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ERYTHEMA NODOSUM REVEALING *ACUTE MYELOID LEUKEMIA*

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Abstract
Introduction: Erythema nodosum (EN) is the most common type of panniculitis. It may be idiopathic or secondary to various etiologies. However, the occurrence of erythema nodosum in malignant hemopathy had rarely been reported.
Case report: A 42 year-old woman presented with a four week history of recurrent multiple painful erythematous nodules developed on the lower limbs associated with arthralgia of the ankles and fever. The clinical features of skin lesions with contusiform color evolution allowed establishing the diagnosis of EN. No underlying cause was found. The skin lesions were improved with non-steroidal anti-inflammatory drugs and colchicine. Three months later, the patient consulted for recurrence of EN associated with fever, inflammatory polyarthralgia and hepatosplenomegaly. The peripheral blood count revealed pancytopenia. A bone marrow examination confirmed the diagnosis of acute myeloid leukemia type 2. Initiation of chemotherapy was followed by the complete disappearance of skin lesions of EN.
Conclusion: Paraneoplastic erythema nodosum is a rare entity. In the literature, a few cases of association with leukemia have been reported. Exploration for solid neoplasms or hemopathy in case of recurrent EN or resistance to conventional treatment should be systematic.

Key words: erytema nodosum; malignant homeopathy; leukemia

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Introduction

Erythema nodosum (EN) is a septal nodular panniculitis, characterized by a sudden onset of painful nodules, most often on the lower limbs. The lesions show spontaneous regression, without ulceration, scarring, or atrophy, and recurrent episodes are uncommon. Cutaneous biopsy is not essential to diagnosis of EN .It may be an idiopathic entity or secondary to multiple causes (Infectious diseases, sarcoidosis, rheumatologic diseases, inflammatory bowel diseases, medication reactions, autoimmune disorders, pregnancy, and malignancies) [1]. Hematologic malignancies, particularly leukemia, are rarely implicated in the occurrence of EN [2,3]. We report a rare case of acute myeloid leukemia revealed by an EN.

Case Report

A 42 years old woman with no past medical history was hospitalized in July 2011 for painful erythematous nodules on the lower limbs, with contusiform color evolution associated with arthralgia of the ankles. The patient reported that at first, the nodules had red color. Within a few days, they become purplish to exhibit a yellow and greenish appearance within 4 weeks. There were no drug intakes, transit disorders or recent infection.

In Physical examination, she had fever of 38° C and symmetrical, tender, erythematous, warm nodules and raised plaques of 20 to 40 mm of diameter, painful on palpation and located in the anterior surfaces of the legs and extensor surfaces of the knees. The existence of painful inflammatory nodules of the lower limbs, with contusiform color evolution allowed establishing the diagnosis of EN.

Laboratory tests showed an erythrocyte sedimentation rate of 90 mm in the first hour, a C-reactive protein of 20 mg/l, a rate of fibrinogen to 3.8 g/l. Blood count, liver and renal functions were normal as well as the chest x-ray. The search for an infectious disease (blood cultures, research of Koch bacillus in blood and urine, intradermal tuberculin test, serology: antistreptolysin O, cytomegalovirus, brucellosis, chlamydia, hepatitis B and C, mycoplasma pneumoniae, rickettsia and HIV) was negative. There was no argument in favor of sarcoidosis, Behçet's disease or inflammatory bowel diseases. The patient was treated with nonsteroidal anti-inflammatory associated to colchicine and EN resolved within 3 weeks. Three months later, the patient was readmitted for a new surge of EN associated to 10kg weight-loss, asthenia and a diffuse inflammatory polyarthralgia.

Physical examination objectified a erythematous nodules, symmetrical and sensitive to palpation located in the lower limbs (Fig. 1) with hepatosplenomegaly. There was no lymphadenopathy. The blood count showed pancytopenia combining leuco-neutropenia (white blood cells at 1200 elts / mm3 and 460 elt/mm3 of neutrophils), anemia to 7.8 g / dl and thrombocytopenia (77000 elts/mm3). The bone marrow objectified infiltration (42%) by blast cells with irregular nucleus and fine nucleated chromatin. The cytoplasm was granular, sometimes with sticks of Aueur bodies . This aspect was in favor of acute myeloid leukemia type 2 according to the International French-American-British classification (FAB). Initiation of chemotherapy was followed by the complete disappearance of skin lesions of EN.

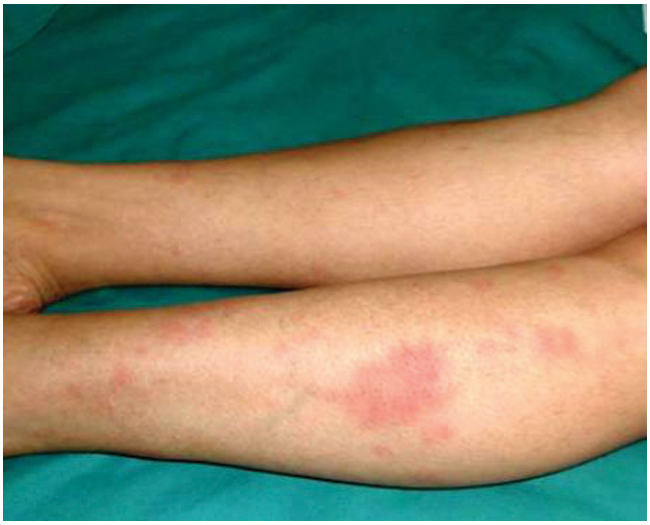

Figure 1. Typical eruption of erythema nodosum along the top surfaces of the lower legs in our patient

Discussion

In leukemia, cutaneous manifestations may be specific by leukemic infiltration or not. The non-specific lesions include mucitis secondary to chemotherapy, hemorrhagic manifestations secondary to homeostasis disturbances and infections due to immunosuppression [4]. Paraneoplastic cutaneous syndromes are rarely observed (erythema multiforme, leukocytoclastic vasculitis, pyoderma gangrenosum, Sweet syndrome and EN) [5].

In our case, we report a satellite cutaneous manifestation rarely described in leukemia. In fact, leukemia does not appear among the common causes of EN reported in large series [6,7] and inversely, EN is not described among the cutaneous manifestations in patients with leukemia [8]. Until today, only a few cases of EN occurring during leukemia have been reported in isolated cases [2,3,9-14]. Usually, the EN precedes leukemia from 1 to 12 months, but it could occur during the evolution of this malignancy [11]. In our patient, the diagnosis of leukemia was established during the second wave of EN and after a time course of 3 months.

The morphology, histologic type and distribution of skin lesions are similar in both paraneoplastic EN and EN of other or idiopathic etiology; however, it is distinguished by its recurrence, like in our patient, and its poor response to conventional therapy. As reported in the literature [2,3,9,11-14], the specific treatment of leukemia had allowed the recovery of EN. Recurrence of EN lesions announces the recurrence of the malignancy [10].

The simultaneous occurrence of EN and leukemia, the absence of other possible causes of EN, the resistance of skin lesions to conventional treatments, their disappearance under chemotherapy and after the remission of leukemia suggests a causal link.

Conclusion

The paraneoplastic EN is a rare entity. In the literature, a few cases of association with leukemia have been reported. Exploration for solid neoplasms or hemopathy in case of recurrent EN or resistance to conventional treatment should be systematic.

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