CASE REPORT

Epidemiological, clinical and histopathological characteristics based on HLA alleles in patients with a diagnosis of psoriasis treated at the external dermatology consultation of polyclinics of the" Caja Nacional de Salud" from La Paz, Bolivia during 2018—2020.

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Key words: Psoriasis, psoriasic arthritis, HLA alleles

Reception date: 18/11/2022
Acceptance date: 02/05/2023

ABSTRACT

Objective: Describe the epidemiological, clinical and histopathological characteristics based on the HLA alleles found in patients with a diagnosis of psoriasis treated in the dermatology outpatient clinic of the polyclinics of the "Caja Nacional de Salud" of La Paz, Bolivia during the period 2018—2020.

Method and instrument: A descriptive observational case series study was carried out. The sample consisted of 35 patients with psoriasis. The characteristics found in the patients based on the HLA alleles found were described.

Results: Most of the patients were men between 40 and 60 years of age. The most common clinical presentation was vulgar psoriasis, with a greater association of HLA alleles and accompanied in 4 cases by nail involvement. In all histopathological studies the presence of hyperkeratosis and parakeratosis was described, only in 22.9% Kogoj pustules and munro microabscesses were observed. The most frequently found alleles were DR4, DR7 and DRB1 belonging to psoriasis with or without arthritis. There was only one patient with psoriatic arthritis with B39 allele, and one patient with B27 allele without arthropathy. Of the total number of patients, 6 of them had systemic arterial hypertension.

Conclusions: The highest number of DR4, DR7 and DR*B1 type alleles found was in patients with vulgar psoriasis with the largest affected body area. Only one patient with psoriatic arthritis presented the B39 allele, contrary to the literature in which psoriatic arthritis is associated with the B27 allele.

INTRODUCTION

Psoriasis is a chronic, relapsing, inflammatory dermatosis characterized by well-demarcated erythematosquamous plaques of variable shape and extent caused by epidermal hyperplasia and accelerated keratopoiesis.[1]

The prevalence is 1-6% in the world population, affects men and women equally, occurs at any age, but its onset predominates between 18 and 50 years of age. It is influenced by racial, geographic and environmental factors.[2]

Psoriasis occurs in all latitudes and accounts for 3-5% of cases in common dermatological practice. Approximately 25% of psoriatic patients present with moderate to severe forms.[2]

The etiology is unknown, however multiple studies relate psoriasis to environmental, immunological and genetic factors. It has also been related to various histocompatibility antigens (HLA) which today is used as a prognostic for the disease.[3,13,15]

Psoriatic arthropathy is a common extracutaneous manifestation in susceptible patients with a specific HLA typing allele. This type of arthropathy can become erosive and potentially destructive and according to some studies occurs in 5% to 30% of cutaneous psoriasis.[6-9]

Currently, there is no curative treatment for psoriasis, however, there is a range of therapeutic options to control outbreaks. Some drugs act against epidermal hyperproliferation and others in the regulation of immune alteration, this will depend on whether the psoriasis is localized or generalized, according to the body surface area involved.[20,25,26]

Treatments currently employed include keratolytics, topical corticosteroids, affordable immunomodulators, low-dose PUVA phototherapy and biological agents.[21,27]

However, so far the key to successful treatment is the assessment of the patient's lifestyle, education and emotional support.[22,31]

MATERIALS AND METHODS

A descriptive observational cross-sectional case series study of patients with a diagnosis of psoriasis seen in dermatology outpatient clinics of the polyclinics of the "Caja Nacional de Salud" of La Paz, Bolivia during the period 2018-2020 was conducted.

We studied 35 patients older than 10 years of age of both sexes diagnosed with psoriasis, 16 of whom had a positive HLA allelic profile for psoriasis.

RESULTS

Of the 35 patients studied, 28 of them had psoriasis of the vulgar type (Figure 1), accompanied by nail involvement and prevalent in males (Table 1). In turn, psoriasis of the vulgar type had the highest allelic representation found in the HLA profiles of the patients, followed by guttate type (Table 2). In addition, it was observed that the underlying pathologies do not go hand in hand with the allelic profile, since, of the 16 patients with HLA, only 3 had systemic arterial hypertension (Table 3).

The most representative ages with a positive allelic profile for psoriasis were between 40 and 59 years, both in women and men (Table 4) and those patients with extensive involvement of the body surface, upper and lower extremities and trunk, were in one of the 3 groups with positive HLA typing for psoriasis (Table 5).

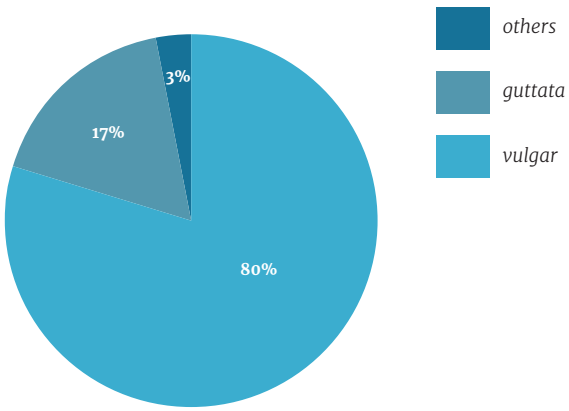

Figure 1. Clinical presentation of patients with psoriasis

Table 1. Nail involvement in the types of clinical presentation in patients with psoriasis.

NAIL INVOLVEMENT	TYPE OF CLINICAL PRESENTATION			
	VULGAR	GUTATTA	OTRAS	TOTAL
YES	4	0	0	4
NO	25	5	1	31
TOTAL	29	5	1	35

Table 2. Clinical presentation based on HLA alleles in patients with psoriasis.

TYPE OF CLINICAL PRESENTATION	HLA					
	B39 OR B38	DR4 OR DR7 OR DRB1	B27	NO STUDY	DISCARDED	TOTAL
VULGAR	4	8	0	12	5	29
GUTTATA	1	2	1	1	0	5
PALMAR	0	0	0	1	0	1
TOTAL	5	10	1	14	5	35

Table 3. Background pathology and HLA alleles in patients with psoriasis

HLA	BASELINE PATHOLOGY		
	YES	NO	TOTAL
B39 OR B38	1	4	5
DR4 OR DR7 OR DRB1	2	8	10
B27	0	1	1
NO STUDY	3	11	14
DISCARDED	0	5	5
TOTAL	6	29	35

Table 4. HLA alleles by sex and age in patients with psoriasis.

ALLELOS	FEMALE			MALE			
	10-39 YEARS	40-59 YEARS	>60 YEARS	10-39 YEARS	40-59 YEARS	>60 YEARS	TOTAL
B39/38	1	0	0	0	3	1	5
B27	0	0	0	0	1	0	1
DR4 OR DR7 OR DRB1	1	4	0	0	1	4	10
DISCARDED	0	1	0	0	4	0	5
NO STUDY	1	1	6	1	0	5	14
TOTAL	3	6	6	1	9	10	35

Table 5. Affected body areas and HLA alleles of patients with psoriasis

BODY AREAS AFFECTED	HLA					
	B39 OR B38	DR4 OR DR7 OR DRB1	B27	NO STUDY	DISCARDED	TOTAL
UPPER EXTREMITIES	1	0	0	0	0	1
LOWER EXTREMITIES	0	1	0	1	0	2
UPPER AND LOWER EXTREMITIES	1	3	0	2	3	9
UPPER EXTREMITIES, LOWER EXTREMITIES, TRUNK	2	4	1	9	2	18
HEAD, EXTREMITIES AND TRUNK	1	2	0	1	0	4
PALMAR	0	0	0	1	0	1
TOTAL	5	10	1	14	5	35

DISCUSSION

The problem studied was to determine the characteristics of patients with psoriasis whose object was to describe the epidemiological, clinical and histopathological characteristics based on HLA alleles of patients diagnosed with psoriasis, with a study population of 35 patients.

In the study, greater involvement was observed in male patients over 60 years of age. In the study conducted by Farroso, it was observed that psoriasis affects men and women equally in two peaks, in the 2nd decade of life and after the age of 503.

In another 3-decade population-based study by Cañarte and collaborators, a higher incidence was found in men with a predilection age in the sixth decade of life.[5]

The predilection of clinical presentation in the study was vulgaris in both sexes and in turn with a greater association to a psoriatic arthritis allele.

In two studies, by Gonzales and Kogan, more than 70% of the patients presented psoriasis vulgaris, 26.7% of them with nail involvement and 19% with psoriatic arthritis.[4,7,18]

Of the patients with histopathology, 22.9% showed Kogoj pustules and munro microabscesses. In the studies of Hernandez and Kim, histologically 100% of the patients presented hyperkeratosis and parakeratosis and only 9.4% and 55%, respectively, with microabscesses of munro and spongiform pustules of Kogoj.[19,29,23]

About the alleles found in the HLA of the patients, 3 groups of alleles were found with different characteristics based on the course of psoriasis. The first group of alleles is B39 and B38 with presence of development of polyarthritis with severity and progression of the disease, the 2nd group with alleles DR4, DR7 and DRB1 of psoriasis with or without arthritis and the 3rd group of allele B27, with development of psoriatic arthritis. In the study, the representative alleles were DR4, DR7 and DRB1. The literature indicates that HLACw6 is the most related to guttate-type psoriasis.[1,15]

Another detailed analysis in 2 Chinese populations identified an association of HLA-B*57 with an increased risk of psoriasis.[14,17]

Garcia and collaborators determined the association of HLA-B27 with greater predilection in males, with psoriasis vulgaris and with greater affected body area, results similar to the study conducted at.[29,30]

In three studies on extracutaneous manifestations, 8.1% of 1560, 17.5% of 442 and 7.7% of 936 patients had psoriatic arthropathy. In our study there was only 1 patient out of 35 with psoriatic arthritis. Wilson et al. consider that this variability is associated with the fact that the patients came from dermatology and not from rheumatology.[7,9,10,12,24]

Of the 35 patients studied, 6 had systemic arterial hypertension. Similarly, in the studies by Acosta, Anselmi and Han, the most frequent associated comorbidity was arterial hypertension.[6,11,16,28]

CONCLUSIONS

The present study demonstrates that psoriasis vulgaris is the most frequent clinical presentation with nail involvement in men over 40 years of age.

The predominant group of alleles in HLA typing were DR4, DR7 and DRB1 corresponding to psoriasis with or without arthritis, distributed equally with 5 cases in male and female. The highest representation of these alleles was in patients with psoriasis vulgaris and with large involvement of the affected body area. In turn, 3 of these patients had systemic arterial hypertension as comorbidity. There was only one patient with psoriatic arthritis with the HLA-B39 allele. On the other hand, there was one patient with the HLA-B27 allele who had no signs of inflammatory joint disease.

It should be considered that psoriatic arthritis is a rapidly progressing and severe arthropathy, which, although there is no early clinical manifestation, can be identified by HLA typing, thus delaying its progression and providing a better quality of life for the patient.

CONFLICT OF INTEREST

The authors declare that they have no conflicts of interest.

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