

Study of prevalence and factors associated among the patients of psoriasis at tertiary health care center

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Abstract

Background: Psoriasis is a multifactorial disease, clinical presentation of may vary from person to person also genetic and environmental factors greatly influence clinical presentation, severity, outcome and associated morbidity. Further, psoriasis may have a variable course and generally does not affect survival, but has negative impact on the quality of life. Present study was aimed to study of prevalence and factors associated among the patients of psoriasis at tertiary health care center.

Material and Methods: This single-center, prospective, observational study was conducted in Patients of > 18 years age, either gender, attending OPD, primarily diagnosed as psoriasis. **Results:** 140 patients with confirmed diagnosis of psoriasis were considered for present study. prevalence of psoriasis at our dermatology OPD was 2.17 %. Majority of patients were from 31-45 years age group (47.86 %) followed by 19-30 years age group (31.43 %). Male predominance was noted (63.57 %) with male to female ratio as 1.74:1. On the basis of history and clinical examination psoriasis vulgaris (72.14%) was most common diagnosis followed by palmoplantar psoriasis (13.57%), scalp psoriasis (9.29%). Less common types were nail psoriasis (2.14%), generalized pustular psoriasis (1.43%), psoriatic arthropathy (0.71%) and distal interphalangeal psoriatic arthropathy (0.71%), In present study common co-morbidities noted in psoriasis patients were diabetes mellitus (51.43%), hypertension (49.29%), dyslipidemia (36.43%), metabolic syndrome (35.00%) and depression (25.71%). Alcohol consumption (35 %) was most common aggravating factors noted followed by stress such as lack of sleep, emotional stress, acute infection (32.86%), Smoking (22.14%), long exposure to air conditioning / cold weather (15.71%). Less common aggravating factors noted were drugs (beta-blockers, nonsteroidal anti-inflammatory drugs) (7.86%), physical trauma (2.86%), changes during pregnancy (2.86%) and oral contraceptive pills (1.43%), **Conclusion:** Common aggravating factors for psoriasis were alcohol consumption, stress, smoking and exposure to air conditioning / cold weather were noted. Various co-morbidities such as diabetes mellitus, hypertension, dyslipidemia, metabolic syndrome and depression were also noted.

Keywords: Psoriasis, Clinical Profile, alcohol consumption, Psoriasis vulgaris

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INTRODUCTION

Psoriasis is a common, chronic, immune-mediated inflammatory and proliferative condition of the skin characterized by red, scaly, sharply demarcated, indurated plaques, present particularly over extensor surfaces and scalp.¹ Psoriasis is a multifactorial disease, clinical presentation of may vary from person to person also genetic and environmental factors greatly influence clinical presentation, severity, outcome and associated

morbidity. With a prevalence of 0.44-2.8 per cent in India, it commonly affects individuals in their third or fourth decade with males being affected two times more common than females.² Many patients with minimal clinical manifestations often do not seek medical attention or take treatment from general practitioner or take over the counter medicines. Further, psoriasis may have a variable course and generally does not affect survival, but has negative impact on the quality of life.³ Detecting and treating these comorbid conditions in the preliminary phase improves life expectancy and ensures comprehensive management of a patient with psoriasis.⁴ Present study was aimed to study of prevalence and factors associated among the patients of psoriasis at tertiary health care center

MATERIAL AND METHODS

This study was conducted in patients with psoriasis, attending the outpatient department in Department of Dermatology Venereology and Leprosy, Melmaruvathur Adhiparasakthi Institute of Medical Sciences and Research, Melmaruvathur, India. Study design was single-center, prospective, observational study. Study duration was of 1 year (January 2020 to December 2020). Study approval was taken from institutional ethical committee, prior to start of study.

RESULTS

140 patients with confirmed diagnosis of psoriasis were considered for present study. prevalence of psoriasis at our dermatology OPD was 2.17 %. Majority of patients were from 31-45 years age group (47.86 %) followed by 19-30 years age group (31.43 %). Male predominance was noted (63.57 %) with male to female ratio as 1.74:1.

Table 1: Distribution of Age and Gender.

| Age (years) | Male | Female | TOTAL |
|--------------|---------------------|---------------------|--------------|
| 19-30 | 28 (20 %) | 16 (11.43 %) | 44 (31.43 %) |
| 31-45 | 41 (29.29 %) | 26 (18.57 %) | 67 (47.86 %) |
| 46-60 | 14 (10 %) | 8 (5.71 %) | 22 (15.71 %) |
| >60 | 6 (4.29 %) | 1 (0.71 %) | 7 (5 %) |
| Total | 89 (63.57 %) | 51 (36.43 %) | 140 |

On the basis of history and clinical examination psoriasis vulgaris (72.14%) was most common diagnosis followed by palmoplantar psoriasis (13.57%), scalp psoriasis (9.29%). Less common types were nail psoriasis (2.14%), generalized pustular psoriasis (1.43%), psoriatic arthropathy (0.71%) and distal interphalangeal psoriatic arthropathy (0.71%),

Table 2: Diagnosis

| Type of psoriasis | No of patients (n=140) | (%) |
|----------------------------------------------|------------------------|--------|
| Psoriasis vulgaris | 101 | 72.14% |
| Palmoplantar psoriasis | 19 | 13.57% |
| Scalp psoriasis | 13 | 9.29% |
| Nail psoriasis | 3 | 2.14% |
| Generalized pustular psoriasis | 2 | 1.43% |
| Psoriatic arthropathy | 1 | 0.71% |
| Distal Interphalangeal psoriatic arthropathy | 1 | 0.71% |

In present study common co-morbidities noted in psoriasis patients were diabetes mellitus (51.43%), hypertension (49.29%), dyslipidemia (36.43%), metabolic syndrome (35.00%) and depression (25.71%).

Table 3: Co-morbidities in study patients

| Co-morbidities | No of patients | % |
|--------------------|----------------|--------|
| Diabetes mellitus | 72 | 51.43% |
| Hypertension | 69 | 49.29% |
| Dyslipidemia | 51 | 36.43% |
| Metabolic syndrome | 49 | 35.00% |
| Depression | 36 | 25.71% |

Alcohol consumption (35 %) was most common aggravating factors noted followed by stress such as lack of sleep, emotional stress, acute infection (32.86%), Smoking (22.14%), long exposure to air conditioning / cold weather (15.71%). Less common aggravating factors noted were drugs (beta-blockers, nonsteroidal anti-inflammatory drugs) (7.86%), physical trauma (2.86%), changes during pregnancy (2.86%) and oral contraceptive pills (1.43%),

Table 4: Aggravating factors noted

| Aggravating factors noted | No of patients | % |
|-------------------------------------------------------------|----------------|--------|
| Alcohol | 49 | 35.00% |
| Stress | 46 | 32.86% |
| Smoking | 31 | 22.14% |
| Air conditioning / cold weather | 22 | 15.71% |
| Drugs (beta-blockers, nonsteroidal anti-inflammatory drugs) | 11 | 7.86% |
| Trauma (Koebner phenomenon), | 4 | 2.86% |
| Changes during pregnancy | 4 | 2.86% |
| Oral contraceptive pills | 2 | 1.43% |

DISCUSSION

The onset of psoriasis can be at any time of life and it usually persists for life with relapses intermittently. The majority of cases, approximately 75%, present before the age of 40 years, with a peak at 20–30 years old. The remaining cases present after the age of 40 years. Patients with early disease onset tend to have a positive family history of psoriasis, frequent association with histocompatibility antigen (HLA)-Cw6, and more severe disease.⁵ Bhandari *et al.*,⁶ noted male pre-dominance (65%) and majority of patients were between 30-50 years of age. Similar findings were noted in present study. Psoriasis predominantly affects the skin with erythematous plaques and adherent silvery white scales involving mainly the extensor surfaces of the body like scalp, back, elbows, knees etc.⁷ In a Malaysian study⁷ with 15,794 patients, mean age onset of psoriasis was 35.14 ± 16.16 years. Male to female ratio was 1.3: 1. 23.1% of patients had positive family history of psoriasis. The most common clinical presentation was chronic plaque psoriasis (85.1%), followed by guttate psoriasis (2.9%), erythrodermic psoriasis (1.7%), and pustular psoriasis (1.0%). Majority of our patients (76.6%) had a mild disease with BSA < 10%. 57.1% of patients had nail involvement, while arthropathy was seen in 13.7% of patients. Common triggers of the disease include stress (48.3%), sunlight (24.9%), and infection (9.1%). Comorbidities observed include obesity (24.3%), hypertension (25.6%), hyperlipidemia (18%), diabetes mellitus (17.2%), ischemic heart disease (5.4%), and cerebrovascular disease (1.6%). Similar findings were noted in present study. Sekar S⁸ studied 40 patients diagnosed with moderate to severe plaque type of psoriasis. Mean age was 37.43 ± 10.1 years

and 55 % were males. The mean duration was 8.93 years and 15% had family history. The mean age of onset was earlier in the females (20.23 years) with a positive family history, as compared to males (25.36 years). About 62.5% had moderate psoriasis and 37.5% had severe psoriasis. At the baseline the PASI score was 31.98 ± 6.08 and DLQI score was 36. About 67.5% had nail changes and 10% had psoriatic arthritis. Almost in half (47.5%) the duration of the disease was 1 to 5 years and scalp (32.5%) the most common initial site of involvement. In a retrospective study by Kumaraswamy SKA *et al.*,⁹ majority of the patients were in the age group 35-64 years (68%) and nearly 80 % of them were men. The most common type of psoriasis was Psoriasis vulgaris. More than half of the patients had severe type of psoriasis according to PASI scoring. 58 % of cases were repeat cases. Most common category of drugs administered were antihistaminic, corticosteroids, antibiotics, emollients and antimetabolites in that order. Hypertension was found among 16 % of patients. Serum albumin and total protein was found to be low in 52% and 27% of the patients respectively. Chronic plaque-type psoriasis is the most common morphologic presentation of psoriasis, accounting for more than 90% of all cases.^{7,10} Other morphologic variants that deserve special mention include palmoplantar psoriasis, pustular psoriasis, and recalcitrant psoriasis. For epidemiologic purposes, psoriasis can be classified into early and late onset psoriasis.⁷ Psoriasis has been reported to be associated with metabolic disorders including obesity, dyslipidemia and diabetes.¹¹ Belliappa PR¹² studied 120 patients diagnosed with psoriasis vulgaris and prevalence of various comorbidities was: central obesity (58.3%), hypertension (46.79%), dyslipidemia (43.3%), diabetes

mellitus (26.7%), metabolic syndrome (25%), ischemic heart disease (5%) and stroke (2.4%). Prevalence of metabolic syndrome was more in patients who had longer mean disease duration of psoriasis. Several risk factors/triggers participated in the etiology of psoriasis are described as trauma (Koebner phenomenon), preceding or concurrent streptococcal infection, particularly of the throat, hormonal factors (in females, peak around puberty, changes during pregnancy and provocation of psoriasis by high dose estrogen therapy) potentially indicate a role for hormonal factors), Stress is the most common etiological factor and patients with chronic disorders like Crohn's disease are more likely to suffer from psoriasis.^{13,14} Drugs that appear to have a strong causal relationship to psoriasis are beta-blockers, lithium, synthetic antimalarials, nonsteroidal anti-inflammatory drugs (NSAIDs), and tetracyclines.¹⁵ While hot and sunny may help clear psoriasis, air conditioning can dry out the skin and aggravate psoriasis. Similar findings were noted in present study. Alcohol and smoking: It has long been suspected that both cigarettes and alcohol have a detrimental effect on psoriasis. Increased alcohol consumption is a recognized stress response. Excess drinking is undoubtedly also a consequence of disease and leads to treatment resistance and reduces therapeutic compliance.¹⁶ Disfiguration, disability and marked loss of productivity are common challenges for people with psoriasis. There is also a significant cost to mental well-being, such as higher rates of depression, leading to negative impact for individuals and society.¹⁷ With the increasing prevalence and awareness of psoriasis and its association with various co-morbidities, there is ongoing need for research on various aspects of this disease related to epidemiology, etiopathogenesis, management, co-morbidities, impact on quality of life, economic and societal burden and healthcare costs.¹⁸

CONCLUSION

Common aggravating factors for psoriasis were alcohol consumption, stress, smoking and exposure to air conditioning/cold weather were noted. Various co-morbidities such as diabetes mellitus, hypertension, dyslipidemia, metabolic syndrome and depression were also noted. For management of psoriasis, dermatologists should adopt a multidisciplinary approach as screening for comorbid conditions, avoidance of aggravating factors and medications for appropriate control of psoriasis.

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