

may not be satisfactory and repair of this artery may be necessary.

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# Cutaneous Chloromas as the Presenting Feature of Acute Myeloid Leukemia in a Child

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### To the Editor:

We describe the case of a 10-month-old boy, born to healthy parents after a dichorionic-diamniotic twin pregnancy. He was referred to our service because, from 1 week earlier, he had developed multiple papules and erythematous nodules that converged, forming asymptomatic infiltrated plaques of several centimeters. The lesions had started on the head (forehead, cheeks,

and retroauricular area) (Figure 1), and rapidly spread to the trunk and limbs (Figure 2). According to the mother, some days earlier, he had presented a large plaque on the scalp that had disappeared spontaneously in a few days, without leaving any sequelae. In addition, there were enlarged laterocervical and inguinal lymph nodes, measuring 1 cm, in the surrounding area, but no constitutional symptoms.

Five days later, the head and trunk lesions had diminished notably without treatment, although numerous papules had appeared on the limbs. Initially and during follow-up, various laboratory tests, a chest x-ray, and an abdominal ultrasound were done, but all findings were normal or within normal limits. A deep punch biopsy was taken, with histopathological study showing a predominantly vascular superficial and deep dermal infiltrate, arranged linearly and dissecting the collagen bundles (Figure 3). The epidermis was intact; the dermis showed a tumor-free, grenz zone. The infiltrate was formed by cells of undifferentiated appearance, with large hyperchromatic nuclei and numerous atypical mitoses. Immunohistochemically, the cells were positive for myeloperoxidase, lysozyme, CD43, and CD68, but were negative for CD56, tumor cell labeling index, CD123, terminal deoxynucleotidyl



Figure 1. Initial facial lesions.



Figure 2. Generalized erythematous nodules and papules.

transferase, CD30, CD3, CD20, serum protein S-100, CD119, and CD34. Based on these findings, the patient was diagnosed with leukemia cutis (LC). Specifically, the diagnosis was chloroma, or infiltration by myeloid or granulocytic sarcoma.

The patient was referred to the reference hospital for pediatric oncology, Hospital La Fe de Valencia, Spain, where a bone marrow biopsy was taken, showing 60% blasts. Bone marrow immunophenotyping showed that the infiltrate was composed of 54% myeloid cells (CD33+ in 100%, CD13+ in 42%) and 19% neutrophils, and the final diagnosis was established as acute myelomonocytic leukemia (M4). A spinal tap ruled out the presence of blasts in the cerebrospinal fluid, and all other examinations were normal or negative (echocardiogram, electrocardiogram, cerebral ultrasound, bone scan, and infectious serology (hepatitis B and C virus, human immunodeficiency virus, herpes simplex virus, varicella-zoster virus, and toxoplasmosis)).

He received induction chemotherapy under the SHOP-LANL 2001 protocol and required 2 cycles to obtain complete remission. After the consolidation cycle, the patient underwent a transplant of hematopoietic stem cells from his HLA identical donor twin brother.

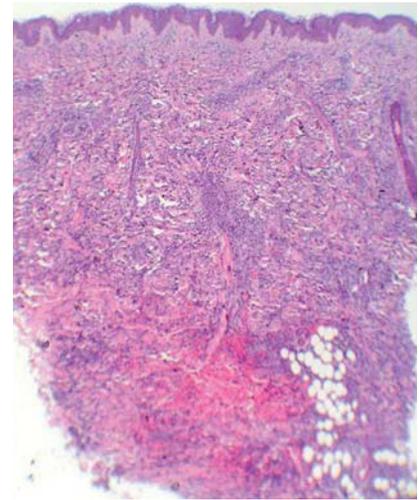
Specific leukemic infiltrates may present in various morphological forms such as papules, nodules, purpura, ulcerations, and more rarely, blisters. They may found at any site, including in areas of trauma or scars, but are more common on the head, neck, or trunk.<sup>1</sup>

LC is uncommon in childhood, with only a few cases published in children.<sup>2-6</sup> It appears more often in congenital leukemia (25%-30% of cases).<sup>2,3</sup> As in adults, it is associated with acute myeloid leukemia,<sup>4</sup> particularly in carriers of the monocyte markers M3 and M5 (10%-30%).

There is a strong association between specific cutaneous infiltration and the presence of leukemia in other extramedullary sites (cerebrospinal fluid, spleen, liver, lymph nodes, and gums). Unlike adults, in whom LC is associated with a severe prognosis, in children it does not alter the natural progression of the disease.

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**Figure 3.** Dense cellular infiltration of the dermis and subcutaneous cell tissue. (Hematoxylin-eosin,  $\times 4$ ).

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## Effectiveness of Topical Application of Nitroglycerin Spray to Increase Survival of Cutaneous Flaps and Grafts

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*To the Editor:*

Necrosis of surgical sites is a common complication in dermatological surgery that can lead to clearly obvious cosmetic blemishes, an increased risk of infection, and further surgery on occasions. Various factors are implicated in its

development,<sup>1</sup> but the main one is insufficient blood flow resulting from arterial insufficiency. Trials have been conducted with different systemic treatments, such as nifedipine,<sup>2</sup> pentoxifylline, and allopurinol, as well as topical treatments such as

prostaglandins,<sup>3</sup> minoxidil,<sup>4</sup> and nitroglycerin,<sup>5-7</sup> in order to enhance the survival of flaps and grafts, with conflicting results found in the dermatological literature.<sup>8</sup>

Nitroglycerin is a potent arterial and venous vasodilator that enhances local