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QUEST FOR THE DIAGNOSIS

A neonate with a challenging diagnosis

(Discussion and Diagnosis)



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The Case Presentation can be found on page 335.

DISCUSSION

The differential diagnosis of a newborn with vesiculopustules is broad and includes numerous infectious and noninfectious diseases. Infectious disorders to be considered should include HSV, VZV, CMV, syphilis, toxoplasmosis, rubella, candidiasis, bullous impetigo and listeriosis, additionally, noninfectious diseases such as neonatal pustular melanosis, erythema toxicum neonatorum, incontinentia pigmenti, juvenile xanthogranulomas and Langerhans cell histiocytosis (LCH), as well as neoplastic disorders including neuroblastoma and leukaemia (1,2). At initial evaluation, paediatrician or neonatologist should first rule out life-threatening infections such as neonatal herpes and varicella infections and should promptly begin acyclovir therapy and for bacterial infections ampicillin + aminoglycoside combination, as in our case. In a study conducted in France, nearly all patients with cutaneous LCH, diagnosed before three months of age, initially received acyclovir therapy before the correct diagnosis was made because of possible neonatal systemic HSV infection (3).

Histologically, biopsy from the lesions displayed Langerhans cells with ovoid, irregular or grooved nuclei with fine chromatin and one or more small nucleoli and abundant eosinophilic cytoplasm, eosinophils and scattered giant cells in dermis. Cellular infiltration stained positive for CD1a and S100 protein confirming the diagnosis of LCH.

Langerhans cell histiocytosis is characterized by a proliferation of abnormal and clonal Langerhans cells in one or more body organs (4,5). The disease is considered as a rare disease, with an annual incidence of 2,6 to 8,9 per million in paediatric patients (6–9). The disease can present at any age, although it is most often seen in infancy or early childhood, often with bone or cutaneous lesions (8). Cutaneous findings of LCH vary from vesiculopustules, which are the most common, to eczematous patches and plaques such as seborrheic dermatitis, mucosal erosions, erythematous papules, reddish brown nodules and generalized petechiae (2,4). Congenital LCH of the skin should be considered, especially in cases where a newborn appears nontoxic (2). Our patient initially presented with petechiae, vesicles and papules at the beginning, which subsequently evolved into eczematous plaques and reddish brown nodules.

When histopathological examination shows Langerhans cells, along with histiocytes and eosinophils, presumptive diagnosis of LCH can be made, a definitive diagnosis requires that lesional cells exhibit positive staining with S-100 and CD1a (5,10). As most affected site under <1 year is skin, an early skin biopsy provides a rapid and accessible means to confirm the diagnosis (8). We could have reached the diagnosis earlier and avoided the 14 days of acyclovir therapy, had we initially performed the biopsy at the same time as the Tzanck test.

The term congenital self-healing LCH, described by Hashimoto and Pritzker in 1973, has been used to describe LCH isolated to the skin that undergoes spontaneous resolution within several months. It is characterized by the presence of skin lesions at birth or in the neonatal period, absence of systemic manifestations and spontaneous resolution of the clinical picture, without any treatment, usually by three months of age (11). In our patient, the lesions regressed typically at three months of age and totally disappeared on

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the fifth month. Periodic clinical follow-up is strongly advised for self-healing LCH forms, as relapses have been reported after spontaneous resolution of congenital cutaneous LCH (2,5,12). Our patient is nearly 1 year of age, and periodic follow-up is continuing without any relapse.

As the extent of dissemination of LCH cannot be predicted with certainty, based on clinical or standard microscopic characteristics, a thorough evaluation should be performed to rule out systemic involvement. The Histiocyte Society has established guidelines to assist in the diagnosis and evaluation of LCH (5). A detailed physical examination exploring for lymphadenopathy, hepatosplenomegaly and cutaneous nodules, complete blood count, liver function panel, chest radiography, urine density, skeletal survey and abdominal ultrasound should be performed. Liver function panel, complete cell count, abdominal ultrasound and skeletal survey were performed in our patient to rule out systemic involvement, all of which were normal.

In conclusion, we think that besides acyclovir therapy for possible life-threatening HSV infection, early skin biopsy should be performed in infants having varying eruptions to authenticate the diagnosis.

DIAGNOSIS

Congenital Langerhans cell histiocytosis (Hashimato-Pritzker disease).

Fig. 1 Vesiculopustular eruptions and petechiae present over the entire body.

Fig. 2 Vesicles on lower extremities and petechia on abdomen.

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