

## **The effect of egg ingestion on ovalbumin concentration in human milk**

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**Background** - Three percent of young Australian children have an egg allergy. Maternal dietary restriction is recommended for the treatment and prevention of egg allergy in high-risk breastfed infants. This approach assumes complete dietary avoidance of egg is necessary to prevent egg being absorbed and excreted antigenically intact into breast milk.

**Objective** - To determine if the concentration of ovalbumin in human milk is directly related to the quantity and form of egg consumed by breastfeeding mothers.

**Design** - Breastfeeding women (n=41) attended one day per week from 11-14 weeks of lactation and on each test day were randomly allocated to receive one of four test breakfasts, identical except for the egg content of one raw egg, ½ cooked egg, one cooked egg or no egg. Breast milk samples were collected prior to and at two, four, six and eight hours after the test day breakfast was eaten. Ovalbumin in human milk was measured by an enzyme-linked immunosorbent assay.

**Outcomes** - Ovalbumin (ng/mL/hour) excretion in human milk was lowest on the day of the egg-free breakfast compared with other test meals and detectable in only 3/41 women. Ovalbumin excretion was greatest and detectable in 28/41 breastfeeding women after eating one cooked egg. There was no difference between ½ cooked egg and one raw egg meals and these values were intermediate between ovalbumin excretion following no egg and one cooked egg.

**Conclusions** - To improve the quality of dietary advice further studies need to determine the threshold of ovalbumin excretion that leads to symptoms in allergy prone breastfed infants.