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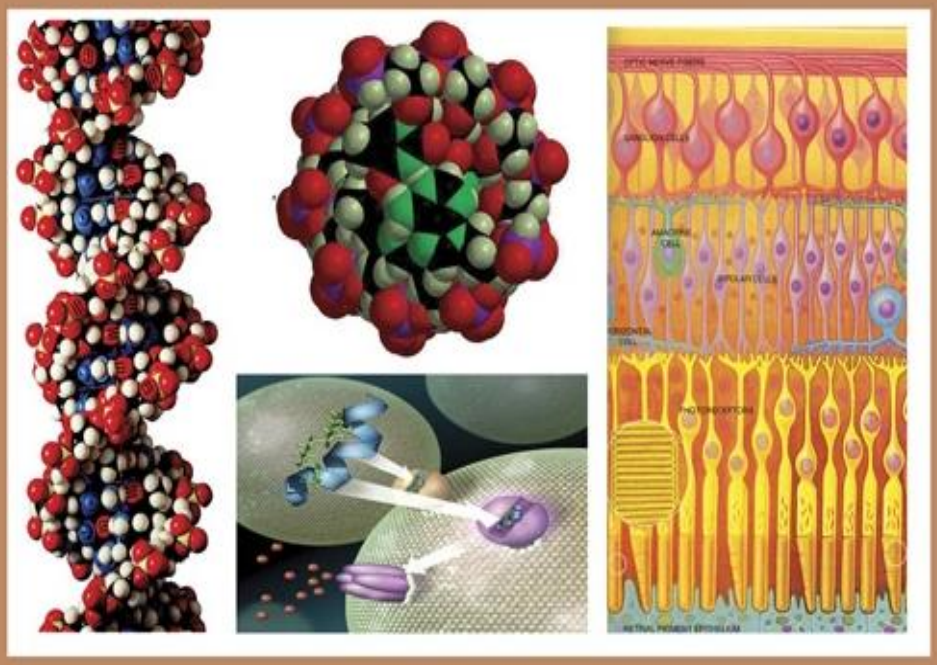

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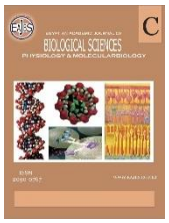

Psoriasis: Epidemiology, Etiopathogenesis, Clinical Aspects and Treatment (about 87 cases): Sidi-Bel-Abbés City Algeria

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ABSTRACT

Psoriasis is an autoimmune and inflammatory disease that affects the skin cells and is characterized by the presence of plaques covered with squamous. The aim of this study is to determine the epidemiological, ethiopathogenic and therapeutic profile of a psoriatic population. To this purpose, we conducted a retrospective clinical study on 87 psoriatic patients, the parameters under consideration are: sex, age, socio-economic level, personal and family history, disease history (age and site of beginning, triggering factors and symptoms of beginning, type of psoriasis) and therapeutic strategy. Our results showed that psoriasis affects both sexes equally, as it can appear at any age, although it manifests itself preferentially between 21 and 60 years-old , especially in the following populations: urban (60.90%), smokers (44.8%), those with an autoimmune and/or metabolic pathology (50.5%), family character of psoriasis (9.2%). Similarly, medication (32%), stress (17.2%) and psycho-affective shock (11.4%) are the major triggering factors. This pathology is mainly manifested by pruritus (41.4%), of which (71%) of patients have a vulgar type. The therapeutic strategy was rotational between the different therapeutic weapons with a dominance of partial response (43.7%) to therapies.

INTRODUCTION

Psoriasis is a chronic inflammatory skin affection, most often benign and of low to moderate intensity, Psoriasis is a disease of the skin, sometimes severe, characterized by a proliferation of epidermal cells forming one or more well-defined red patches at the level of areas of friction of the skin. The prevalence of psoriasis is estimated at 1 to 5% depending on geographical location (Michalek *et al.*, 2017) .Psoriasis can be of genetic origin ~~this known as~~ and various environmental factors such as smoking, stress, bacterial or viral infections, drug intake can initiate or aggravate the disease (Lam Hoai *et al.*, 2018). Psoriasis is associated with many comorbidities that are believed to have a common origin in systemic inflammation: metabolic syndrome, increased cardiovascular risk, obesity and hypertension.

The diagnosis and management of the latter are essential, as they are responsible for a decreased life expectancy (Teklu *et al.,* 2021).

This skin affection is characterized by a hyper proliferative disorder of the skin, with unknown etiology and by a production of reactive oxygen species due to the activation of the tumor necrosis factor alpha (TNF-α), which is considered to be an important factor in the induction and maintenance of psoriatic lesions (Suomela *et al.*, 2003). In this context and on the basis of these data, we were interested in estimating the frequency and epidemiological profile of psoriasis, detecting the comorbidities associated with this disease, identifying the various clinical and para-clinical aspects and evaluating the efficacy of the treatment.

MATERIALS AND METHODS

This was a descriptive, retrospective and cross-sectional clinical study carried out in the dermatology department of the University Hospital of Sidi-Bel-Abbés region (Western Algeria), on 87 patients followed for histologically proven psoriasis, over a period of 28 months. Different variables were studied: The statistical study was carried out with IBM SPSS Statistics version 20 software.

RESULTS

General Characteristics of The Study Population:

The general characteristics of our population are shown in Table 1. Our results showed a very equal distribution of psoriatic patients according to gender, regarding the age of the patients at the consultation time varied between 6 years old to 85 years old with an average of 34.69± 17.73 years old, the cases distribution by decade revealed a peak for the age group (41-50 years old). According to our results 60.9% of the patients have an urban origin, and 39.1% have a rural origin. Similarly, most of the population (66.67%) have a medium socioeconomic level, the rate of patients who smoke was considerable but underestimated because of the non-recording of passive smoking, and female smoking.Half of the population (50.5%) has family members with autoimmune and/or metabolic diseases (Table .1)

Table 1: general characteristics.

Characteristics	Effectif (N)	Frequency (%)
Gender		
Male	45	51.7
Female	42	48.3
Age range (years)		
0-10	2	2,3
11-20	1	1,1
21-30	10	11,5
31-40	14	16,1
41-50	20	23,0
51-60	16	18,4
61-70	11	12,6
71-80	9	10,3
81-90	4	4,6
Socioeconomic level		
Modest	13	14,9
Moderate	58	66,7
Low	16	18,4
Personal background		
Tobacco	39	44,8
Autoimmune diseases	38	43.7
Metabolic diseases	34	39.1
Infection	16	18.4
Family background		
Autoimmune/ metabolic diseases	43	50.5
Nothing	37	42.2
Psoriasis	7	7.3

Distribution of Patients by Age of Disease Initiation:

According to our study, the average age of the disease beginning of the identified cases was 45 ±19.57 years old, with a minimum of 1 year and a maximum of 84 years old**.** The distribution by decade showed that the maximum frequency was found between the third and sixth decade (Table .2).

Table 2: Reparation according to age onset of disease

Age	Number of patients	Percentage
0 - 10 years old	3	3,4
11 - 20 years old	6	6,9
21 - 30 years old	13	14,9
31 - 40 years old	15	17,2
41 - 50 years old	16	18,4
51 - 60 years old	14	16,1
61 - 70 years old	9	10,3
71 - 80 years old	7	8,0
81 - 90 years old	4	4,6

Anatomo-Pathological Characteristics of The Disease:

The pruritus, the erythema, and the squamous were the most important beginning symptoms in the first attack of psoriasis with a rate of 41.4%; 31.0%; and 21.8% respectively. The hands, the arms, the back, the abdomen, and the scalp are often the first organs affected at the beginning. According to our results, 1/3 of the population studied was unable to identify their triggering factors, while medication represented the second 1/3, stress 15% and infections 3%. Lesions of multiple site topography were found in 58.6% of cases, i.e. in 51 patients. While, the lesions extended and generalized on the whole body represent 41.37% (Table .3).

Table 3: Anatomo-pathological characteristics of the disease

Caractéristiques	Effectif (N)	Frequency (%)
Starting symptoms		
Pruritus	36	41,4
Erythema	27	31,0
Squamous	19	21,8
Arthralgias	2	2,3
Other	3	3,4
Starting site		
The hands	16	18,4
The feet	4	4,6
Hair	13	14,9
The face	5	5,7
Neck and/or nape	1	1,1
Elbow	2	2,3
The trunk	4	4,6
The arms	8	9,2
The legs	5	5,7
The abdomen	7	8,0
The back	9	10,3
The knees	3	3,4
The buttocks	5	5,7
The articulations	2	2,3
The folds	2	2,3
External genitalia	1	1,1
Triggering factors		
Infections	3	3,4
Stress	15	17,2
Psychological trauma	10	11,5
Medications	28	32,2
Unknown	31	35,6
Mucosal site		
Buccal	9	10.34
Genital	4	4.6
Buccogenital	3	3.45
Total	16	18.39
Multiple site		
Support zones	15	17.2
Folds	4	4.6
Other	32	36.6
Extended Site	36	41.3

Distribution of Patients by Lesion Type:

The figure below shows the different types of lesions distinguished in our study population.

Distribution of Patients by Type of Psoriasis:

According to our results, most (71%) of the patients had psoriasis vulgaris (nummular, plaque, and gout) (Fi.2).

Distribution of Patients by Therapeutic Strategy:

As for the therapeutic strategy, it was noted that almost half (36 patients or 41.37%) of the population received local, systemic and phototherapeutic treatment (triple therapy).

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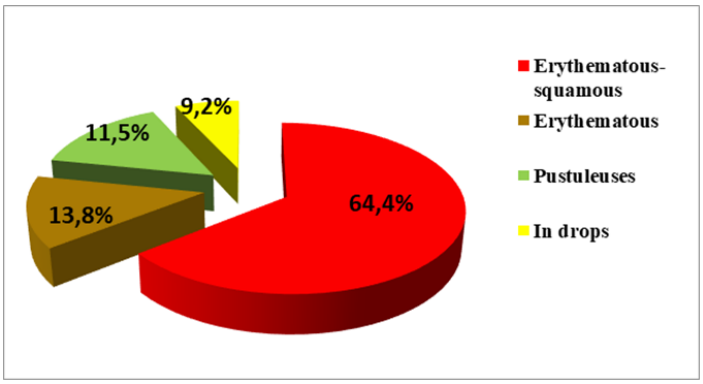

Fig. 1: lesion type**.**

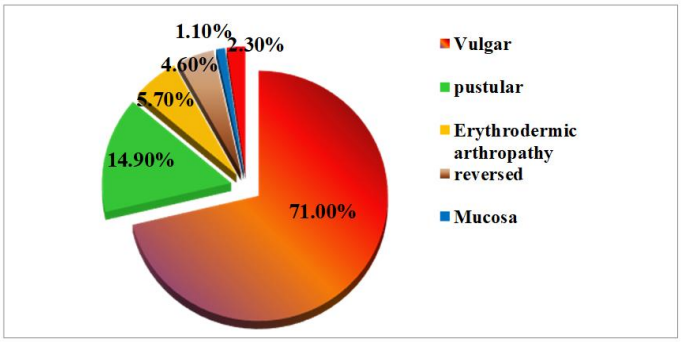

Fig .2: Psoriasis types

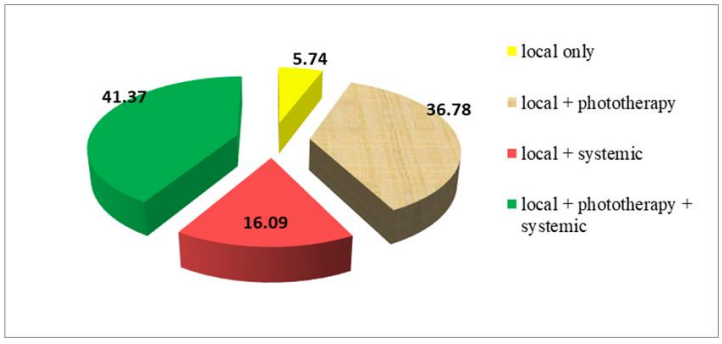

Fig.3: Patients' distribution according to the treatment received.

Distribution of patients according to the therapy evolution

Our results showed that almost half of the population (43.7%) showed a partial response to the different treatments administered (Table.4).

Table 4: Nature of therapeutic responses

Evolution	Statistics	
	Number of patients	Percentage
Partial response	38	43,7
Relapse	25	28,7
Remission	12	13,8
Failure	12	13,8
Total	87	100,0

DISCUSSION

Our results showed an equitable distribution of psoriasis patients according to gender, which synchronizes the work of Dubertret *et al*. (2009), In addition, Sekkat. (2012) showed that psoriasis affects the general population, without gender preference. The distribution of cases by decade revealed a peak for the age group (41 - 50 years old) with a number of 20 cases, which represents a rate of 23%.

However, we noted a relatively high rate for the age categories (31-40) and (51-60) with a rate of 18.4% and 16.1% respectively. Our study showed that the prevalence of psoriasis varied according to the area of residence, while the impact of the average socioeconomic profile was noted in 2/3 of the cases, but unfortunately it is not yet validated in the literature. Our study showed that the prevalence of psoriasis varied according to the residence area, while the impact of the average socioeconomic profile was noted in 2/3 of the cases, but unfortunately it is not yet validated in the literature.

The rate of smoking patients was considerable but underestimated because of the non-registration of passive smoking, and women smoking. There was a positive correlation between psoriasis and the number of daily cigarettes (Pomarède, 2014), moreover an increase in the psoriasis incidence has been found in case of active and passive smoking, but also in case of smoking weaning.

This risk decreases only after a complete weaning of 20 years old (Setty *et al.,* 2007). The association of psoriasis with other pathologies such as autoimmune diseases, metabolic diseases and microbial infections, especially streptococcal, was noted in our study with considerable percentages, which confirms the strong relationship between psoriasis and diseases with an immunological profile.

Historical family of psoriasis was reported in only 9.2% of cases, however 40% of the psoriasis population had no particular family history. The familial character of metabolic disorders (diabetes, dyslipidemia, gout, obesity ....) and/or immunogenetic disorders (asthma, lupus, behcet, vitiligo, goiter, allergy .....), as well as the familial character of psoriasis, this confirms the genetic predisposition

Our study showed that psoriasis can occur at any age, but frequently between 21 and 60 age group. The occurrence of psoriasis in this age group is closely related to their lifestyle.

The frequency of the occurrence of psoriasis between the ages of 60 and 80 years is not negligible, with 18% and it is explained by the tiredness of these patients and the important comorbidity associated with psoriasis.

Symptoms of the first flare-up of

psoriasis were often: pruritic and/or erythematosquamous localized in the scratching areas (scalp, back, abdomen, forearms), or at the level of the folds in the case of the inverted psoriasis; as they can be generalized in the case of the psoriasis in drop (ungual form which is frequent in the pregnant women and the children).

According to the obtained results, it was found that one third of the studied population could not identify their triggering factors, and deserved more scientific investigation (immunological). The second third of cases presents the notion of medication intake (victim of self-medication). Among the incriminated drugs: corticosteroid, non-steroidal anti-inflammatory drugs, analgesics, penicillins, anxiolytics, beta-blockers, psychotropic drugs, it is therefore important to limit the intake (Kemula, 2012). However, our study confirmed that self-medication is currently a cultural and social reality in our country, therefore; to try to increase the awareness. Similarly, stress with its different forms (professional, pregnancy, daily life anxiety) participates in the genesis of this pathology with a frequency of 17.4%. Another factor detected through our study was the psycho-affective shock: emotional separation shock, PRA (Public Road Accidents); CBV (Blow and Voluntary Injury), death and children school failure. These results, synchronize with those reported by Tan *et al.* (2012), who confirmed that stress, infections especially streptococcal as well as some inducing drugs participate in the psoriasis genesis. On the other hand, the psychological stresses would act through an increased secretion of neuromediators and adrenal hormones (catecholamines) (Richards *et al.*,2005).

The study of the clinico-topographic types with their frequencies showed that more than half of the hospitalized patients have psoriasis vulgaris (nummular, plaque and gouty), which lets us confirm that psoriasis is characterized by a great clinical and topographic heterogeneity. The modalities of the therapies showed that: the patients who received only the local treatment (dermocorticoids with keratolyics and/or emollient) were hospitalized for the local complications control (irritation, burning...), while phototherapy (by UVA or UVB or by both alternating in 2 to 3 treatments sessions per week) is recommended for patients with multiple-site psoriasis vulgaris (occupied more than 50% of surfaces), or disabling lesions. Systemic treatment (methotrexate) is indicated in the case of extensive psoriasis in severe and serious form (occupying more than 75% of surfaces), and in case of contraindication and/or phototherapy failure.

This allows us to conclude that the therapeutic strategy is rotational between the different therapeutic approaches and is oriented by the patient's characteristics, his psoriasis and the therapeutic specialty. For the therapeutic evolution, partial response was frequently observed (43%), in extensive and severe psoriasis where there is a recovery of 30% of the body surface. The remission is observed in 13.8%, having classical forms or the manifestations become less significant. The relapse was noted in severe psoriasis vulgaris, with a percentage of 28.7%. It is closely related to the psoriasis evolutionary characteristics by flare (short or long duration). While failure is related to the psoriasis severity, associated comorbidities and therapeutic intolerance. Moreover, the therapeutic evolution is always influenced by the psychological aspect of the disease, hence the need for psychological support of these patients, to improve the life quality on the one hand and to encourage the patient-practitioner cooperation on the other hand.

CONCLUSION

Through this descriptive study, we observed that psoriasis affects both sexes equally, as it can appear at any age, it is multifactorial, secondary to the intervention of several genetic factors, environmental factors such as stress, psychoaffective shock and especially the medication intake. The treatment choice is alternative, depending on the severity and the lesions extent, as well as the tolerance limit and the therapeutic indication. Partial therapeutic response is the

most frequent in our patients, due to the lesion's severity. In conclusion, psoriasis is a disease in which the vital prognosis is not engaged. Therefore, the control of this dermatosis depends on the quality of the patient's life.

Conflicts of Interest

The authors declare that they have no conflicts of interest with respect to the publication of this document.

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