

Localised atypical erythema toxicum neonatorum in a term infant

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Introduction

Erythema toxicum neonatorum (ETN) is a common pustular eruption occurring in 40-70% of neonates¹. It is more common in term babies weighing more than 2500g with no predilection for race or sex^{2,3,4}. Its incidence decreases proportionally with decreasing maturity and birth weight⁵. ETN commonly appears on the second or third day of life and resolves spontaneously over 5 to 7 days, leaving no sequelae².

Aetiology of ETN is not known, though several hypotheses have been suggested². It may be a transient manifestation of an atopic diathesis⁴, an immediate hypersensitivity reaction⁶, mechanical or thermal stimulation⁴, obstruction of the pilosebaceous duct⁷, or a form of graft-versus-host reaction induced by transplacentally transferred maternal lymphocytes⁸.

The diagnosis of ETN is primarily based on clinical appearance. In this report we describe an atypical case of ETN with localised eruption.

Case report

The 40 week healthy male infant with a birth weight of 2900g was born by normal vaginal delivery and had no skin eruptions at birth. Skin eruptions, according to the mother, had appeared abruptly at around 12 hours of life. The infant had numerous firm and discrete pustules 1 to 2 mm in diameter, localised to bilateral upper eye-lids and pinna (Figure.1) with normal background skin with only mild erythema. No rash was observed on the trunk, palms or soles. The umbilical stump and the periumbilical area were free from infections. Mucous membranes were not involved.



Figure 1: Discrete pustules localised to upper eyelids and pinna

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Giemsa stained smears from pustules were prepared on two separate occasions, from two different sites each time and observed by three different microscopists. All the smears showed eosinophilic predominance (70%). Gram's stain and potassium hydroxide preparation of pustules failed to reveal any microorganisms.

The rash resolved on its own after three days without any residual signs. No sequelae were observed at 1 month.

Discussion

Typical lesions of ETN are maculo-papular evolving into firm, pale yellow or white pustules 1-3 mm in diameter surrounded by red and swollen background skin giving a 'flea-bitten' appearance³. They appear on the trunk, extremities and face and heal without sequel after 5-7 days. The palms and soles are rarely involved. In our patient, atypical features included well circumscribed distribution, pustular predominance and absence of perilesional erythema in almost all of the lesions. Features consistent with ETN included typical pustular-smears, with a corroborative clinical course.

Transient neonatal pustular melanosis (TNPM) presents with fragile, superficial, vesiculo-pustules with neutrophils or occasional eosinophils, appearing at birth or within the first day of life. It is most commonly seen in term infants of both sexes of African origin⁹. Lesions decompress leaving pigmented macules surrounded by collarette of scales. There is absence of peri-pustular oedema. In our patient, the rash appeared on the first day and there was absence of 'flea-bitten' appearance but eosinophilic predominance and the lack of scales or residual hyperpigmentation contradict this diagnosis.

Eosinophilic pustular folliculitis¹⁰ presents as recurrent crops of papulo-pustular lesions on the trunk and extremities with predilection for scalp and hair follicles. Pustular and peripheral eosinophilia may be seen. Absence of scalp lesions, scaling, crusting, as well as the lack of recurrence argues against this diagnosis in our patient.

Infantile acropustulosis¹¹ presents as recurrent crops of 1-2 mm pruritic vesiculo-pustules, rich in neutrophils and eosinophils, on the distal extremities between the ages of 2 and 10 months, though onset in the neonatal period has been reported. Characteristic distribution, lack of pruritus as well as non-recurrent nature in our case, makes this diagnosis unlikely.

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