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Chemotherapy-Induced Neutrophilic Eccrine Hidradenitis in Acute Myeloid Leukemia

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Neutrophilic eccrine hidradenitis is a rare self-limited cutaneous disorder associated with chemotherapy in patients with acute myeloid leukemia. Clinical presentation is variable and histopathologic features characteristically include selective necrosis of the eccrine sweat glands with a local neutrophilic infiltrate [1]. We present a case of eccrine neutrophilic hidradenitis in a 52-year-old woman who was diagnosed with acute monocytic leukemia (M5b) according to the FAB classification [2].

Induction chemotherapy was initiated with cytarabine (100 mg/m² twice a day for 7 days) and daunomycin (60 mg/m² for 3 days). During the neutropenic period, she received a combination of ceftazidime, amikacin, vancomycin and amphotericin B. On the 11th day after beginning the chemotherapy 3 erythematous maculopapular lesions, 1 cm in diameter each, appeared in periorbital regions. Samples for organisms were negative, as were fungal, mycobacterial, and bacterial culture. The original lesions worsened, becoming larger, and even purpuric. Meanwhile, vesicular lesions improved. Microscopic examination of a 4-mm punch biopsy specimen revealed dermal edema, teleangiectasia and numerous extravasated erythrocytes in the upper dermis. A neutrophilic infiltrate was selectively located in the eccrine glands, showing necrosis of the secretory portion and vacuolar degeneration of the eccrine coils. Therefore, a diagnosis of neutrophilic eccrine hidradenitis was established. Microbiologic examinations of the biopsy specimen for bacteria, mycobacteria and fungi were again negative. After 35 days, neutropenia resolved and bone marrow examination showed complete remission. Twenty-three days after onset, facial lesions had spontaneously disappeared.

Erythematous maculopapules in patients with acute leukemia and postchemotherapy neutropenia may repre-

sent specific or nonspecific lesions. Specific lesions include leukemia cutis and granulocytic sarcoma of cutis and subcutis. Nonspecific lesions include bacterial sepsis, fungal sepsis, pyoderma gangrenosum and neutrophilic dermatoses: Sweet's syndrome, bullous pyoderma, atypical pyoderma gangrenosum and neutrophilic eccrine hidradenitis [3]. Only in neutrophilic eccrine hidradenitis do neutrophils selectively infiltrate around eccrine coils. A skin biopsy for

histological study and microbiological cultures is therefore always necessary. Harrist et al. [1] first described neutrophilic eccrine hidradenitis in a patient with acute myeloid leukemia treated with cytarabine, and they pointed out that this new entity did not correspond with skin-specific leukemic infiltration. Since then, several authors have attributed some cases of neutrophilic eccrine hidradenitis to different chemotherapeutic agents including cytarabine [4-8], bleomycin [5, 6, 9], chlorambucil [8], doxorubicin [10], mitoxantrone [11, 12], and cyclophosphamide [13], used in the treatment of several neoplasias such as acute myeloid leukemia [4, 6, 10, 12, 13], Hodgkin's disease [5, 7], chronic lymphatic leukemia [8], testicular carcinoma [6], osteosarcoma [9], metastatic breast cancer [11], and Wilms' tumor [13]. Kuttner and Kurban [14] reported a case which appeared after about 5 months' treatment with acetaminophen, in the absence of an underlying neoplasia. However, with the exception of this last case, all the patients had received polychemotherapy a few (2-28) days before the appearance of neutrophilic eccrine hidradenitis, so it is extremely difficult to discover which of these drugs was responsible. All authors agree that the disorder is a self-limited process whose prognosis is excellent, only affected by the severity of the underlying disease. All the described cases recovered in, at most, one month.

Although several authors have again recently suggested that this disease could belong to the neutrophilic dermatosis group associated with neoplasia [11], it seems that this entity could be due to a toxic reaction to several different chemotherapeutic drugs. However, the exact pathogenic mechanism by which these drugs might produce this entity is not known. Although there are no pharmacological data related to the eccrine metabolism of this type of drug [4], it has been postulated that these drugs, or their metabolites, would produce a toxic effect on, and necrosis of the eccrine epithelium, causing a release of chemotactic factors for neutrophils [6].

The potential association with antineoplastic drugs, and the risk of dermatological misdiagnosis should alert clinicians to promptly perform skin biopsies to detect this rare disorder.

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