

Case Study Discussion

8-month old boy with eczema

Born healthy at term

Exclusively breast-fed from birth: No infant formulae introduced to date

Solid foods introduced at 6 months:

Started with Healthy Times rice baby cereal: completely free from additional ingredients except iron

Cooked foods:

Sweet Potato

Yams

Peas

Raw foods:

Apple

Banana

Pear

Eczema started at 3-4 months before solid foods introduced

Eczema worsened noticeably after solid foods introduced

Eczema distribution described: on face, scalp, behind the ears, on hands, and in the creases of the feet.

Scratching especially at night

Family History of Allergy:

Father has eczema on his hands: onset and course of symptom development is unknown

Mother has gastrointestinal symptoms (especially abdominal bloating) when she consumes milk and milk products, and possibly wheat.

Mother reports “light-headedness” and possibly headaches when she consumes wheat

Questions:

1. Does this baby have food allergy?

Answer:

Because the eczema started before the age of six months it is possible that the reaction is triggered by foods. With increasing age environmental allergens such as dust mites, mold spores, animal dander, and pollens assume a more predominant role as triggers of allergic symptoms such as eczema and respiratory allergies. At three or four months food allergens are probably making a significant contribution to this baby’s skin allergy symptoms, but the possible involvement of environmental allergens must also be considered.

2. If yes, which foods would you suspect to be triggers of the eczema, if any?

Answer:

The foods most frequently involved in early infant allergy, especially skin and digestive tract symptoms, tend to be:

Cow’s milk proteins

Egg proteins

Soy Proteins
Peanut
Green pea
Shellfish

Other foods, such as tree nuts, wheat, chicken, beef, tomato, and fish are also frequent allergens, but often in association with the previous six foods.

The observation that the baby's symptoms worsened after solids were introduced does suggest that one or more of these foods could be allergenic for the baby. The most suspicious would be green peas, banana, and apple.

3. How would you proceed in identifying the foods that might be involved in the baby's symptoms?

Answer:

Elimination and challenge of the suspect foods is the only really satisfactory way to identify the culprit foods. Start with a food and symptom diary for both mother and baby for a period of seven days. Mother will record every food she eats, beverage she consumes, supplements and medications she takes, as she consumes them.

At the same time she records the baby's times of nursing, and every food, beverage, supplement, and medication he consumes for the same time period.

She will also record every symptom the baby experiences, time of onset and length of the reaction. Since eczema is the symptom causing the greatest concern she should record when the skin reaction flares (reddening of the skin and frank rash), and when the baby appears more irritable and in greater distress as a result of the flare-up.

Based on an analysis of the food and symptom record for mother and baby there will be several foods that become suspect as a result of the association of the consumption of the food by mother or baby, and the onset of symptoms.

If the food is consumed by the baby expect to see a symptom flare-up quite soon after the food is eaten – within minutes to less than an hour.

If the food is in the mother's diet and is passing into her breast milk, the baby will develop symptoms usually six to eight hours after mother consumes it. Sometimes the reaction may be as early as three hours after mother eats the food, but no earlier than two hours.

An elimination diet for both mother and baby will be developed, eliminating the suspect foods and providing complete balanced nutrition from alternative sources. This should be followed for a period not less than two and no longer than four weeks. If there is definite improvement in the baby's symptoms mother should be instructed to eat a normal serving size of each eliminated food separately and the baby observed for a flare-up of his eczema for up to 12 hours following mother's consumption of the food. Those foods causing an obvious adverse response must be avoided by both mother and baby. When all of the eliminated foods have been reintroduced and the baby's response to each one determined, a final maintenance diet for mother and baby can be developed.

Mother can then proceed to introduce more solid foods to the baby, starting with those likely to be least allergenic.

4. What strategies would you advise when the parents decide to have a second child?

Answer:

The symptoms described by the mother - gastrointestinal distress (especially abdominal bloating) when she consumes milk and milk products, and “light-headedness” and possibly headaches when she consumes wheat - do not suggest allergy. On further enquiry it became clear that the mother may be experiencing irritable bowel syndrome and possibly stress, but did not have a medical history that would suggest either food or environmental allergy. Therefore, any offspring would not be in the “high risk for allergy” category in which the maternal environment would expose the fetus and newborn to the immunological factors that would be most likely to trigger allergy at birth. In fact this baby did not show signs of allergy until three or four months of age. Because the father had a long-standing history of eczema, it is probable that the genetic inheritance for allergy is through the paternal line.

In this case, the mother does not need to limit her own diet in any way during pregnancy or lactation unless, and until, the baby shows specific signs of allergy, as this child did. Some authorities do recommend eliminating the most highly allergenic foods from the mother’s diet when one sibling has food allergy in an attempt to protect the next baby from sensitization to the most highly allergenic foods until its immune system is reasonably mature, usually at about six months. Cow’s milk, egg, soy, peanut, green pea, shellfish, fish and tree nuts are the usual foods that are avoided. In practice the recommendation for such a restricted diet is based on the parents’ wishes (that is, whether they are strongly motivated to follow such stringent measures in the hope of protecting their baby from developing food allergies). If they elect to follow this regimen, the mother’s nutritional status must be carefully monitored by a registered dietitian to ensure the optimum nutritional health of mother and baby.

5. When would you suggest that these preventive measures should be implemented?
– and why?

Answer

Because the mother has no history of allergy it is unnecessary for her to restrict her diet to control her own allergies. Limiting her intake of cow’s milk and wheat may help her symptoms of bloating and headaches, but will not affect her immunological reactions, and therefore will not impact on the intrauterine environment of her fetus. It will not be necessary for the mother to eliminate any food from her diet until her baby is diagnosed with food allergy and its culprit foods are identified. Only if the parents decide to attempt to protect the new baby from potential food allergies by precluding its exposure to them will mother need to eliminate highly allergenic foods from her diet during lactation. Even then it is uncertain whether this is actually going to prove a wise step since there is research evidence that the baby is likely to develop tolerance to foods in

mother's breast milk, and by strict avoidance of the highly allergenic foods the mother may be actually denying her baby the tolerogenic effects of breast-feeding.