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 β_2 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, $P \leq 0.05$). 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/mm^3, $P \leq 0.05$).

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 eosinophils 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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