

Severe Urticarial Eruption in an Infant

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Cutaneous symptoms ascribed to an adverse reaction to food were first recorded in China (3000 BC). Hippocrates (460-370 BC) later attributed abdominal pain and urticaria to the ingestion of milk(1). As cow's milk became a standard food in infant nutrition, the problem of cow's milk allergy increased proportionately. Still there have been secret reports of milk allergy in this part of the globe, where plenty of commercially-prepared infant formulas are available in the market. Chetty(2) from India reported extrinsic allergic alveolitis in an infant due to milk allergy. We report here the case of an exclusively breast-fed infant who developed severe urticarial eruptions after ingestion of a milk-based diet in a diarrheal hospital in Bangladesh.

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Case Report

A nine-month-old boy was brought to the Clinical Research Centre, Dhaka of the International Centre for Diarrheal Disease Research, Bangladesh (ICDDR, B) with the history of acute watery diarrhea and vomiting for 2 days. He was moderately dehydrated, weighing 4.6 kg (weight for age being 50% of the National Centre for Health Statistics median). Since birth, the baby was exclusively breast-fed. After admission, he was rehydrated with 300 ml of intravenous "Dacca solution" (Na^+ 133 mmol/L, K^+ 13 mmol/L, Cl^- 98 mmol/L and acetate $^-$ 48 mmol/L), followed by oral rehydration solution (Na^+ 90 mmol/L, K^+ 20 mmol/L, Cl^- 80 mmol/L, HCO_3^- 30 mmol/L and glucose 111 mmol/L). As a routine practice of the hospital, he was offered a milk-based diet (full-cream milk powder 40 g/L, powdered rice 40 g/L, sugar 25 g/L and soy-oil 25 g/L, supplying 67 kcal/100 ml). About an hour later, several urticarial eruptions in the form of erythematous, elevated, circumscribed lesions of variable size and shape were noticed over the cheek, the abdomen and the limbs, and the eruptions rapidly spread all over the body. The boy was mildly febrile, and irritable probably due to itching.

He was not given any medicine before admission, but some indigenous substance was applied over the anterior fontanel. After noticing the urticarial rashes, the indigenous substance was scrapped out, and the head was thoroughly cleansed. The patient was given oral chlorpheniramine maleate 2 mg three times a day. He was still being offered the milk-based diet 30 ml

every 2 hours. The following day, the eruptions spread further, some of them coalesced to form large wheals with serpiginous edges, the maximum size of one of which was approximately 7.5×5.0 cm over the upper abdomen. On suspicion of cow's milk-protein allergy, the milk-based diet was discontinued. The mother was advised to only feed her baby with breast milk. The next morning the skin rashes completely disappeared, diarrhea improved, and the patient was discharged. We decided to carry out procedure of milk challenge in a non-infectious state of the child, preferably after two weeks of his discharge from the hospital. Accordingly, we attempted to follow-up the child at home, but unfortunately the family had moved.

Discussions

Since the child was reported to be exclusively breast-fed, the offending agents suspected for provoking the allergic reaction in the form of urticarial eruption were: (i) an infectious agent, (ii) the intravenous rehydration solution and its possibility of being contaminated, or (iii) the milk-based diet, the only food consumed by the child other than breast milk.

The possibility of an infectious etiology for the urticaria cannot be adequately excluded in this case, because the patient presented with an acute diarrheal illness which could be viral in origin. The patient's age and his stool character may suggest a rotavirus infection which is more common in infants and young children in Bangladesh(3). Although viral infections of the respiratory tract have been thought responsible for many cases of acute urticaria in childhood(4), the association of rotavirus with urticaria of such severe nature is not documented. Possibilities of hypersen-

sitivity reaction from intravenous infusion can be ruled out, because the patient continued to develop urticaria long after the cessation of infusion. Contact urticaria due to the indigenous substance applied over the scalp cannot be considered as a possibility in this case because urticaria was not restricted to the site of contact.

Food remained the only offender identified, which was fed to the baby every two hours after admission, and the urticarial eruptions continued to spread simultaneously. Acute urticaria being a self-limiting condition in most cases, it is not certain whether the cessation of urticaria after the stoppage of milk-based diet had any relationship. The patient was discharged soon after urticaria improved and was subsequently untraceable; hence it remains again uncertain whether the patient suffered subsequently from further episodes of urticaria. Moreover, milk alone cannot be incriminated, as the preparation contained a number of other ingredients. The ultimate test would have been reproducibility after challenge with the milk-based diet, which was not possible in this case. This emphasizes the careful follow-up of such patients to establish the diagnosis, and thus assist the patient with appropriate care. Several studies demonstrated that food taken by the mother could appear in breast milk in antigenic form and precipitate allergic reactions in her baby(5,6). Moreover, the beneficial effect of breast feeding in reducing the incidence of allergy has been challenged by a few workers(7). Therefore, we hypothesise that the baby has been sensitized by small amounts of cow's milk allergens passed on by the mother.

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Galactosemia

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Galactosemia is an inborn error of metabolism that usually produces clinically recognizable illness within the first few days of life. This disorder is frequently overlooked in the assessment of the sick neonate with features of sepsis despite the

fact that a simple urine test for reducing substance can quickly lead to the diagnosis. An example of early neonatal diagnosis of galactosemia is reported here.

Case Report

A five-day-old breast fed male neonate born to non-consanguineous mother was admitted with history of jaundice and vomiting of 3 days duration. Family history revealed that a female infant has died of persistent jaundice at the age of 55 days and the cause was not established. Three other sibs are healthy.

On examination, the neonate was afebrile, lethargic, icteric and had a soft liver palpable just below the costal margin. There was no splenomegaly. Bilirubin level was 14 mg/dl (2 mg/dl direct reacting) and the blood sugar was 120 mg/dl. There was no blood group incompatibility. Sepsis was suspected and cultures of blood and urine were sent. Urinalysis done after intravenous fluids, was positive for reducing substances. After admission, enteral feeding was stopped. With intravenous fluids, antibiotics and phototherapy, he showed clinical improvement. Phototherapy was stopped on the 8th day, when serum bilirubin levels registered a significant drop. Blood and urine cultures were sterile. Antibiotic and intravenous fluids were stopped on 12th day and breast feeding was resumed. A repeat urinalysis done after breast feeding was reinitiated, was positive

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