PICTORIAL MEDICINE

A target annular rash in an atopic neonate

DOI: 10.12809/hkmj133676

In 2011, a 3.15-kg term male neonate presented on day 24 of life with a 1-day history of a florid rash which began in the hands and spread to the body. A general practitioner prescribed an antihistamine syrup and calamine cream, but overnight the rash became more generalised. The baby was breastfed and received artificial formula supplementation. The mother stated that she had taken some rice wine the night before.

On admission to the neonatal unit, the child's temperature was 37.7°C, heart rate 163 beats/min, respiratory rate 44 breaths/min, and the blood pressure was 91/53 mm Hg. The child was irritable and had an erythematous blanching target rash (Fig 1), but there was no mucous membrane involvement. Infection was suspected and intravenous ampicillin, gentamicin, and erythromycin were prescribed. The infant remained stable; the rash faded the next day without any cutaneous residua.

Laboratory investigations yielded no infectious aetiology (normal serial C reactive protein, negative blood and cerebrospinal fluid cultures), but there was evidence of atopy (eosinophils 13% [reference level, <5%], and immunoglobulin [Ig] E of 216 kIU/L [reference level, <29 kIU/L]). Urine liquid chromatography–mass spectrometry demonstrated no undisclosed drug exposure. Polymerised chain reaction testing did not reveal presence of herpes simplex-1 or -2, or Enterovirus. Moreover, antinuclear antibody, anti-double stranded DNA, and anti-extractable nuclear antigen were all negative.

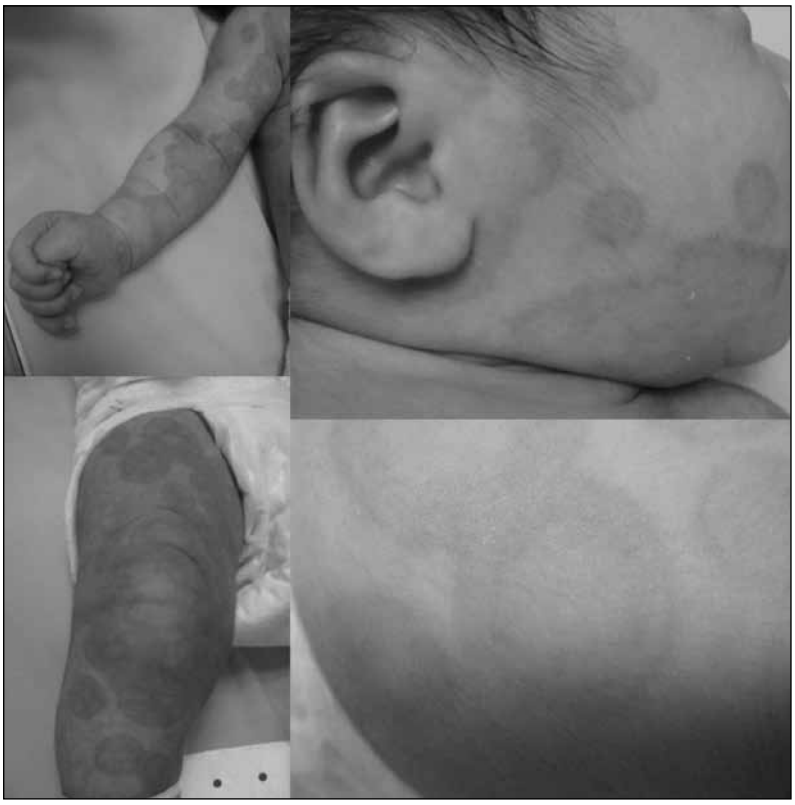

FIG 1. Florid blanching target lesions in an atopic neonate

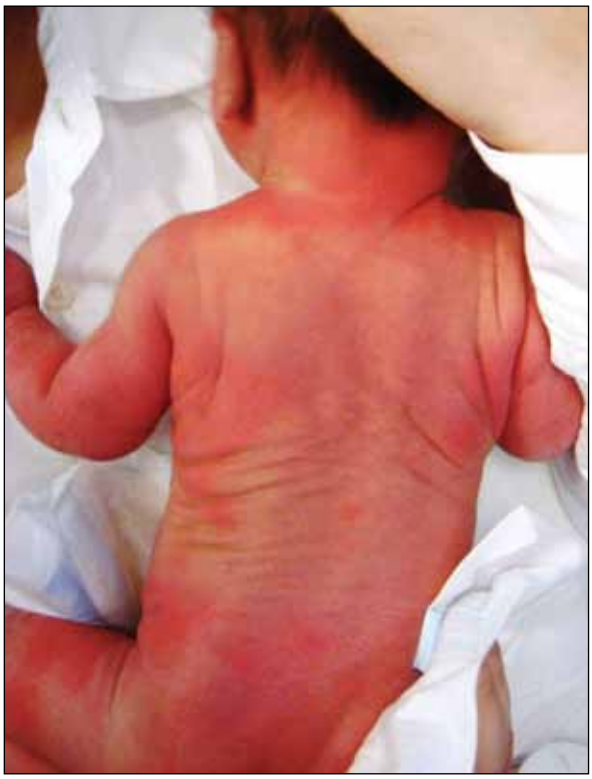

FIG 2. Generalised urticaria in an atopic neonate who subsequently developed eczema. Differential diagnosis of a generalised erythematous rash includes scalded skin syndrome and toxic shock syndrome

The patient's promptly resolving 'target' rash represents a form of urticaria (consistent features being blanching, eosinophilia, elevated IgE level and complete resolution).[1,2] Target lesions of erythema multiforme can occur in many infectious and inflammatory conditions.[3-5] Blanching urticarial lesions must be differentiated from purpuric lesions associated with thrombocytopenia or disseminated intravascular coagulopathy, as well as the necrotic lesions seen in erythema multiforme/Stevens-Johnson syndrome/toxic epidermal necrolysis.[1-6] The rash in this neonate showed 'targets', and was erythematous, and 'multiforme' in appearance, as

well as being blanching and transient in character. In this case, the diagnosis was urticaria and not erythema multiforme.

We previously reported a 10-day neonate with alarming generalised urticaria that spontaneously resolved completely without treatment, within 4 hours of admission (Fig 2).[2] That infant too had elevated IgE levels for age and subsequently developed eczema. Both infants had florid rashes during the neonatal period that rapidly resolved and both were atopic (having eosinophilia and elevated IgE levels), and no identifiable infectious aetiology. Neonatal rashes are alarming and occasionally are associated with life-threatening sepsis.[4-7] Immediate treatment and intensive care support are necessary to ensure optimal outcomes. Atopic neonates are prone to acute urticaria and subacute eczematous rashes.[1,2] They should be followed up, lest the neonatal urticaria heralds other atopic diseases such as eczema, asthma, and allergic rhinitis (referred to as the atopic march).

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