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Case Report

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Transient neonatal pustular melanosis: A frequent misdiagnosis in neonates

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Abstract

Transient pustular melanosis is a neonatal dermatosis usually considered as a clinical form of toxic erythema, which is relatively frequent in neonates of the black race. It is benign and often misdiagnosed. The diagnosis is clinical, and characterized by a rapid onset of a diffuse vesiculo-pustular eruption which rapidly evolves to small pigmented maculae. It regresses spontaneously within a few weeks, and this differentiates it from other neonatal pustular dermatosis of infectious origin. We report a case of transitory pustular melanosis seen at the Bamenda Regional Hospital, Cameroon and we discuss nosologic problems and the main differential diagnoses.

Keywords: Blister/pathology, Newborn, Melanosis/pathology, Spontaneous remission.

INTRODUCTION

The occurrence of a pustular rash during the neonatal period most often leads to the suspicion of a pustular infection of bacterial,viral or fungal origin, which often requires the initiation of a paraclinical work-up and major treatment procedures[1]. It is therefore important to be able to recognize during the neonatal period, transient pustular rashes which are relatively frequent, benign and resolve spontaneously [2]. From a case of transient pustular melanosis observed at the Bamenda Regional Hospital Cameroon, we discuss the clinical particularities and the principal differential diagnoses of this entity.

CASE REPORT

A black male Cameroonian 2 days old neonate, first child of a 22 years old mother, was brought in for consultation at the Bamenda Regional Hospital with a diffuse pustular rash since birth. The maternal history during the pregnancy revealed no infectious risk. Delivery was at term at 39 weeks, pervaginally with an Apgar score of 9 at the 1st minute and 10 at the 5th minute. The birth weight was 3000 g, a height of 49cm and a head circumference of 36cm. The amniotic fluid was clear. The mother and the child's physical examinations at birth were normal.

On day 2 of life, physical examination, revealed a neonate in a good general state, afebrile, with vesiculo-papulareruptions 1-3mm in diameter, on a healthy skin, localized mainly on the face (forehead, jaws) and also on the trunk and limbs. It spared the palms of the hands and soles of the feet. These rash contained a clear liquid. There were also punctiform pigmented papules, spread over the trunk and on the hands and feet and with flap desquamations (Figure 1). The temperature was 36.8°C and the weight 3010g. The child had a good general status, fed properly and had no other symptoms. The rest ofthe clinical examination was normal. The diagnosis of transient pustular melanosis was made considering, the date of onset of lesions, the coexistence of pustules on healthy skin and pigmented maculae, and the absence of any associated signs of sepsis. As differentials, we considered toxic erythema neonatorum, staphylococcal pustulosis, miliary pustulosis, and neonatal acne.

Biological investigations showed a C-reactive protein < 2mg/L, leucocytes at 10 000/mm³, hemoglobine:16g/L, platelets: 200 000 /mm³.

Culture of secretions from the papules showed no bacteria. The *Treponema pallidum* Haemagglutination Assay (TPHA) and the Veneral Disease Research Laboratory (VDRL) serology on the neonate and on the

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mother were all negative.

Topical application with aqueous eosine was done. The evolution was rapidly favourable; the papules dried and scaled off (Figure 2). One month later, the pigmented scars had totally disappeared.

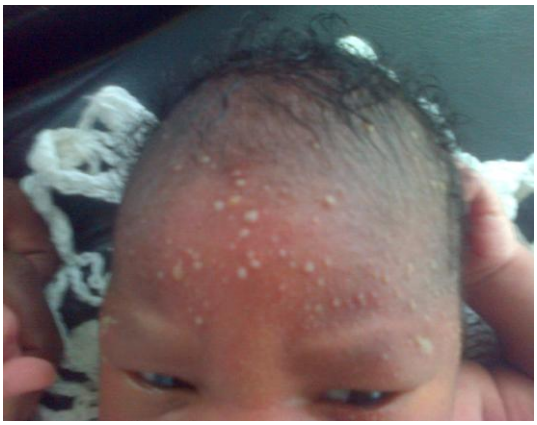

Figure 1: Pustules on the forehead

Figure 2: Complete regression of the pustules

DISCUSSION

Transient neonatal pustular melanosis is a generalized pustular non microbian dermatosis, which is relatively frequent and of unknown cause[2, 3]. It was initially described in 1961 as lentigines neonatorum and was clearly individualized in 1976 by Ramamurthy *et al* [2]. This benign dermatoses is often misdiagnosed, and affects mainly black neonates, regardless of sex[4].

The clinical picture is that of a neonatal pustular rash without any associated general symptoms[2, 5]. Extensive superficial pustules on a non-erythematous skin, appearing during the first days of life are characteristic. A bipolar predominance of lesions on the face and buttocks is frequently seen[2], [4]. The pustules rupture in a few hours,scaling off and evolving into small pigmented maculae of 0.5 to 1 cm in diameter. These maculae disappear spontaneously within 1 to 3 months[2]. The coexistence of pustules and pigmented maculae is strongly in favor of transient pustular melanosis, which is a clinical diagnosis. In case of doubt, and if available (this was not the case in our hospital), a Tzanck cytodiagnosis, which is a rapid method of cytologic diagnosis based on the analysis of the smear of the fluid got from either scrubbing or puncture of the lesions confirms the diagnosis by showing polynuclear neutrophils, which are often associated with eosinophiles[4], [5]. This technic equally permits to easily eliminate other vesiculobullous dermatosis of the neonate due to intraepidermal bullous dermatosis by acantholysis (pemphigus) or to a viral infection (herpes, varicella, zona). Skin biopsy is not contributive[6]. When carried out, it shows an intra- or sub-corneal pustulae. The dermis is either spared or is the site of a moderate polymorphic inflammatory reaction, predominantly perivascular and lymphoplasmocytic[2, 4-6].

To exclude neonatal pustulosis, it is of prime importance to first look for an infectious etiology such as congenital candidosis, bacterial pustulosis (*Staphylococcus aureus, Streptococcus B, Haemophilus influenzae, Pseudomonas aeruginosa, Listeria monocytogenes*), congenital syphilis, a viral infection (herpes, varicella, cytomegalo virus) or scabies[7, 8]. In this case, samples for bacterial (cutaneo-mucosal, blood cultures), mycological, viral and parasitologic tests as well as skin biopsies must be systematically done[9]. The other transitory non-infectious neonatal pustular dermatosis like military pustulosis, neonatal acne and infantile acro-pustulosis have to be equally discussed taking into consideration the clinical context [6-8, 10].

The nosologic framework of transient neonatal pustular melanosis is controversial. According to some authors, this pustulosis corresponds to an early form of toxic neonatal erythema, starting in-utero or immediately after birth, or after 24 to 48 hours of life[4, 10]. Toxic neonatal erythema normally presents as a rash on the body and limbs sparing the palms and soles of the feet[11]. Its diagnosis is clinical and confirmed by the Tzanck cyto diagnosis which shows predominantly eosinophiles[8,9,11]. It might be therefore difficult to differentiate between these two entities. Consequently, some authors proposed the term « sterile transient neonatal pustulosis » [11]. No treatment is needed.

CONCLUSION

Transient neonatal pustular melanosis is a relatively frequent disorder, but is often misdiagnosed. It affects mostly neonates of the black race. Its diagnosis is clinical, with a typical presentation (neonatal pustular rash, followed by a pigmentation, and then spontaneous regression over a few days or weeks). It is a benign pustular dermatosis, which regresses spontaneously, therefore requiring no treatment.

Conflict of interests

The authors have none to declare.

Informed consent

Was obtained from the patient.

Author contributions

Case management – D.A,K.T., F.S.; Patient follow-up D.A,K.T., F.S.; Literature Search – D.A,K.T.; Writing – D.A,K.T.,F.S., K.F. ; Critical Reviews – D.A,K.T.,A.C. All authors approved the final version of the manuscript.

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