foods on eczema outcomes to 4 years of age. The duration of exclusive breastfeeding as compared with the timing of introduction of solid foods, including both formulas made with whole cow’s milk or soy proteins, as well as extensively hydrolyzed casein and partially hydrolyzed whey protein formulas, were examined. It is interesting to note that findings from this investigation seem to indicate that there may be a period of immunologic immaturity during which whole protein in large amounts, whether solid or liquid, may promote the development of atopic disease. These data should help to settle the argument of when to introduce solid foods during infancy for the prevention of eczema and will have a direct impact on global recommendations dealing with this clinical issue.

URL: www.pediatrics.org/cgi/doi/10.1542/peds.2008-2139I

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Glutamine-Enriched Enteral Nutrition in Very Low-Birth-Weight Infants: Effect on the Incidence of Allergic and Infectious Diseases in the First Year of Life

PURPOSE OF THE STUDY. To determine the effect of glutamine-enriched enteral nutrition in very low birth weight infants on the incidence of allergic and infectious diseases during the first year of life. The authors hypothesized that glutamine may enhance maturation of the immune response by shifting the fetal T-helper 2 (Th2) response...
toward Th1 cytokine responses in early infancy, leading to decreased allergic disease later in life.

STUDY POPULATION. Infants with a gestational age of <32 weeks and/or birth weight of <1500 g who were admitted to a level III NICU were randomly assigned to receive enteral glutamine or control (L-alanine) supplementation.

METHODS. Enteral glutamine supplementation (L-glutamine, 0.3 g/kg per day) was administered to the intervention group from 3 through 30 days of life. Validated questionnaires were later sent to the parents of all eligible children, when they were a corrected age of 1 year, to assess the incidence of allergic and infectious diseases during the child’s first year of life. Bronchial hyperreactivity was defined by report of at least 3 of the following physician-diagnosed symptoms: dyspnea, wheezing, humming/sawing breath sounds, or nightly dry cough without rhinitis.

RESULTS. Of 90 eligible infants, 77 participated (response rate: 86%). The risk for atopic dermatitis (AD) was lower in the glutamine-supplemented group (odds ratio: 0.13 [95% confidence interval: 0.02–0.97]). However, other outcomes did not differ between the intervention and control groups, such as incidence of bronchial hyperreactivity and infectious diseases. This was a prospective study of 128 parents (age range: 22.4–49.7 years) and 158 children (age range: 1.5–17.9 years) recruited from 68 families through newspaper advertisements in Sweden. These individuals reported that either they would be buying a dog or cat or that at least 1 child in the household would be starting to ride a horse.

METHODS. Subjects were examined before the new exposure and once per year thereafter for 5 years (6 occasions). At each visit, individuals were scored on allergy symptoms. General allergic sensitization was analyzed by Phadiatop (Pharmacia, Uppsala, Sweden), a screening test for allergy to cat, horse, dog, house dust mite, and a few pollen and mold spores. Radioallergosorbent (RAST) testing with relevant allergens was performed to detect allergen-specific immunoglobulin E if screening was positive. Home environmental analyses of furred animal allergens were performed.

RESULTS. Thirty subjects from 5 families dropped out of the study. Of the remaining 256 individuals, 248 were exposed to 1 new animal, whereas 8 were exposed to 2 new animals. At the start of the study, 219 participants (86% [122 children and 97 adults]) were nonsensitized, and 37 (15% [15 children and 22 adults]) were sensitized to ≥1 allergen. Among the 219 nonsensitized subjects, only 1 adult developed sensitization to his new animal. No adults developed sensitization to other animals, and no children developed a sensitization to any animals (their own or others). Ten children and 6 adults became sensitized to other allergens. Of the 37 sensitized participants, 4 children and no adults (4 of 37 [11%]) developed sensitization to their new animals. Four children and 2 adults (6 of 37 [16%]) developed sensitization to another animal, and 1 child developed sensitization to a nonanimal allergen. The relative risk (RR) for developing new sensitization in presensitized adults and children was 3.8, whereas the RR for developing new sensitization in presensitized children was 7.3. Because of the small sample size, a RR could not be calculated for developing new sensitization for one’s own animal. Baseline symptom scores were higher for the presensitized group compared with the nonsensitized group, but the scores did not significantly change over the 5-year period, and no individual developed asthma. The levels of animal dander in house dust were significantly higher at the end of the study for dog and horse.

CONCLUSIONS. For patients over 1 year of age, exposure to a new furred animal did not seem to increase the rate of new allergic symptoms or sensitization over the next 5 years. This result was not affected by the baseline sensitization status of the subjects. On the basis of this study, there is no strong evidence to recommend avoidance of new animals to prevent new allergy development.

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