Title: Subcutaneous panniculitis-like T-cell lymphoma presenting with diffuse cutaneous edema in a two-year-old child.

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To the Editor:

A 33-month-old male child was evaluated because of one-month history of fever, pallor, diffuse edema, and rapid-onset total alopecia. At physical examination he presented facial swelling, most evident in the periorbital area (fig. 1, panel A), and total alopecia. The lower extremities appeared irregularly edematous and indurated, with a marble-like erythematous rash (fig. 1, panel B) and no tenderness to pressure. Notably, there were no discrete cutaneous nodules. Blood tests revealed anemia (hemoglobin 78 g/L), leukopenia (neutrophils 0.91 $x10^9$/L, lymphocytes 1.65 $x10^9$/L), a normal platelet count (205 $x10^9$/L), mild elevation of transaminases (AST 106 U/L, ALT 77 U/L), and increased lactate dehydrogenase (2123 U/L). Inflammatory markers, serum proteins, and ferritin were normal. Chest radiography and echocardiography were unremarkable, while abdominal ultrasonography showed mild splenomegaly. Serologic tests for autoimmune and infectious diseases were negative (including Epstein Barr Virus, Cytomegalovirus, and Parvovirus B19); genetic analysis of *TNFR1* gene was also normal, excluding tumor necrosis factor receptor-associated periodic syndrome. Bone marrow aspirate and osteomedullary biopsy did not show atypical cells nor signs of hemophagocytosis. A skin biopsy of the left foot revealed a marked lymphoid infiltrate in the subcutaneous tissue, with small cells with irregular nuclei and scant cytoplasm surrounding individual adipocytes (fig. 1, panel C). Immunostaining showed a T-cell phenotype (CD3+, CD8+, CD20-, CD68R-) with a high proliferation index (Ki67+ 95%).

There was no involvement of dermal and epidermal layers and no signs of cutaneous cytophagocytosis. T-cell receptor rearrangement analysis demonstrated a monoclonal population. A diagnosis of subcutaneous panniculitis-like T-cell lymphoma (SPTCL) was made.

SPTCL is a rare form of peripheral T-cell lymphoma of the subcutaneous tissue which may both clinically and histologically mimic benign forms of panniculitis, especially lupus panniculitis, and may be associated with hemophagocytosis.[1] It is usually found in adults, while it is much rarer in children,[2] and even more in children under 3 years of age, with only 8 cases so far reported. Patients typically present with multiple erythematous, indurated, possibly ulcerated, subcutaneous nodules, most commonly on the lower extremities or trunk, often associated with systemic symptoms and laboratory abnormalities. The presence of cytopenia may be a sign of associated hemophagocytosis, yet it can be observed also in its absence.[1] Notably, our patient lacked discrete subcutaneous nodules, but rather presented with a diffuse edema of the lower extremities with a marble-like erythematous rash, which is quite unusual. He also had prominent swelling of the face, a finding already described in other cases of SPTCL in children.[3] In fact, while facial involvement is rarely reported in adults,[1] it was present in 4 of the 9 children under three years of age with SPTCL so far reported in medical literature (including our case).[2,4,5] The diagnosis may be difficult in children, in which other causes of panniculitis are far more common, therefore skin biopsy should be considered in case of persistent subcutaneous nodules with or without associated systemic symptoms. Histologically, SPTCL needs to be differentiated from benign forms of panniculitis and from other T-cell dyscrasias like cytophagic histiocytic panniculitis. Furthermore, even molecular studies for T-cell receptor rearrangement are not entirely sensitive nor specific, as monoclonal populations may be found in reactive conditions and false negative results may occur too. Pathological review in a reference centre for cutaneous lymphoid malignancies is therefore advisable.[6]

References.

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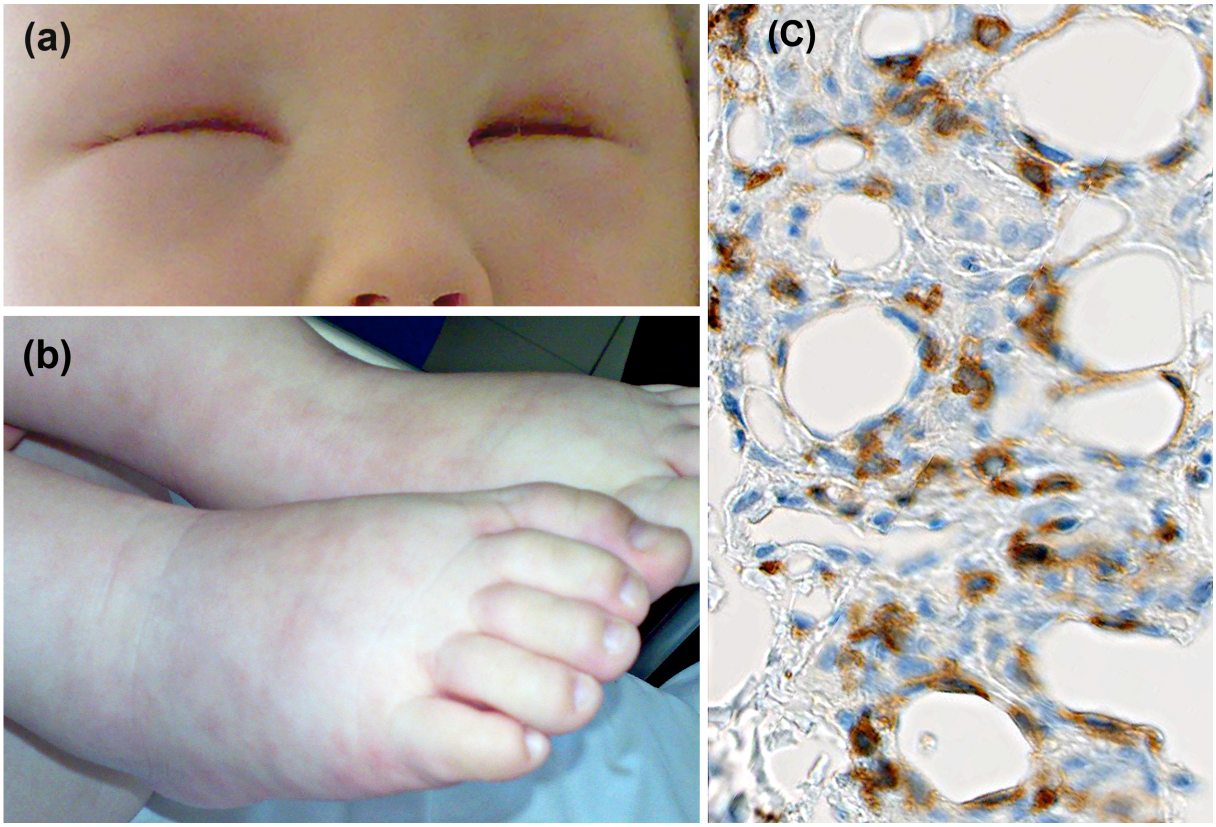

Figure legend.

1. A. Edema of the face most evident in the periorbital area. B. Indurated edema and rash of the lower extremities. C. Left foot skin biopsy (CD8 immunostaining, 40 x): CD8+ lymphocytes surrounding individual adipocytes in the subcutaneous tissue (so-called "*rimming appearance*").