Indian J. Dermatol. Venereol. Leprol. 1989; 55 : 57-58

ACRODERMATITIS ENTEROPATHICA TYPE II

Sanjay Ghosh and B Haldar

A 5½-month-old male had vesiculo-pustular cutaneous lesions along with erythema, erosions, scaling and crusting, particularly prominent in the peri-orificial areas for the last 1 month. He was the first child of his mother who had no sign of zinc deficiency. Serum zinc level was normal in the mother, but low in the baby. Oral zinc therapy cured the baby. After weaning, the baby was disease-free even without oral zinc.

Key words : Acrodermatitis enteropathica type II, Zinc deficiency.

Acrodermatitis enteropathica (AE) type II is a recently described unique entity.[1] In this type, in contrast to classical AE (type I), the disease starts early, when the babies are still exclusively on breast feed and complete remission occurs after weaning.[1-5] Serum zinc level is normal but breast milk zinc level is low in the mother; the baby has low serum zinc level.[1,5] The defect probably lies in the zinc-binding ligand in the breast milk.[5] The prognosis in type II is better than in type I. Classical AE is inherited as autosomal recessive whereas type II AE as autosomal recessive or sex linked.[1] A similar case[6] has been recently reported from Libya.

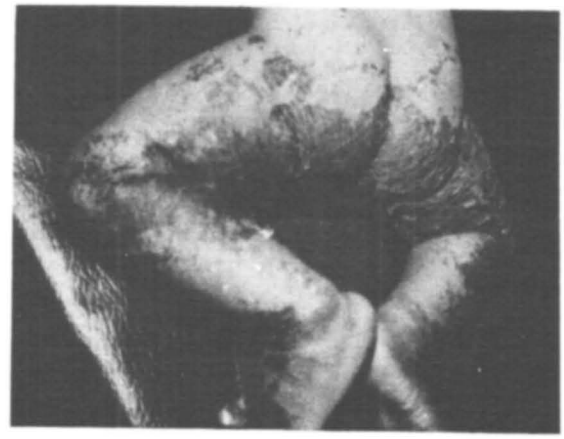

Fig. 1. Scaling, erosion and crusting on peri-anal area, buttocks, thighs and legs.

Case Report

A 5½-month-old, exclusively breast-fed male baby had skin lesions for the last 1 month. He was the first child of his mother, having no history of consanguinous marriage. Family history of such ailment was absent. Vesiculo-pustular eruptions on an erythematous base associated with scaling, erosion and crusting first appeared on the peri-anal area (Fig. 1). Later, the lesions spread on to the occiput, elbows, buttocks, thighs, knees, legs, hands, peri-oral, peri-nasal and peri-ocular areas. The eruption was bilateral, well-defined and rapidly spreading. There was no associated gastro-intestinal disturbance or alopecia. Hair, nails, teeth and mucous membranes and other systems were normal. The child was not irritable.

Histopathology showed non-specific chronic dermatitis, with intra-epidermal vesicle. *Candida albicans* was not detected from the skin lesions.

Serum zinc level of the baby was 42½g/dl and that of the mother was 83½g/dl as determined by atomic absorption spectroscopy (normal value 60-120 ½g/dl).

From Calcutta Skin Institute, 169 VI M, CIT Scheme, Calcutta-700 054, India.

Address correspondence to: Dr. Sanjay Ghosh, 27/2C, Bakultala Lane, Kasba, Calcutta-700 042, India.

Oral zinc in the dosage of 50 mg zinc sulphate (11.3 mg of elemental zinc) per day was given, within a week, the patient improved dramatically. The dose was gradually reduced to 15 mg per day within 3 weeks without recurrence. This dose was maintained until weaning, after which the baby was free from the dermatosis even without oral zinc.

Comments

The present case had all the features of acrodermatitis enteropathica type II, except that we could not estimate the zinc level of the mother's breast milk. Still, low serum zinc level in an exclusively breast-fed baby, normal serum zinc level in the mother, recovery with oral zinc therapy and after weaning indicate that the zinc secretion in the mother's milk was deficient.

The case reported by Sharma et al[1] had family history of the same disorder in seven more children including her siblings. They suggested either autosomal recessive or sex-linked mode of inheritance. The case reported from Libya[6] showed that 2 of the 3 other siblings suffered from this ailment. Our patient, being the first child, had no such relevant history.

References

1. Sharma NL, Sharma RC, Gupta RK et al: Hypozincemia in infancy, Ind J Dermatol Venereol Leprol, 1985; 51 : 256-260.
2. Ahmed S and Blair AW: Symptomatic zinc deficiency in a breast fed infant, Arch Dis Child, 1981; 56 : 315-318.
3. Husnoo MA, Hutchinson PE and Swift PGF: Symptomatic zinc deficiency in a breast fed infant, Arch Dis Child, 1981; 56 : 735-736.
4. Parker PH, Helinek GL, Meneely RL et al: Zinc deficiency in a premature infant fed exclusively human milk, Amer J Dis Child, 1982; 136 : 77-78.
5. Zimmermann AW, Hambidge KM, Lepow ML et al: Acrodermatitis in breast fed premature infants: Evidence for a defect of mammary zinc secretion, Paediatrics, 1982, 69 : 176-183.
6. El-Sherif AI, Al-Mangoush IM, Belhaj MS et al: Acrodermatitis enteropathica type II in Libya, Ind J Dermatol Venereol Leprol, 1987; 53 : 129-130.