

Exfoliative dermatitis: clinical and etiologic study of 58 cases*

*Dermatite esfoliativa: estudo clínico-etiológico de 58 casos**

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Abstract: BACKGROUND - Exfoliative dermatitis is a cutaneous syndrome characterized by generalized exfoliation and erythema, which may be result from or be associated with pre-existing skin conditions, systemic diseases or drug reactions.

OBJECTIVE - To report the frequency of clinical features and causes associated with exfoliative dermatitis in patients seen at the Dermatology Section of the Hospital Universitário Regional do Norte do Paraná, Universidade Estadual de Londrina.

METHODS - Medical records from patients with diagnosis of exfoliative dermatitis seen at the Hospital Universitário Regional do Norte do Paraná were reviewed over a ten-year period.

RESULTS - A total of 58 patients with diagnosis of exfoliative dermatitis was assessed. Mean age was 56.89 years. The underlying disorder in 33 patients was a skin disease (psoriasis, 11 cases; contact dermatitis, 9 cases; congenital ichthyosiform erythroderma, 3 cases; seborrheic dermatitis, 5 cases; atopic dermatitis, 3 cases; pityriasis rubra pilaris, 2 cases). Drug reactions were observed in 11 patients. Etiology could not be determined in 14 cases (24%).

CONCLUSIONS - In a sample of patients attending a reference dermatology center, exfoliative dermatitis was a rare condition, and in most cases it was related to skin diseases.

Keywords: Dermatitis, exfoliative; Drug eruptions; Erythema; Psoriasis

Resumo: FUNDAMENTO – Dermatite esfoliativa é síndrome cutânea caracterizada por eritema e descamação generalizados, que pode ser consequente ou estar associada a várias doenças dermatológicas prévias, doenças sistêmicas ou reações medicamentosas.

OBJETIVOS – Relatar a frequência das diferentes causas e características clínicas associadas à dermatite esfoliativa nos pacientes atendidos no Setor de Dermatologia do Hospital Universitário Regional do Norte do Paraná, da Universidade Estadual de Londrina.

MÉTODOS – Foram revisados os registros de pacientes com diagnóstico de dermatite esfoliativa diagnosticados no Hospital Universitário Regional do Norte do Paraná no período de 10 anos.

RESULTADOS – Foi encontrado o total de 58 pacientes com diagnóstico de dermatite esfoliativa, com idade média de 56,89 anos. Em 33 pacientes, foi definida uma dermatose como causa (psoríase, 11 casos; dermatite de contato, nove casos; eritrodermia ictiosiforme congênita, três casos; dermatite seborréica, cinco casos; dermatite atópica, três casos; pitíriase rubra pilar, dois casos). Reações a drogas foram observadas em 11 pacientes. Em 14 casos (24%) não foi possível determinar a causa básica.

CONCLUSÕES – Numa amostra de pacientes atendidos num serviço de referência em dermatologia, a dermatite esfoliativa foi ocorrência pouco comum, e a maior parte dos casos estava relacionada a doenças dermatológicas.

Palavras-chave: Dermatite esfoliativa; Eritema; Erupção por droga; Psoríase

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Conflict of interest: None

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INTRODUCTION

Exfoliative dermatitis is an inflammatory skin condition characterized by erythema and scaling, involving most or all skin surface.^{1,2} It's a rare disease, its incidence being of one to 71 per 100000 dermatologic patients.¹ Its occurrence may be associated to other skin or systemic diseases and, very often, to drug use; nevertheless, sometimes the underlying cause may not be identified, even after thorough clinical investigation.³ Besides, exfoliative dermatitis may be related to neoplastic diseases, such as cutaneous T-cell lymphomas and Sézary syndrome.^{1,3,4,6}

Although mortality rates are low, morbidity related to exfoliative dermatitis is considerably high, since it is often a chronic disease, with debilitating signs and symptoms, such as intense pruritus and scaling.¹ Thus, the importance of trying to find the etiology in patients with exfoliative dermatitis, allowing early, adequate intervention for each case.

The objective of this study is to identify and analyze the main causes of exfoliative dermatitis in a sample of patients admitted at the Dermatology Section of a teaching hospital.

PATIENTS AND METHODS

Medical records of patients with diagnosis of exfoliative dermatitis seen at the Dermatology Section of the *Hospital Universitário Regional do Norte do Paraná* (HURNP), *Universidade Estadual de Londrina*, from January 1994 to December 2003 were reviewed. Based on that data (age, sex, race, clinical history, physical examination, laboratory, histopathology, treatment and outcome), the patients were classified according to clinical and histopathologic diagnosis.

The clinical diagnosis was defined as the main clinical hypothesis, considering the history, physical exam, response to treatment and outcome. The histopathologic diagnosis was defined according to the features described in the biopsy reports, subdivided as: 1. conclusive, when the pathology gave the diagnosis; 2. compatible, when it was not conclusive but highly suggestive of a diagnosis; or 3. undefined when the changes found by pathology were unspecific.

The definite etiologic diagnosis was determined in the cases where the histopathologic diagnosis was conclusive or compatible and coincident with the clinical diagnosis, as well as in those cases where there was no biopsy but the clinical diagnosis was obvious. The etiologic diagnosis was considered undetermined in the cases where the histopathologic diagnosis was unspecific or did not coincide with the clinical diagnosis.

The data was analyzed and processed using Graph Pad InStat and Excel 2000. Statistical significance was done by χ^2 test, considering 5% as significant. Fischer's exact test was used when the frequencies expected to be lower than five were analyzed.

RESULTS

Fifty-eight medical records with the diagnosis of exfoliative dermatitis were identified – in that, 37 were males, 21 females. The most prevalent age group was above 40 years, mean age at diagnosis 56.89 years (Chart 1). The main laboratory abnormalities found were anemia, hypoproteinemia, eosinophilia and a rise in serum creatinine (Table 1).

Sixty-eight biopsies were performed in 51 patients (three had two biopsies, and seven, three biopsies). The histopathologic diagnosis was classified as conclusive or compatible in 37 patients (72.54%) and unspecific in 14 patients (27.45%). The seven patients who did not have biopsies were children aged under one year, whose diagnosis of seborrheic dermatitis (four cases) and atopic dermatitis (three cases) were clinically established.

The final etiologic diagnosis according to the previously established criteria could be determined in 44 patients. The most frequent etiologies associated to exfoliative dermatitis in this study were psoriasis and drug induced eruptions, with eleven cases each. Sulfonylureas were the drugs most frequently associated with skin reactions, with three cases (Table 2).

DISCUSSION

Patients with exfoliative dermatitis usually present with a variable degree of compromise in general

GRAPH 1: Age and sex distribution of exfoliative dermatitis

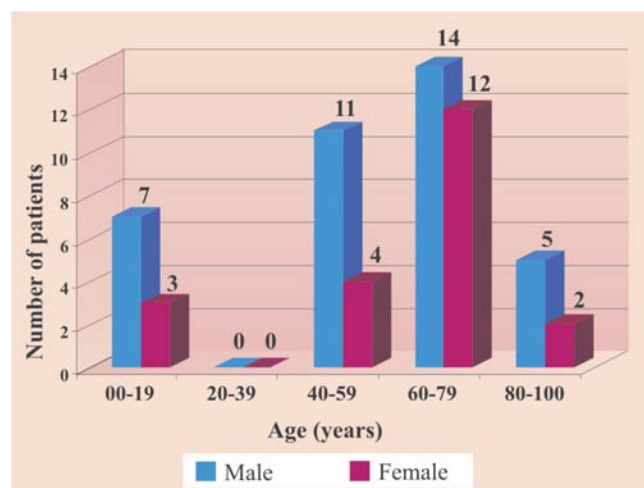


TABLE 1: Main laboratory results in patients with exfoliative dermatitis

| Laboratory results | Nº. of patients with altered results Nº. of patients assessed | % |
|-------------------------|--|-------|
| Anemia | 13/55 | 23.64 |
| Leukocytosis | 15/55 | 27.27 |
| Eosinophilia | 9/55 | 16.36 |
| Hypoalbuminemia | 17/46 | 36.96 |
| Raised serum creatinine | 7/43 | 16.28 |

health, seen in the laboratory as anemia, malnourishment and other metabolic problems. The patients of this study proved to have laboratory abnormalities such as anemia, eosinophilia, hypoproteinemia and a rise in serum creatinine.

Regarding age, it is known that exfoliative dermatitis may be found since the neonatal period,⁷ when the prevalence is low, and it is most commonly seen over 50 years.^{3,8} Previous studies also show a higher incidence in males.^{2,3,8} In this study, the subset of patients older than 40 prevailed significantly (48-58, 82.75%) as compared to the frequency of patients under that age group ($p < 0.05$). Males prevailed (37/58), but this was not statically significant ($p > 0.05$).

Identifying the etiology in every case of exfoliative dermatitis is not always possible. The correlation between the clinical presentation and the

etiology in exfoliative dermatitis is usually poor, due to the fact that changes specific to dermatosis or drug reactions are frequently masked by unspecific changes induced by exfoliative dermatitis.³ A conclusive clinical-histological correlation may thus demand several biopsies.⁹ In different international studies, the rates of final etiologic diagnosis based on histopathology varied from 15%¹⁰ to 43%¹¹ of cases submitted to biopsy. In this study, histology was useful for the final diagnosis in 37 patients (72.54% of cases submitted to biopsy). This difference seen in various studies may be due to patient characteristics, which vary in each service. Nevertheless the importance of the histopathologic examination to determine the etiology of exfoliative dermatitis is clear.

Many studies have tried to identify the causes related to exfoliative dermatitis in different populations.^{3,8,10-14} In most of them, exfoliative dermatitis was related to the exacerbation of cutaneous diseases. Pal and Haroon,⁸ studying 90 cases in Pakistan, found a defined cutaneous underlying disease in 74.4% of patients, drug reactions in 5.5%, malignancy in 5.5% and undetermined causes in 14.6% of cases. In Germany, Eugster et al.¹³ assessed 64 patients and observed that defined underlying dermatosis, followed by drug reactions, were also the most common causes, in 58% and 16% of cases, respectively. In Brazil, Vasconcelos et al.¹² assessed 247 cases of exfoliative dermatitis and observed that psoriasis was the most frequent underlying disease (44.9%), followed by drug reaction (7.3%). The present study corroborated such data – skin disease was the most common cause (75% or 33/44 of cases with a defined etiology), this finding being significant in regard to non dermatologic causes, which corresponded to $p < 0.05$.

Of the cutaneous diseases, psoriasis was the most common underlying disease found in this study (18.97%), although not statistically significant when compared to other skin conditions ($p > 0.05$). Other studies also showed psoriasis as the most prevalent causal dermatosis in exfoliative dermatitis,^{3,10,12} what may turn it into the main cause of exfoliative derma-

TABLE 2: Exfoliative dermatitis per etiology

| Causes | Number | % |
|---------------------------------------|--------|-------|
| Skin conditions | | |
| Psoriasis | 11 | 18.97 |
| Contact dermatitis | 9 | 15.52 |
| Seborrheic dermatitis | 5 | 8.62 |
| Atopic dermatitis | 3 | 5.17 |
| Congenital ichthyosiform erythroderma | 3 | 5.17 |
| Pityriasis rubra pilaris | 2 | 3.45 |
| Total | 33 | 56.89 |
| Drug reactions | | |
| Chlorpropamide | 1 | 1.72 |
| Glibenclamide | 1 | 1.72 |
| Glimepiride | 1 | 1.72 |
| Piroxicam | 1 | 1.72 |
| Sulfone | 1 | 1.72 |
| Hydrochlorothiazide | 2 | 3.45 |
| Flue vaccine | 1 | 1.72 |
| Undefined drug | 3 | 5.17 |
| Total | 11 | 18.97 |
| Undetermined | 14 | 24.14 |
| Total | 58 | 100 |

titis. On the other hand, the fact that this study was developed at a hospital that is a referral center for the use and free dispensing of systemic retinoids may have contributed for the selection of patients with more severe psoriasis.

In the group of drug-reaction-induced dermatitis, the most common drugs are allopurinol, carbamazepine, penicillin, gold and isoniazid, but many different classes of drugs may be responsible for the disease.^{1,3} In this series, sulfonylurea was the most frequently involved drug, with three cases. There are frequent reports of neoplasm-associated exfoliative dermatitis, including gastric carcinoma, laryngeal carcinoma, lymphomas (Hodgkin's, non-Hodgkin's, cutaneous T-cell lymphoma) and hematological disorders (leukemias and myelodysplasias), although no such cases were seen in this

study.^{1,2,4,5} This may be due to the service characteristic, which does not provide specific care for cancer patients who are seen at an oncology hospital nearby.

Even after exhaustive investigation, there were cases in which the etiology of the exfoliative dermatitis remained uncertain. In cases with undetermined cause, strict clinical and histological follow-up are mandatory, due to the possibility of omission of drug intake or slow progression of cutaneous lymphoma.³

CONCLUSION

At the *Hospital Universitário da Universidade Estadual de Londrina* (HURNP), exfoliative dermatitis is an uncommon syndrome, most patients being over 40 years and most cases associated to preexisting skin conditions. □

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