

IMAGING CASES

Erythematous lumps in a newborn: Challenges in specific settings

Nódulos eritematosos num recém-nascido: Desafios em contextos particulares

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A term female infant weighing 4190 g was born by cesarean section due to prolonged labor and meconium-stained fluid at the Bafatá Regional Hospital, Guinea-Bissau. Bag-mask ventilation was required and Apgar scores were six and eight at 1 and 5 minutes, respectively. Due to unavailability of the only neonatal resuscitation table with heating, the newborn remained with the mother. Considering the risk of sepsis, ampicillin and gentamicin were started. On the third day of life, the newborn presented with multiple firm subcutaneous nodules and plaques associated with erythema in the axillary region, posterior trunk, buttocks, and thighs (**Figures 1 and 2**), as well as irritability.

What is your diagnosis?



Figure 1 - Firm nodules in the upper region of the posterior trunk (→) and erythematous plaques in the axillary region and posterior trunk.



Figure 2 - Firm erythematous plaque on the left thigh.

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DIAGNOSIS

Subcutaneous fat necrosis

Considering the risk factors and clinical presentation with typical manifestations, the diagnosis of subcutaneous fat necrosis (SCFN) was established. In the clinical setting of a regional hospital in Guinea-Bissau, the availability of blood tests is very limited and there is no ultrasound imaging support. Therefore, blood calcium levels could not be monitored, and the clinical advice was to encourage hyperhydration through breastfeeding. As blood cultures were not available, and given the risk of sepsis, the newborn completed a seven-day course of antibiotics. She was discharged on the tenth day of life after clinical improvement, with lesions of low extent, almost imperceptible erythema, and no signs of irritability. On follow-up, one week later, the newborn was re-evaluated and showed only induration of the skin in the affected areas without erythema.

DISCUSSION

SCFN of the newborn is a relatively rare condition and clinicians are becoming increasingly aware of its diagnosis and correct evaluation.⁽¹⁾ It has been widely described in the literature as a mostly benign and self-limited condition, which was confirmed by the present clinical case.^(2,3) It usually presents with multiple firm subcutaneous nodules or plaques that may be associated with erythema on the cheeks, buttocks, back, or limbs, often sparing the anterior trunk.^(3,4) Some of the established risk factors include exposure to hypoxia, hypothermia, meconium aspiration, sepsis, gestational diabetes, and pre-eclampsia.^(2,4,5) The differential diagnosis should include sclerema neonatorum, which is usually generalized and characterized by hardening of the skin accompanied by respiratory and motor difficulties and is often associated with a poor prognosis.^(2,4)

The exuberance of the present case is uncommon and its management can be challenging without adequate resources. The diagnosis can be made through clinical presentation, medical history, and course of the disease. Possible complications, especially hypercalcemia, should always be kept in mind, as the condition can evolve to calcification, including nephrocalcinosis and nephrolithiasis.^(2,4) Due to the risk of hypercalcemia, caution should be exercised with vitamin D supplementation (especially where it is routine, which is not the case in Guinea-Bissau), suspending it until SCFN resolution. Nonetheless, most cases resolve spontaneously without relevant long-term sequelae.⁽¹⁾

In conclusion, this case highlights how prompt clinical diagnosis allows for more attentive clinical surveillance for possible complications. Furthermore, clinicians should always strive for the most accurate diagnosis, even in the absence of technological medical

resources in low-resource settings such as the one considered here.

Take-home messages

- SCFN is a rare and often self-limited condition.
- In low-resource settings, surveillance and management of major SCFN complications, namely hypercalcemia, may be difficult, but prompt diagnosis is crucial to provide appropriate clinical management with available resources.
- Spontaneous SCFN resolution without long-term sequelae is the most common outcome.

ABSTRACT

A term female newborn weighing 4190 g was born by cesarean section due to prolonged labor and meconium-stained fluid in a regional hospital in Guinea-Bissau. Bag-mask ventilation was required, and Apgar scores were six and eight at 1 and 5 minutes, respectively. On the third day of life, the newborn presented with erythematous and indurated plaques on the axillary region, posterior trunk, buttocks, and thighs, as well as irritability. The clinical diagnosis of subcutaneous fat necrosis (SCFN) was established. Due to the very limited availability of bloods tests in the considered hospital setting, it was not possible to monitor blood calcium levels. The newborn was discharged on day ten, with clinical improvement.

These cases are usually self-limited, but their management can be difficult without adequate resources. Still, SCFN should be diagnosed and managed to the best of available resources.

Keywords: newborn; poor resources; subcutaneous fat necrosis

RESUMO

Um recém-nascido de termo do sexo feminino com 4190 g nasceu por cesariana devido a trabalho de parto prolongado e líquido amniótico com mecônio num hospital regional da Guiné-Bissau. Foi necessária ventilação com insuflador e máscara e o índice de Apgar foi de seis e oito ao primeiro e quinto minutos, respetivamente. No terceiro dia de vida, o recém-nascido apresentou placas duras e eritematosas na região axilar, dorso, região glútea e coxas acompanhadas de irritabilidade e foi colocada a hipótese diagnóstica de necrose gorda subcutânea (NGS). Devido ao facto de os recursos neste contexto serem muito limitados, não foi possível monitorizar os níveis de cálcio. O recém-nascido teve alta ao décimo dia de vida, com melhoria clínica.

Estes casos são habitualmente autolimitados, mas a sua abordagem pode ser difícil sem os recursos adequados. Ainda assim, a NGS deve ser diagnosticada e orientada da melhor forma possível perante os recursos disponíveis.

Palavras-chave: falta de recursos; necrose gorda subcutânea; recém-nascido

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AUTHORSHIP

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