

Nodular lesions in a newborn: what is the diagnosis?

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DESCRIPTION

Histiocytosis is characterised by the proliferation/infiltration of tissues by mononuclear-macrophage system and dendritic cells.¹⁻³ The Histiocyte Society classification system consists of five groups of diseases: Langerhans (L), cutaneous and mucocutaneous (C), Rosai-Dorfman disease (R), malignant histiocytosis (M) and haemophagocytic lymphohistiocytosis (H).⁴ The L group includes Langerhans cell histiocytosis (LCH), indeterminate cell histiocytosis (ICH), Erdheim-Chester disease (ECD) and mixed LCH/ECD, with good prognosis in the first two types (good survival rates but recurrence can occur) and poor prognosis in the last ones (60% of mortality).⁴

A term male infant was born following an uncomplicated pregnancy and delivery. The mother reports no history of prenatal infection or family history for skin disorders. At birth he presents an erythematous nodular lesion in the anterior face of the left thoraco-abdominal transition with approximately 1 cm (figure 1) and an erosive and crusted erythematous papular lesion with 0.5 cm on the left nasal mucosa (figure 2). No other significant skin or mucosal manifestations were observed, and clinical examination revealed a normal healthy baby without superficial palpable lymphadenopathy, liver or spleen enlargement. His weight and height were within normal percentiles.

The following differential diagnoses were proposed: histiocytosis, infection, congenital ulcerated haemangioma, infantile myofibromatosis or skin infiltration by tumorous metastases. A skin excisional biopsy of the trunk lesion revealed an ulcerated lesion with superficial and deep dermal infiltration by histiocytic cells; diffuse expression of CD68/CD163/S100, CD1a only in scattered cells and langerin in a very small number of cells



Figure 1 Nodule in anterior face of the left thoraco-abdominal transition. The lesion was non-blanchable, painful to the touch, adherent to the deep planes, with erythematous/violaceous colouration and superficial erosion.



Figure 2 Erosive erythematous papula with a 0.5 cm crusted surface in the nasal mucosa.

(figure 3). Based on these findings the diagnosis was ICH. Complete blood count, complete metabolic panel, abdominal ultrasound and chest radiograph were normal.

During neonatal hospitalisation he has remained asymptomatic with spontaneous involution of both lesions. The patient has been followed by paediatric oncology and dermatology, remaining asymptomatic and without signs of relapse or disease evolution at 3 years.

ICH has been reported in patients of all ages and even as a congenital disease, but is very rare, especially in the neonatal period.² ICH may be clinically indistinguishable from congenital self-healing reticulohistiocytosis, a benign variant of LCH which is more common at this age.² Clinical features include either single or multiple, asymptomatic, cutaneous papules and nodules in otherwise healthy individuals.^{1 2} In most cases, lesions are located on the trunk and extremities, and extracutaneous locations

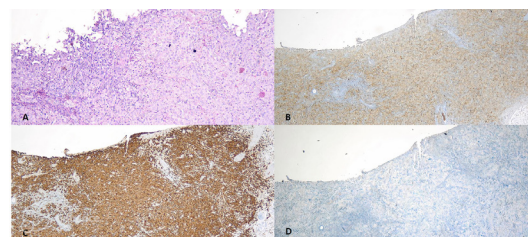


Figure 3 (A) Ulcerated lesion characterised by a dense infiltrate of large epithelioid cells with abundant cytoplasm and oval-shaped nucleus with small nucleolus surrounded by a sparse mixed inflammatory infiltrate (H&E; original magnification $\times 100$). (B) Immunohistochemistry showing positivity for S100 ($\times 40$). (C) Positivity for CD163 ($\times 40$). (D) Negativity for langerin ($\times 40$).



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have been described rarely.¹⁻³ ICH shares immunophenotypic characteristics of LCH and non-LCH (expression of S100 and CD1a), in the absence of Birbeck granules and langerin.¹⁻³ Because of low frequency of ICH, no clear drug of choice has yet emerged for its treatment. A wait-and-see approach is an option, given the indolent or even self-resolving course in the majority of cases. Total excision of solitary lesion, phototherapy, corticosteroids, thalidomide, isotretinoin, methotrexate, cyclophosphamide, pravastatin and electron beam therapy have all been proposed.¹⁻³ Although systemic involvement is very rare and given the usual spontaneous regression, long-term follow-up is essential because of the possibility for evolution to systemic disease or secondary haematological tumours.^{1,3} It is described a

possible relationship with low-grade B cell lymphoma and acute leukaemia that could appear years after the onset of ICH.¹⁻³

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Case reports provide a valuable learning resource for the scientific community and can indicate areas of interest for future research. They should not be used in isolation to guide treatment choices or public health policy.

Learning points

- ▶ Clinical presentation of indeterminate cell histiocytosis (ICH) mimics Langerhans cell histiocytosis (LCH) and non-LCH. Histology is essential to make the correct diagnosis.
- ▶ There are few cases of ICH described in the literature. The clinical presentation with congenital nodules and the evolution with usual spontaneous regression are similar to congenital self-healing reticulohistiocytosis.
- ▶ Long-term follow-up is mandatory for relapse or multisystem involvement early detection.

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