

Prevalence of psoriasis in a study of 261 patients with vitiligo* *Prevalência de psoríase em estudo de 261 pacientes com vitiligo**

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Abstract: BACKGROUND - A study about the association of psoriasis and vitiligo is necessary due to possible immunologic origin of these diseases and their susceptibility loci found on chromosome 1p31.

OBJECTIVE - The main objective was to determine the prevalence of psoriasis among patients with vitiligo in a sample of 740 patients submitted to phototherapy and to describe their clinical features.

METHOD - Out of 740 patients, 261 were retrospectively studied and analyzed regarding the association of vitiligo and psoriasis, from 2000 to 2004.

RESULTS - The prevalence of this association in our survey was 3.06%, which is similar to other previous studies. We identified two cases not reported in our literature review: a) the association of psoriasis, vitiligo and halo nevus, b) the association of segmental vitiligo and psoriasis.

CONCLUSIONS - The association of vitiligo and psoriasis has not been often reported, and further studies on the pathophysiology and genetics of this association are necessary

Keywords: Nevus, pigmented; Psoriasis; Vitiligo

Resumo: FUNDAMENTOS - O estudo da associação de psoríase e vitiligo é necessário em razão das prováveis origens imunológicas dessas enfermidades e da proximidade de loci encontrados no cromossomo 1p31.

OBJETIVOS - O propósito principal foi determinar a prevalência de psoríase em pacientes com vitiligo em amostra de 740 pacientes submetidos à fototerapia em Curitiba, PR e descrever suas características clínicas.

MÉTODOS - Dos 740, foram estudados retrospectivamente 261 pacientes com diagnóstico de vitiligo, e analisados aqueles com associação de vitiligo e psoríase no período entre 2000 e 2004.

RESULTADOS - A prevalência dessa associação neste trabalho foi de 3,06%; semelhante à de outras pesquisas anteriores. Foram identificados dois casos dos quais não se encontrou relato em revisão da literatura: a) a associação de vitiligo, psoríase e halo nevo; b) a associação de vitiligo segmentar e psoríase.

CONCLUSÕES - A associação de vitiligo e psoríase tem sido raramente relatada, sendo ainda necessários estudos sobre a fisiopatologia e a genética dessa associação.

Palavras-chave: Nevo pigmentado; Psoríase; Vitiligo

INTRODUCTION

The occurrence of psoriasis in patients with vitiligo has not been often described.^{1,3} Vitiligo and psoriasis are common conditions with a prevalence of approximately 1% and 3%, respectively,^{4,5} and may be present in the same individual. Patients with vitiligo and psoriasis may have the Koebner phenomenon; Papadavid et al.³ suggested the coexistence of both diseases would result from a mechanical cause due to this phenomenon and would also be related to genetic and environmental factors.

In 1982, Koransky and Roenig carried out a literature review and presented 25 cases of vitiligo associated with psoriasis; in that, seven patients were included in the three-year review of their own cases. Most patients initially had vitiligo. Psoriasis affected areas of vitiligo and extended to other areas. The

authors considered this association was not very rare, but rather little reported.¹

Vitiligo is probably due to a heterogeneous process in which multiple factors influence in the biological behavior of melanocytes. Despite its uncertain etiology, the most prevalent theory is related to autoimmunity.⁶

The increased incidence of presumably autoimmune diseases in patients with vitiligo and psoriasis is interpreted as an evidence of the autoimmune origin of these two conditions.⁷

In 1989, Menter et al. reported the first possible case of psoriasis guttata restricted to areas of vitiligo.²

In 1998, Dhar and Malakar described the first

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likely case of vitiligo associated with psoriasis in a pediatric patient, a 9-year old boy.⁸

Cases of vitiligo after Puva⁹ and narrow-band UVB therapy were reported,¹⁰ affecting exactly the original areas of psoriatic plaques.

The main objectives of this study were to determine the prevalence of psoriasis in patients with vitiligo, in a sample of 740 individuals with several skin conditions treated by means of phototherapy, as well as to describe their clinical characteristics and associations with other diseases of probable allergic or autoimmune origin. The secondary objectives were to determine the total number of patients presenting only vitiligo or psoriasis in this sample and to compare data regarding patients with vitiligo, associated or not associated with psoriasis.

MATERIAL AND METHODS

A retrospective, cross-sectional and comparative study was performed and data of 261 patients with vitiligo of all clinical forms were collected, among 740 patients submitted to phototherapy. The patients were seen at the Phototherapy Outpatient's Clinic of the Dermatology Service of Santa Casa de Curitiba and in the private office of the author, from August 2000 to March 2004. For analysis, the patients were divided according to presence or not of psoriasis.

The following variables were analyzed in patients with vitiligo: age at onset, sex, skin phototype, race, duration of disease in years, status of the disease in the first appointment, presence of commonly associated conditions, positive family history, Koebner phenomenon and poliosis, and possible associations with psoriasis. All data related to history and physical examination of patients with vitiligo were collected and some pieces of information were confirmed or completed by telephone calls.

Based on characteristics of the study, established objectives, literature and previous scientific knowledge, the sample size was estimated considering a maximum type I error (alpha) of 5%, with a minimum estimated power test of 90%; power test varied according to proportions studied within the limits indicated. All data collected and stored in electronic or conventional medical charts were typed or exported to the software Statistica.

The statistical tests were selected according to distribution of variables and their independent nature, and applied in analyses performed to compare the two groups: patients with vitiligo associated or not associated with psoriasis. In univariate analysis of continuous variables in normal distribution, the parametric Student's *t* test was applied; whereas for asymmetric distribution of variables, the non-parametric

tests were used, such as Mann-Whitney test and Pearson's chi-square test. The non-parametric tests were also applied due to asymmetric sample size in each subgroup.

RESULTS

Out of 740 patients submitted to phototherapy, 261 (35.27%) were diagnosed as having vitiligo, which was the second most frequent skin condition, ranking after psoriasis that affected 44.72% of cases (Graph 1). One clinical form of the disease, segmentar vitiligo, was identified in 40 cases, accounting for 15.3%. Vitiligo associated with psoriasis was observed in 9 patients, corresponding to 3.44% and 2.71% of vitiligo and psoriasis cases, respectively. Only one case of segmentar vitiligo had associated psoriasis.

The median age was 34 years, range of 4-78 years for patients with vitiligo not associated with psoriasis, and 32 years, range of 14-75 years, for patients with associated psoriasis. There was no statistically significant difference between the two groups.

Group with vitiligo not associated with psoriasis

This group comprised 252 patients, 150 (59.52%) females and 97 (38.49%) males. There was no data available on sex for five patients. The median age was 34 years (range 4-78 years). As to race, 239 (94.84%) were white; 3 (1.19%) mulatto; 3 (1.19%) oriental; 4 (1.58%) black; and 2 patients had not been classified. As to skin type, 187 (74.20%) were type III; 31 (12.30%) type II; 19 (7.53%) type IV; 5 (1.98%), type V; and one (0.39%) type VI; nine patients had no defined phototype.

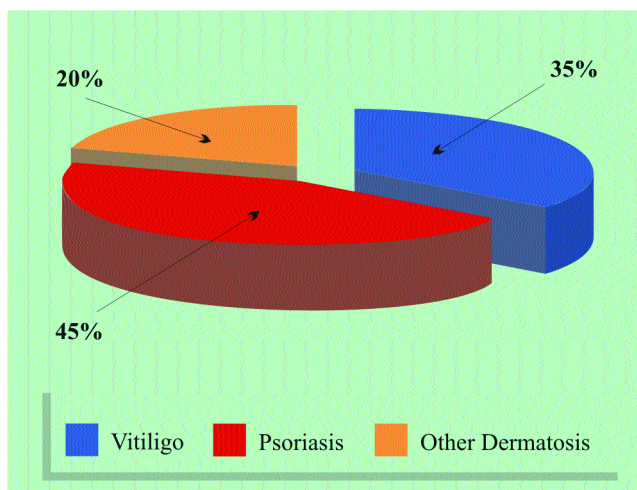
Regarding co-morbidities in patients with vitiligo not associated with psoriasis, allergic rhinitis was observed in 23.01% (58); thyroid diseases in 11.90% (30); asthma in 9.52% (24); halo nevus in 3.17% (8), atopic dermatitis in 3.17% (8); diabetes *mellitus* in 1.98% (5), alopecia areata in 1.98% (5), rheumatoid arthritis in 1.19% (3) and scleroderma in 0.39% (1).

A positive family history of vitiligo was verified in 25.39% (64). In the first appointment, the condition was progressing in 37.30% (94); stable in 40.47% (102); and regressing in 9.92% (25).

The Koebner phenomenon was positive in 72 (28.57%) cases, and poliosis was observed in 92 (36.50%) patients.

The affected areas in these patients with vitiligo not associated with psoriasis were head (36.50%), face (31.74%), hand (19.04%), lower limbs (12.69%), upper limbs (8.73%), foot (9.52%), genital area (7.14%), chest (6.34%), neck (6.34%), abdomen (7.14%), back (5.15%), mouth (2.77%), axilla (3.96%), elbow and knee (4.76%) and hip (2.38%). In 9.92% (25) of patients vitiligo was classified as generalized.

GRAPH 1: Distribution of skin conditions found



Group with vitiligo associated with psoriasis

A total of nine patients presented vitiligo with associated psoriasis, 6 males and 3 females. The median age was 32 years (range 14-75 years).

As to skin type, there were four type III; one type II and one type IV; this information was not available for three patients.

In relation to diseases associated with vitiligo with psoriasis, there was only one case of allergic rhinitis and one of asthma.

One patient had a positive family history for vitiligo. In the first appointment, the disease was progressing in two cases and regressing in one. The

Koebner phenomenon was positive in three cases, and poliosis was observed in four individuals. These data were available for only six out of nine patients suffering from vitiligo associated with psoriasis.

The affected areas were head (4), face (2), lower limbs (1), upper limbs (1) and vitiligo was generalized in one case.

In three patients psoriasis initiated before vitiligo and, in five cases, vitiligo was first observed. Six patients presented psoriatic areas not coinciding with the anatomical location of vitiligo, whereas two individuals had psoriasis lesions restricted to vitiligo patches and non-coinciding plaques. There were no such data available for one patient.

Comparing the groups with vitiligo associated or not associated with psoriasis

No statistically significant differences were found in both groups (Table 1).

DISCUSSION

There is no report in the literature on the association of psoriasis and segmentar vitiligo, possibly because of diverse etiologies of common and segmentar vitiligo. In this study, one patient had segmentar vitiligo associated with psoriasis affecting the trigeminal dermatome. This patient first presented psoriasis and later, vitiligo, and both conditions did not simultaneously affect the same skin site. This is probably the first report of this association in the indexed literature.

Halo nevus is a melanocytic nevus surrounded

TABLE 1: Characteristics of the groups of patients with vitiligo associated or not with psoriasis

	Vitiligo with no associated psoriasis (n = 252)	Vitiligo with associated psoriasis (n = 9)	p
Sex			
Male	150 (60.73%)	06 (66.66%)	0.18*
Female	97 (39.27%)	03 (33.33%)	
Age	34 (4 - 78)	34 (14 - 78)	1.00**
Co-morbidities			
Allergic rhinitis	58 (23.02%)	01 (11.11%)	0.66*
Thyroid diseases	30 (11.90%)	0	0.56*
Asthma	24 (9.52%)	01 (11.11%)	0.67*
Halo nevus	08 (3.17%)	0	0.65*
Atopic dermatitis	08 (3.17%)	0	0.65*
Diabetes <i>mellitus</i>	05 (1.98%)	0	0.41*
Alopecia areata	05 (1.98%)	0	0.41*
Rheumatoid arthritis	03 (1.19%)	0	0.20*
Scleroderma	01 (0.40%)	0	0.84*
Positive family history of vitiligo	64 (26.78%)	01 (16.67%)	0.93*
Positive Koebner phenomenon	72 (30.0%)	03 (50.0%)	0.29*
Poliosis	92 (38.82%)	04 (66.67%)	0.16*

* Pearson's chi-square test

** Mann-Whitney test

by a concentric depigmentation area. The nevus regresses due to a combination of immunologic factors, possibly because of an auto-immune process mediated by T-cells against antigens of the nevus.¹¹ One patient of this sample had halo nevus associated with vitiligo and psoriasis. No similar association was found in the literature review.

In 1980, El Mofty & El Mofty reported 22 associations of vitiligo and psoriasis in 821 patients suffering from vitiligo,¹² with a prevalence of 2.67%, which is lower than that found in the present study, i.e., 3.06%. However, this difference is not statistically significant ($p = 0.34$). Both studies confirmed the prevalence of psoriasis in patients with vitiligo to be statistically similar to that in the general population (3%).⁴

In that study, the authors identified a trend towards more frequently positive Koebner phenomenon in patients with the association of vitiligo and psoriasis, but also considered the scarce number of cases presenting such association. Papadavid et al.³ stated that in cases of psoriasis limited to areas of vitiligo, their co-existence could result from Koebner phenomenon. In the present study, no patient presented psoriasis strictly limited to areas of vitiligo.

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