

# Exfoliative dermatitis: a study from the Northeast of Iran

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**Background:** Exfoliative dermatitis is a rare disorder with several etiologic factors. The frequency of different etiologies varies in the medical literatures. The purpose of this study was to reveal the demographic characteristic and etiologies of exfoliative dermatitis in our department.

**Method:** We reviewed the records of the patients who were admitted to the dermatology ward of Ghaem Hospital, Mashhad, Iran, with a diagnosis of exfoliative dermatitis in a twenty-year period (1982-2002). Age, gender, the cause of exfoliative dermatitis, and the most probable drug cause were studied.

**Result:** Fifty-nine cases were included in the study. Male-female ratio was 1.27:1. The mean age of the patients was 50.11±19.37. The most common causes were psoriasis (40.7%), drugs (18.6%) and lymphoma (18.6%). The most common drugs that caused exfoliative dermatitis were co-trimoxazole (27.27%), carbamazepine (18.18%), and gold salts (18.18%).

**Conclusion:** The most frequent of underlying cause of exfoliative dermatitis in our series was psoriasis. Co-trimoxazole was the most common drug that caused exfoliative dermatitis.

**Keywords:** erythroderma, etiology, exfoliative dermatitis

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## INTRODUCTION

Exfoliative dermatitis or erythroderma is a rare disorder with several etiologic factors. It is defined as diffuse erythema and scaling of the skin that involves more than 90% of the body surface. The main causes of exfoliative dermatitis are psoriasis, dermatitis, cutaneous T cell lymphoma and drug reaction <sup>1-3</sup>. The frequency of different etiologic factors varies in the medical literature and most of the published series originate from western countries. The approach to patients with erythroderma depends on their previous dermatologic history. There are different reports of

the frequency of the etiologic factors but pre-existent dermatoses are the main causes of erythroderma, with a particular frequency of psoriasis <sup>4-6</sup>.

The purpose of this study was to reveal the demographic characteristics and etiologic factors of exfoliative dermatitis in our region.

## PATIENTS AND METHODS

This cross-sectional study was performed on the records of the patients who were admitted to the dermatology ward of Ghaem Hospital, Mashhad, Iran, in a twenty-year period (1982-2002). Age, gender, the cause of exfoliative dermatitis, and

the most probable medication for drug etiologies were studied. The collected data were tabulated for further analysis.

## RESULTS

Fifty-nine cases were evaluated in the study. Among them, 33 cases (55.9%) were male and 26 (44.1%) were female with a male-female ratio of 1.27:1. The mean age of the patients was  $50.11 \pm 19.58$ . The frequency of underlying causes were as follows: psoriasis in 24 cases (40.7%), drugs in 11 cases (18.6%), lymphoma in 11 cases (18.6%), unknown etiology in 10 cases (16.9%), and eczema in 3 cases (5.1%). The most common drugs causing exfoliative dermatitis were co-trimoxazole (27.27%), carbamazepine (18.18%), and gold salts (18.18%). Other known drugs were diclofenac, allopurinol, and isoniazid.

## DISCUSSION

The incidence of exfoliative dermatitis has been estimated from 0.9 to 71 per 100000 population<sup>7,8</sup>. It is more common in males than females with a range from 2 to 4: 1<sup>1,8</sup>. A wide range of different etiologic factors can cause the disease but the most common are eczema (7.5-40%), psoriasis (23-51.25%) drug reaction (10-15%), and lymphoma and leukemia (5-15%). The cause is undetermined in 7.5 to 20% of the cases in different studies<sup>2,9,10</sup>. The male to female ratio and the mean age of patients in our series were similar to many other studies<sup>2,11</sup>.

Psoriasis is considered as the most common etiology in adult cases, similar to our finding<sup>12-14</sup>. Exfoliative dermatitis may occur in two patterns in psoriatic cases; first, it may evolve as a gradual pattern in which chronic lesions become extensive and second, it may manifest itself as an unstable form of the disease that may occur abruptly following treatment withdrawal, intolerance to local treatments, or exposure to other known exacerbating factors of the disease<sup>15</sup>.

Eczema comprises 7.5-40% of the cases<sup>9,10</sup>. The most common causes are atopic dermatitis, contact dermatitis, seborrheic dermatitis and chronic actinic dermatitis<sup>15</sup>. Our result regarding eczema was similar to a report from Tunisia in which eczema comprised 7.5% of their cases<sup>9</sup>.

Although exfoliative dermatitis is not a

common type of drug reaction, it may cause serious problems<sup>15</sup>. Raksha et al, found 5 cases (2.5%) of exfoliative dermatitis among 200 cases of drug reactions<sup>16</sup>. The list of causative drugs is extensive<sup>10,17</sup>. The most common drug causes of are allopurinol, beta-lactam antibiotics, carbamazepine, gold salts, phenobarbital, phenytoin, sulfasalazine, sulfonamides, and zalcitabine<sup>15</sup>. Exfoliative dermatitis as a result of drug reaction may begin in two patterns, as an exanthematic eruption or as erythema that appears in the flexures and rapidly becomes generalized<sup>18</sup>. Nicolis et al, reported sulphonamides, antimalarials, and penicillins as the most common etiologies for exfoliative dermatitis in a study on 135 cases<sup>19</sup>; according to our findings, the agent with the greatest erythroderma-inducing effect was co-trimoxazole. This drug has been mentioned as a less frequent cause of erythroderma in other series<sup>12,19,20</sup>.

Different frequency rates of the etiologic factors in various studies can be due to different genetic sensitivity to drugs and susceptibility to diseases such as psoriasis, the culture of the community for self medication or using herbal medications<sup>7,21</sup>, the mean age of the patients that were included in the study, and current usage of drugs by physicians.

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