



## Psoriasis In Kashmir Valley: A Clinico-Epidemiological Study

Qazi Masood, Iffat Hassan, Farah Sameem, Dilshada Khan, Imran Majid, Gurcharan Singh,  
Taseer Bhat, Anjum Afshan, Masarat Shafi

### Abstract

A cross sectional observational clinico epidemiological study on psoriasis was done on one thousand ethnic Kashmiri patients attending the Out patient Department of Dermatology, STD and Leprosy, Government Medical College Srinagar Kashmir over a period of six years (1999-2005). The patients were evaluated as regards the demographic profile, morphological or clinical type of psoriasis, involvement of joints, exacerbating factors especially infections (streptococcal sore throat), drug intake and winter exacerbation. The study revealed a male preponderance with peak age of occurrence in second or third decade of life. The predominant clinical type was seen to be Psoriasis vulgaris. Joint involvement was seen in 9.5 % of patients. A raised Anti Streptolysin titre was seen in 46.2% of acute guttate type. Drugs seen to be associated with exacerbation of disease included withdrawal of systemic corticosteroids, intake of Unani medicines and ACE inhibitors. An increased severity of the disease was seen in winter in 16.7 % of patients. The results of this study were consistent with the trend observed in other studies done in North India.

### Key Words

Psoriasis, Dermatology, ASO Titre, Exacerbating Factors

### Introduction

Psoriasis is a chronic or chronically remitting disease of the skin characterized by hyper proliferation and inflammation of the epidermis and dermal components of the skin. The typical clinical picture is of well defined, erythematous scaly plaques predominantly on the extensor prominences and scalp consistent with the clinical variant known as Ps vulgaris. Several different morphological forms are also known to be manifested in the skin. In addition to the skin, the disease affects the nails, joints and also rarely the mucosal surfaces. Psoriasis is known to affect 1-2% of the world population. The disease is known for its wide geographical variations due to racial, geographical and environmental reasons (1-3). The prevalence in United States of America is as high as 4.6-4.7% (4). A negligible prevalence in West Africans, Japanese, North American Indians and Eskimos is seen (attributable to the high content of essential fatty acids in the diet of the latter perhaps). A clustering of cases (2.8%

of the total population affected) is seen in the inhabitants of Faroe Islands probably due to inbreeding, geographical isolation and the temperate climate of the region as it lies at 61 N latitude underlining the normal positive effect of sunlight on psoriasis (5). The prevalence figures from various studies from North India range from 0.8-5.6% (6-11). However all these being clinic and hospital based surveys they do not reflect the true prevalence in general population. The Kashmir valley, an area with a temperate climate lies at the northernmost end of the Indian subcontinent and is perched securely within the Himalayas. The valley houses a population of about five million with a specific ethnic identity. The prevalence of psoriasis in hospital population attending the Dermatology Out patient Department of SMHS Hospital Srinagar was reported to be 2.4 % according to a previous study done in the Kashmir valley (12). A subsequent study from the same parent department revealed that out of a total of

From the PG Deptt. of Dermatology, STD & Leprosy, GMC, Srinagar-Kashmir-India J&K, India

Correspondence to : Prof. Qazi Masood Ahmad Principal/Dean & Head, Deptt. of Dermatology, STD & Leprosy, GMC, Srinagar-Kashmir-India



1,66,739 patients attending the OPD, 5,623 patients of psoriasis were noted (3.4%) (13). However the previous studies did not document the demographic profile of the patients and the exacerbating factors for the disease in this ethnic population

### **Aim & Objectives**

To do a cross sectional observational clinico epidemiological study on one thousand clinically diagnosed cases of psoriasis in ethnic Kashmiri patients

### **Material & Methods**

This study was done on one thousand consecutive native Kashmiri patients with psoriasis who attended the Out Patient Department of Dermatology STD and Leprosy of SMHS Hospital (associated teaching hospital of Government Medical College Srinagar Kashmir) over a period of six years. As this was only an observational epidemiological study the necessity of an ethical clearance from the board was not taken. The diagnosis of psoriasis was done on the basis of typical clinical picture and demonstration of typical clinical signs like Grattinage sign, Auspitz's sign and candle wax sign. The various clinical types looked for included Ps vulgaris, acute guttate type, erythrodermic type, pustular type. Histopathological evaluation was not done routinely due to cost considerations except in erythrodermic psoriasis. All the patients who were recruited for this study were thoroughly assessed as regards the age of onset, nail or joint involvement, clinical site of involvement and the data was recorded. The severity of involvement was assessed on the basis of body surface area involvement (by rule of nines) and Psoriasis area and severity index measurement (PASI Score). The patient was evaluated for any co morbid conditions including hypertension, Diabetes and Ischemic heart disease or any long term drug intake for these. Presence of a coexisting skin disease in the form of vitiligo, atopy, seborrheic dermatitis or urticaria was noted. Any acute exacerbation of a previously stable disease was noted especially vis-a-vis an exacerbating factor in the form of infections, drug intake or seasonal variation antecedent to the event. A detailed note of the treatment received was made under the headings of topical (tar, dithranol, steroids, retinoids).

Systemic (steroids, methotrexate, PUVA, retinoid) and unani or ayurvedic medicines Routine investigations in the form of a complete hemogram including ESR and urine examination as well as specific investigations like ASO titer, Rheumatoid factor, serum calcium and serum uric acid were performed in every patient.

### **Results**

The morphological type of psoriasis found in most of the patients was the plaque type that is Psoriasis vulgaris (seen in 60% of psoriasis patients). The next common type was the acute guttate type (22.5% of psoriasis patients). The acute guttate presentation was significantly more common in younger patients, being 29.5% in patients less than 30 years as compared with 8.2% in those above 30 years. In fact about one-half of patients in the first decade presented with an acute guttate eruption. (Table 1). Psoriatic erythroderma was the presentation in 25 patients [2.5%] and this was more commonly seen in older patients [in 9.2% of all psoriatic patients older than 50 years]. Pustular psoriasis in the form of acute generalized pustular psoriasis was seen in 10 patients, palmoplantar pustulosis in 7 patients and acrodermatitis continua repens was seen in 1 patient. Psoriatic lesions limited to the scalp only were seen in 63 patients and isolated palmoplantar psoriasis was seen in 67 patients forming 6.3% and 6.7% of the study population respectively. Isolated psoriatic nail dystrophy in absence of any other lesions was recorded in five patients. (Table 1). As such nail involvement was seen in 115 patients [11.5%] in the form of nail pitting, subungual hyperkeratosis, thickening and discoloration of the nail plate and onycholysis. Majority of the patients in our study [58.5%] had disease onset in the second and third decades of life. The youngest age of onset in our series was in a female aged three years who had developed the disease six months earlier and the oldest age of onset was in a sixty-five year old male who had a disease of just two months duration. Males predominated among all age groups in this series and the overall male-female ratio was 1.7:1. (Table 1). A positive family history of psoriasis was found in 132 patients who formed 13.2% of the study group. Among these, 87 patients had involvement in a first-degree relation [parents/siblings]. The family involvement was clearly more in younger patients aged below 30 years [17%] as compared with the older group [7.6%]. The total duration of disease in our series varied from a minimum of four days to a maximum of thirty-five years. The distribution of patients as per the duration of disease is given in table 2. A positive history of arthralgias/arthritis was seen in 95 patients forming 9.5% of the study population. The comparative prevalence was more in patients more than thirty years of life than in the younger age groups [22.2% vs. 3.3%]. The commonest type of joint involvement seen was an asymmetrical oligoarthritis involving the large joints predominantly [in 65 patients] while a mutilating arthritis was seen only in

**Table 1. Age and Sex Distribution and Morphological Types of Psoriasis**

Age Group	No of Patients	Male	Female	Family History	Plaque Type	Acute Guttate	Pustular	Erythro-Dermic	Scalp Psoriasis	Palmo Plantar Psoriasis
<10 yrs	87	64	23	18	41	42	Nil	2	Nil	2
11-30 yrs	585	333	252	96	336	156	2	9	38	36 [3]
31-50 yrs	220	176	44	20	144	20	10	4	23	27 [2]
>50 yrs	108	55	53	5	81	7	6	10	2	2
Total	1000	628	372	139	602	225	18	25	63	67

**Table 2. Distribution of Patients According to Duration of Psoriasis**

Duration of psoriasis	No of patients	Percentage
<3 months	313	31.3%
3-6 months	62	6.2%
6 months to 2 years	246	24.6%
>2 years	379	37.9%

two patients. Psoriatic spondylitis was seen in 5 patients and an usual sternoclavicular joint arthritis was seen in 1 patient. Rheumatoid factor was routinely done in every patient and it was seen to be positive in only 11 patients with arthralgias/arthritis [ $<10\%$ ]. ASO titres were calculated in every patient regardless of the morphological type or duration of psoriasis. In acute guttate form of psoriasis ASO titer was found to be significantly positive in 104 patients [46.2%] while in the rest this seropositivity was 16.3%. Serum calcium values were also calculated in every patient during this study and they were found to be below the normal range in 341 patients [34.1%]. These patients with a low serum calcium value were almost equally distributed among the different morphological variants of psoriasis. No significant elevation in serum uric acid values was observed during the study. Seasonal variation was noted in 167 patients [16.7%] and in most of these there was a clear winter exacerbation of lesions. A minority of patients [14 out of 167] also claimed a summer exacerbation of their psoriasis. In addition to the seasonal exacerbation in winter the other exacerbating factors seen were infections in 179 patients [17.9%] and drugs in 62 patients [6.2%]. The commonest drugs implicated as exacerbating factors were antihypertensive like beta-blockers and ACE inhibitors and NSAIDs. Especially prominent was an onset of erythrodermic or generalized pustular psoriasis seen after withdrawal of

systemic steroid and unani and ayurvedic medicines. PASI Score ranged from Comorbid conditions included hypertension in 124, diabetes mellitus in 77 patients. Coexisting vitiligo was seen in 54 patients, atopy in 5 and urticaria in 1. The 5 patient with coexisting atopy were found to have a clinical course fluctuating between atopic dermatitis and psoriasis with a less satisfactory response to anti psoriatic medication. Overall patients showed a better response to dithranol

### Discussion

Psoriasis is a disease that is known to occur worldwide but the factors responsible, the severity of the disease and its associated findings vary from one place to another. A cold climate has been claimed to be an aggravating factor for psoriasis and winter exacerbations are a well-known feature of this disease. Kashmir valley is a place located at an average height of 6000 feet above sea level with a temperate type of climate. The temperature here drops to as low as -10 to -15 centigrade during winters. The prevalence of psoriasis in Kashmir valley is thus expectedly high.

Previous studies done in Kashmir reveal a prevalence of 2.4%-3.4% in hospital based surveys (12-13). This is consistent with the figure put forward in our study suggesting that no change in the time trend of the disease has occurred. The present study took forward the previous ongoing study in the parent department to include the clinical features and exacerbating factors of particular relevance to Kashmir. The age distribution and sex ratio of psoriasis patients obtained in the present study conforms to what has been reported in different Indian studies (8,10). Our study demonstrates quite a high incidence of positive ASO titers in psoriasis patients especially in acute guttate psoriasis. This is in conformity with an earlier study from our department (14). A fact that corroborates this finding further is that about one-fifth of patients [189 patients] reported infections



especially of the upper respiratory tract as an aggravating or precipitating factor for their psoriasis. All these patients with positive ASO titers in our study were put on penicillin and the results were quite encouraging especially in acute guttate psoriasis. The incidence of joint symptoms in our series has been about 9% and this conforms to the figures quoted by different Indian studies on this subject (8). A seronegative, mild arthropathy was observed in almost all these patients and the overall severity of joint involvement was quite mild as compared with what is reported from the west.

This finding has also been reported by many Indian studies (8,10) and it is generally believed now that the severity of psoriatic arthropathy in Indian patients differs from that in the west. A low serum calcium value has been quoted as an aggravating factor in psoriasis and an interesting finding in our study has been a very high incidence of hypocalcaemia in our psoriasis patients. All these patients were given injectable Vit D preparations but the improvement seen was at the most modest.

The actual reasons and significance of this finding needs to be found out. Significance of drugs as exacerbating factors in psoriasis is almost always overlooked as has been proved by the present study. As many as 6.2% of patients quoted drugs as the aggravating factors and it was seen that the majority of these patients were taking beta blockers, ACE inhibitors or traditional NSAIDs. Of particular relevance is the intake of Unani or Ayurvedic medicines prescribed by traditional healers and quacks causing a severe exacerbation of psoriasis like erythroderma and a generalized pustular crop.

The elderly-onset group demonstrated milder disease courses and some changes in clinical phenotypes and body part of origin compared with early- and middle age-onset groups. Therefore, it seems that patients whose onset of psoriasis was over the age of 60 years might have distinct clinical features in some clinical aspects (15). However such relation was not studied in the present study. The association between psoriasis, diabetes, and cardiovascular disease remains largely unelucidated in the Indian population. In one of the studies a positive association between insulin resistance and psoriasis. No association between psoriasis and dyslipidemia has been found in this study (16). No attempt was made to study any such association, which remains the limitation of the study.

### Conclusion

The clinical significance of the present study was that for the first time such a large scale data regarding the clinicoepidemiological pattern of psoriasis from Kashmir

was evaluated. Previous studies from Kashmir just gave the prevalence figures. The overall milder severity of joint involvement in Kashmiri Psoriatics was documented. A better response to Dithranol as compared to tar was seen. The overwhelming role of traditional Unani and ayurvedic medicine prescription and its role in precipitating severe psoriasis was noted. Limitation of the study was that case controlled comparison study of various treatment modalities with their relative efficacy was not done. This being an observational study regarding the clinicoepidemiological pattern of disease in the valley no statistical method was used.

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