



EPIDEMIOLOGY & CLINICAL FEATURES OF PSORIASIS PATIENTS ATTENDING A TERTIARY CARE HOSPITAL

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ABSTRACT

Introduction: Psoriasis is one of the commonest skin diseases. Genetic and environmental factors greatly influence the clinical development of psoriasis. Usual diagnosis of psoriasis is based on the appearance of lesions on skin. There is no requirement of special blood tests or diagnostic procedures.

Materials and Methods: Brief clinical history from each patient is recorded. Data related to age, sex, sociodemographic characteristics, predisposing factors, comorbidities, type of psoriasis are taken into consideration.

Results: Psoriasis patients were predominantly noticed in the age group of 21-40 years. Male predominance is noted. Usage of hair dyes, hair sprays and essential oils were noticed as triggering factors among students with scalp psoriasis. Chronic plaque psoriasis was predominantly observed that is in 88.6% of patients.

Conclusion: Prevention of psoriasis is crucial and also treatment cost is high. More research works on treatment, triggering factors and pathogenesis will help in improving the clinical outcome.

KEYWORDS : Clinical features, Psoriasis, Triggering factors.

INTRODUCTION

Psoriasis is a chronic inflammatory skin condition, infiltrating dermis and epidermis, with unclear etiology and pathogenesis. It is characterized by proliferation of epidermal cells – keratinocytes which clinically manifests with the formation of erythematous papules, and is often accompanied by the engagement of joints and nails in the process of inflammation [1].

Approximately 2-4% of the western world population are affected by psoriasis [2]. In India the prevalence of psoriasis was 0.44 – 2.8 %. It mostly affects third or fourth decade age group persons and male population shows two times predominance when compared to females. Psoriasis is likely to be affected by genetic and environmental influences. Prevalence of psoriasis varies according to age, sex, religion ethnicity [3].

Psoriasis exacerbation may occur due to complex genetic predisposition with environmental influences. It is triggered by infection, inflammation, stress, skin injury and drugs. Psoriasis is mainly described clinically as five types: plaque, guttate, inverse, pustular and erythrodermic. Psoriasis is associated with increased risk of psoriatic arthritis, lymphomas, cardiovascular disease, crohn's disease and depression [4].

Usual diagnosis of psoriasis is based on the appearance of lesions on skin. There is no requirement of special blood tests or diagnostic procedures [5]. If the clinical diagnosis is uncertain, a skin biopsy or scraping may be performed to confirm the diagnosis and to rule out other disorders.

Lack of enough data related to epidemiological management, outcome, risk factors and psoriasis research, has driven us to do this study. We have tried to show the data of psoriasis epidemiology, triggering factors and clinical spectrum observed in a tertiary care hospital.

MATERIALS AND METHODS

A Prospective observational study during September 2015 to July 2018 was conducted on patients with psoriasis attending department of Dermatology, Government Medical College - RIMS, Ongole. A total of 1512 patients with confirmed psoriasis were included, informed consent from patients were obtained before doing this study.

Psoriasis was diagnosed based on clinical evaluation. Confirmation of diagnosis with Histopathological examination is optional. Brief clinical history from each patient is recorded. Data related to age, sex, sociodemographic characteristics, predisposing factors, comorbidities, types of psoriasis is taken. Severity of psoriasis was assessed based on body surface area involvement and presence of nail and joint involvement.

Data were analysed and tabulated. Descriptive statistics were

presented as number and percentages for categorical variables. For normally distributed data, mean and standard deviation were used.

RESULTS

A total number of 1512 psoriasis cases were assessed. Various epidemiological parameters such as age, sex, comorbidities, triggering factors of psoriasis were assessed. Psoriasis patients were predominantly noticed in the age group of 21-40 years. Least number of psoriasis cases was observed in the age group <10 years, which was 1.9%. Most of the pediatric cases were presented with chronic plaque psoriasis. 816 (53.9%) patients out of 1512 were male patients. Male predominance noted. Comorbidities and triggering factors were also observed. Usage of hair dyes, hair sprays and essential oils were noticed as triggering factors among students with scalp plaque psoriasis. 2.4% of psoriasis patients exposed to nevirapine (drug induced)

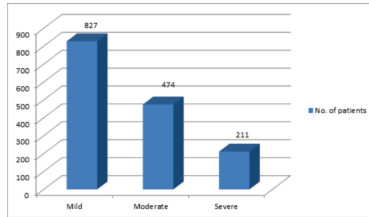
Table 1: Epidemiological parameters of psoriasis patients

Epidemiological parameters	No of patients	Percentage (%)
Age in years		
< 10	30	1.9
11-20	181	11.9
21-30	343	22.6
31-40	473	31.2
41-50	261	17.1
>50	224	14.8
Sex		
Male	966	63.8
Female	546	36.1
Comorbidities		
Hypertension	376	24.8
Diabetes mellitus	340	22.4
Hyperlipidemia	326	21.5
Obesity	292	19.3
Ischemic heart disease	210	13.8
Cerebro vascular disease	48	3.1
Triggering factors		
Stress	692	45.7
Dyes	485	32.07
Household workers and farmers	321	21.2
Family history	265	17.5
Infection	184	12.1
Drug induced	37	2.4

Depending on the body surface area involvement, psoriasis is divided clinically into three types: Mild (<2% BSA involvement), Moderate (3-10% BSA involvement), and Severe (>10% BSA involvement). Majority of the patients were under mild and moderate category (chart

1). 54.6% were mild, 31.3% were moderate and 13.9% were severe psoriasis patients.

Chart 1. Mild, moderate and severe cases of psoriasis



Chronic plaque psoriasis was predominantly observed, was 88.6%. 2.9% of palmoplantar non pustular psoriasis were observed especially among factory workers (Table 2)

Table 2. Prevalence of different types of psoriasis.

Type of psoriasis	No of patients	Percentage
Chronic plaque	1341	88.6%
Palmoplantar non pustular	45	2.9%
Guttate	33	2.1%
Erythrodermic	30	1.9%
Flexure / inverse	18	1.1%
Pustular	12	0.7%
Others	33	2.1%

Depending on the severity of the disease and systemic involvement, psoriasis patients were managed by different modalities including steroids – Topical / oral, emollients, Topical / oral PUVA, NB – UVA, systemic therapy – methotrexate, Apremilost, cyclosporin.

DISCUSSION

Plaque psoriasis is also known as psoriasis vulgaris, which is a classical and most common form. It is characterized by well delineated reddish with scaly papules and plaques, typically on elbow, knees and scalp or other cutaneous surfaces [4].

Psoriasis is a chronic skin inflammatory disorder, immunology mediated by T-helper 1 (Th1) / Th17 T cells. It is characterized by overproduction of Th1 cytokines and relatively low Quantities of Th2 cytokines. Hyperproliferation of cells in dermis and inflammatory reactions are due to overproduction of Th1 cytokines [6]. It is a relapsing disease, although natural remission occurs in 1/3rd of psoriatic patients.

Analysis of human genome reveals psoriasis susceptibility to nine different loc: (PSORS1-9). Up to 50% of psoriasis patients are genetically predisposed by PSORS – 1, a region of major histocompatibility complex on chromosome 6p2 [7]. Psoriasis involves altered innate and acquired immune system and environmental influences including infection, drugs, trauma and stress [8].

Henseler T et al reported psoriasis clinical spectrum as two types- type I and type II. Early onset of psoriasis begins on or before age of 40 years considered as type II disease [9].

In the present study, 63.8% were males and remaining 36.1% were females. Male to female ratio was 1.7 % psoriasis was also noticed in below 10 years children; most commonly affected age group was 21-40 years (53.9%). Kaur I et al [10] did a study at tertiary health care center from North India, observed 67% males and 33% females were affected by psoriasis with a ratio being 2.03:1. Mean age of psoriasis patients was 33.6 years. Bedi TR [11] also did a study on psoriasis from North India, documented a higher male to female ratio of 2.5:1 compared to the present study.

Chronic psoriasis affects quality of life in terms of functional, social and psychological aspects. Usual symptoms related to psoriasis are chronic itch, bleeding, pitting of nails, onycholysis, arthritis, psychological distress, and can also present with depression. Social factors include difficulties with relationships, difficulties with securing employment and poor self-esteem [12]. psoriasis may develop at the site of trauma or injury and is known as koebner's phenomenon. Occasionally it may involve oral mucosa and tongue.

Cohen et al [13] observed diabetes was significantly higher in psoriasis

patients as compared with control group. Cohen et al [13] reported 27.5% of psoriasis patients had hypertension and 13.8% patients were associated with diabetes mellitus. As per this study, hypertension noticed in 24.8% of patients and Diabetes mellitus in 22.4% of patients.

In this study stress was noticed as major triggering factor which was seen in 45.7% of patients. 32.07% of patients had been exposed to dyes, hair sprays, oil etc. 21.2% of patients were household workers, laborers and farmers. 17.5% had presented with family history of psoriasis. Similar to this study, AzuraMohdAffandi et al [14] documented upto 48.3% of patients had stress as triggering factor. Studies have proven that among psoriasis patients hypothalamus-pituitary-adrenal (HPA) axis responses are reduced and sympathetic adrenomedullary (SAM) responses are upregulated [15,16].

Psoriasis can be highly variable in morphology, distribution and severity. 54.6% were mild, 31.3% were moderate and 13.9% were severe psoriasis patients. Majority of the patients had chronic plaque psoriasis. Kaur I et al [17] did a study on psoriasis from North India, observed 2/3rd of patients had 50% of BSA (Body surface Area) involvement. A Large study from Malaysia by AzuraMohdAffandi et al [14] documented 25.2% of psoriasis patients had <5% BSA involvement, 51.4% had 5-10% BSA involvement. 21.7% and 1.8% of patients exposed to 10-90% and >90% BSA involvement respectively. It is well known that chronic plaque psoriasis is the most commonest form [11,14,17].

Diagnosis of psoriasis is mainly by clinical examination, rarely skin biopsy may be required for confirmation of psoriasis or to rule out differential diagnoses such as mycosis fungoides, lichen planus, atopic dermatitis, secondary syphilis, tinea corporis, and pityriasis rosea. Well characterized skin lesions, location of lesions, triggering factors gives important clue to diagnosis clinically.

Even though there is no cure for psoriasis, there is availability of multiple treatment options. Preferable treatment for mild to moderate disease is topical therapy including corticosteroids, vitamin D analogs, keratolytics. Severe disease may require phototherapy or systemic therapy. Majority of the studies shown that higher percentage of psoriasis affected patients were receiving topical treatments only [14]. For plaque psoriasis and moderately severe scalp psoriasis, first line topical therapy is calcipotriol, vitamin D3 analogue [18]. A Cochrane review of 177 RCTs stated combination therapy (Calcipotrioland betamethasone dipropionate) was shown to be more effective than monotherapy alone for psoriasis [19]. NB-UVB (narrow band UV-B) is best among phototherapy options as a first line treatment, can also be given to children and pregnant women and no evidence of skin malignancy risk noted [20]. Synthetic retinoid (Acitretin) is a best adjuvant therapy for moderate and severe disease. Methotrexate and cyclosporine also has proven efficacy in psoriatic treatment, while side effects of drugs limits its usage [21,22].

CONCLUSION

In the present study sociodemographic characteristics, common types of psoriasis and its prevalence, triggering factors were analyzed, which was similar to other studies. Prevention of psoriasis is crucial and also treatment cost is high. More research works on treatment, triggering factors and pathogenesis helps to improve clinical outcome.

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