Erythroderma: Clinical and laboratory follow up of 66 Mexican patients

Sir,
Erythroderma, first described by Hebra in 1868, is an inflammatory disorder characterized by erythema and scaling involving more than 90% of the body surface. It results from a previous skin disease (psoriasis, atopic dermatitis), drugs, underlying neoplasm; or idiopathic, with an acute or insidious onset, and prognosis frequently related to the cause, time of evolution, onset, associated diseases, and laboratory findings.[1]

We studied records of 66 patients with erythroderma, admitted to the Department of Dermatology, Hospital General de Mexico, between 1996 and 2007. Data collected from the records comprised of onset of erythroderma, time of evolution, symptoms, associated disorders, previous skin disease, drug intake, aggravating factors, and laboratory parameters (hemoglobin, total leukocyte count, erythrocyte sedimentation rate [ESR], serum proteins, creatinine, electrolytes, lactate dehydrogenase [LDH], blood glucose, liver function test, urine examination, and chest x-ray). Skin biopsies were performed in all cases; lymph node biopsy, computerized axial scan, and determination of β2 microglobulin levels were undertaken when indicated. All records selected fulfilled inclusion criteria. The mean age at onset was 44 years (range, 15-84 years). The sample consisted of 18 female and 44 male patients. In our study, erythroderma commonly showed a gradual onset, frequently related to previous dermatosis (time of evolution, 6.47 ± 3.7 months). Itching and chills were the most common symptoms in 100% and 75% of the patients respectively. The most common causes of erythroderma were a) psoriasis (46%) classified as a previous disease, b) carbamazepine for drug-related erythroderma (69%), and c) cutaneous T-cell lymphoma for underlying neoplasm. The most important laboratory results were hypoalbuminemia (75%), eosinophilia (35%), and elevated ESR (30%). High levels of LDH were often related to an underlying neoplasm. We also performed a correlation study to show a possible association of eosinophilia and high levels of LDH with paraneoplastic erythroderma (PE) and found that these parameters are frequently associated with this type of erythroderma (497.75 ± 264.64 vs. 99.55 ± 31.46 IU/L, P ≤ 0.05). There were also differences between levels of blood eosinophils in patients with and without PE (1.55 ± 0.826 vs. 0.829 ± 0.179 K/mm³, P ≤ 0.05).

Since we did not find a positive association between levels of LDH and eosinophils in patients who died during hospitalization compared with those who lived, independently of the underlying cause, these parameters seem not to be prognostic factors, but are important in association with malignant neoplasm. In patients with erythroderma related to malignancy, LDH and eosinophil levels were higher than those found in patients with erythroderma secondary to other causes. Buechner and Winkelmann[2] recognized that a high level of tissue eosinophils is a bad prognostic factor in erythroderma, because there is a greater probability of it being associated with malignancy, mainly T-cell lymphoma. Similar findings on high serum levels of LDH were arrived at by Vonderheid et al.[3,4]

Nail findings were recorded in all patients, onychodystrophy and Beau’s lines being the most frequent manifestations, probably due to the large number of cases associated with psoriasis. Skin biopsy is a helpful tool, but it always needs to be performed at more than one site to achieve diagnostic accuracy, especially in patients with gradual onset of erythroderma. Psoriasis was the most common underlying cause of erythroderma, in accordance with previous studies.[1,4]

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Keratoacanthoma like secondaries on the scalp

Sir,

Cutaneous manifestations of internal malignancy presents as paraneoplastic syndromes or as secondaries. Cutaneous metastases usually presents as multiple, discrete, painless, freely movable nodules of sudden onset, varying in color from red to bluish purple to light brown and may be the first sign of internal malignancy especially of the lung, kidney and ovaries.[1,2] Lung carcinoma presenting with cutaneous metastases accounts for 4% of all cutaneous metastases.[3]

A 48-year-old male presented with multiple well-defined discrete skin colored and erythematous 1.5-2.5 cm nodules distributed on the temporal, parietal and occipital region of the scalp of 2 months duration. Some of the nodules on the temporal and parietal region showed a central crater on its surface filled with keratin and crusts [Figure 1]. The patient having suffered from a cerebrovascular accident 6 months ago and treated by indigenous medications was the only relevant past history. The patient was a chronic smoker using about 20 cigarettes per day for the past 15 years. CNS examination showed a left sided monoplegia. Respiratory system examination showed diminished breath sounds of right lung midzone.

The only abnormality in the patient's routine laboratory investigations were a raised erythrocyte sedimentation rate (ESR) of 42 mm in first hr. Serological tests for syphilis, HIV-1 and 2 and hepatitis B and C were negative. Ultrasound abdomen did not show any lymphadenopathy or organomegaly. X-ray of the chest showed a homogenous opacity in the upper and midzone of right lung with a right basal pleural effusion. A contrast enhanced CT scan showed osteolytic lesions of the skull [Figure 2], a mass of the right lung suggestive of bronchogenic carcinoma with multiple hyperechoeic areas in the mediastinal lymph nodes, brain and right kidney suggestive of secondaries. Skin biopsy of the nodule on the scalp showed a massive infiltrate of neoplastic large polygonal cells with prominent intercellular bridges, eosinophilic cytoplasm, pleomorphic vesicular nuclei with prominent nucleoli along with abnormal mitotic figures suggestive of poorly differentiated squamous cell carcinoma from bronchogenic carcinoma secondaries [Figure 3].

Figure 1: Multiple nodules on the scalp resembling keratoacanthoma

Figure 2: CT scan showing lytic lesions on the scalp

Figure 3: Large polygonal cells with vesicular nucleus and prominent nucleoli suggestive of poorly differentiated squamous cell carcinoma, (H and E, x400)