PSORIASIS- A CLINICAL STUDY FROM GARHWAL REGION OF UTTARAKHAND

Shiv Darshan Singh Rawat[1], Nancy Bhardwaj[2], Ena Jain[3]

[1]Professor, Department of Dermatology, Venereology and Leprosy, Himalayan Institute of Medical Sciences, Dehradun.
[2]Postgraduate Student, Department of Dermatology, Venereology and Leprosy, Himalayan Institute of Medical Sciences, Dehradun.
[3]Postgraduate Student, Department of Dermatology, Venereology and Leprosy, Himalayan Institute of Medical Sciences, Dehradun.

ABSTRACT

BACKGROUND

Psoriasis is a chronic, genetically determined, inflammatory, immune-mediated skin disease. Its prevalence and pattern are influenced by diverse genetic, ethnic and environmental factors. Many epidemiological studies of prevalence and pattern of psoriasis are available from different parts of India. Comprehensive data on its prevalence and patterns in Uttarakhand State, however, is lacking.

The aim of the study is to study prevalence and pattern of psoriasis at a tertiary referral hospital in Garhwal region of Uttarakhand.

MATERIALS AND METHODS

This was a retrospective study in which clinical data of all patients of psoriasis who attended psoriasis clinic in outpatients Department of Dermatology, between October 01, 2012, to September 30, 2015, were analysed. A total of 1197 patients formed the study subjects. Diagnosis was clinical in most of the cases.

RESULTS

Out of a total 46,044 patients seen in outpatients Department of Dermatology during study period, 1197 patients were of psoriasis constituting 2.6% of all skin OPD patients. Male-to-female ratio was 2.4:1. The mean age of onset in males was 39.6 years as against 31.7 years in females. Seasonal variation was seen in 64.5% cases with winter aggravation in 49% cases. Chronic plaque type psoriasis (88%) was commonest morphological type. Arthritis was seen in 7.3% cases. Pustular and erythrodermic psoriasis accounted for less than 1% cases each.

CONCLUSION

Psoriasis is a common dermatological disease in Garhwal region of Uttarakhand accounting for 2.6% of all skin OPD patients. The pattern and epidemiological characteristics of the disease are same as in other regions of India.

KEYWORDS

Psoriasis, Prevalence, Pattern, Garhwal, Uttarakhand.

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BACKGROUND

Psoriasis is a common, immune-mediated, genetically determined disorder affecting skin, nails, joints and has various systemic associations.[1] Genetic and environmental factors greatly influence its clinical development. This results in wide difference in the prevalence of this disease among different groups and in different parts of the world. So, while no cases have been reported in Samoan population, aboriginal Australians and Indians from South America, prevalence of 12% has been reported in Arctic Kasachye.

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Corresponding Author:
Dr. Shiv Darshan Singh Rawat,
#14, SBI Colony, Near Doon Enclave,
Shimla Bypass Road, P. O. Majra,
Dehradun, Uttarakhand-248171.
E-mail: rawat.sds@gmail.com
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Though, primarily a disease of skin, it can affect patient's relationship, social life and mental health. It ravages the quality of life of the affected individual due to social stigmatisation and psychological disorders besides its financial ramifications.[2] Knowledge of prevalence, pattern and morbidity of this disease in a particular geographical region is thus important both for health professionals and administrators for proper health planning and execution. Many studies are available in the literature outlining epidemiological and clinical pattern of psoriasis in different regions of India.[3-11] However, comprehensive data on prevalence and pattern of psoriasis in Uttarakhand, a state of India, which came into being in year 2000, is lacking. It was, therefore, planned to study the prevalence and pattern of the psoriasis in patients attending Dermatology Outpatient Department (OPD) of Himalayan Institute of Medical Sciences, Dehradun, a major tertiary care centre and teaching hospital situated in the foothills of Garhwal Himalayas, in Uttarakhand.

MATERIALS AND METHODS

This retrospective study aimed at evaluating the prevalence and pattern of psoriasis in the foothills of Garhwal region of Uttarakhand was carried out at Himalayan Institute of Medical Sciences (HIMS), Dehradun, Uttarakhand (India), one of the teaching hospitals and major referral centres for Garhwal region of Uttarakhand and adjoining districts of western Uttar Pradesh. Clinical proforma of all the patients of psoriasis who attended psoriasis clinic in the OPD of the Department of Dermatology, Venereology and Leprosy, for a period of three years, from October 01, 2012, to September 30, 2015, were analysed retrospectively after obtaining institutional ethical clearance and anonymising the data. These clinical proformas provided information about age, sex, occupation, duration and course of the disease, family history, morphology and distribution of lesions, extent of disease, PASI score, nails and joint involvement and other systemic examination findings. Diagnosis was clinical in most of the cases and made by consultants with postgraduate qualification in Dermatology, Venereology and Leprosy. Lesional skin biopsy was done in few doubtful cases.

RESULTS

A total of 46,044 patients sought treatment for various skin ailments from OPD of Department of Dermatology, Venereology and Leprology of HIMS, Dehradun, during the three year study period extending from October 01, 2012, to September 30, 2015. Of these, 1,197 patients were found to be suffering from psoriasis giving a prevalence rate of 2.6%. All these patients were examined in detail and clinical findings recorded in specially designed proforma for psoriasis. Sex distribution of study subjects revealed that 845 (70.6%) patients were males and 352 (29.4%) females with a male-to-female ratio of 2.4:1. There were 38 (3.2%) paediatric patients of age up to 18 years. The youngest patient was of 4 years age and the oldest was of 82 years. The mean age of onset was 37.3 years. The mean age of onset in males was 39.6 years and in female 31.7 years.

As for the duration of the disease, 547 (45.7%) of the patients had disease duration of less than 5 years, 339 (28.3%) of 5-10 years and 311 (26%) of more than 5 years. Family history of psoriasis in first-degree relatives was present in 8.2% cases. A total of 586 (48.9%) patients were smokers either presently or reformed and 663 (55.4%) patients were current or reformed habitual users of alcohol.

The first site of involvement was scalp in 35.3%, extremities in 30.7%, soles 8.2%, palms 9.5% and back 9.8%. In 5.2% of the patients, the disease started at multiple sites. Extensor aspects of extremities were predominantly involved in 59.3% cases.

Seasonal variation in disease severity was seen in 64.5% cases with winter aggravation in 52% cases. Lesions persisted all through the year with irregular aggravations and remissions in 25% of cases. Itching was the predominant symptom in 62.2% cases followed by itching and burning in 21.8% cases. In 2.5% patients, presentation was due to cosmetic problems posed by the disease. Painful fissuring was the chief symptom in 7.8% cases of psoriasis with lesions over palms and soles. Overall, a total of 1065 (88.9%) patients had taken topical and or systemic therapy for their disease in the past. Of these, 852 (71.2%) patients had also tried ayurvedic and/or homoeopathic treatment. According to the morphology of lesions and sites of involvement, chronic plaque type psoriasis with 1,053 (88%) patients was the commonest clinical type followed by palmoplantar psoriasis in 93 (7.8%) patients. Arthropathic and guttate psoriasis occurred in 87 (7.3%) and 42 (3.5%) cases, respectively. Localised psoriasis of scalp, pustular, erythrodermic and flexural type of disease was observed in 19 (1.6%), 10 (0.8%), 8 (0.7%) and 7 (0.6%) patients, respectively. Mucosal involvement in the form of well-defined brownish patches over glans penis was seen in 12 male patients. No other mucous membrane involvement was noted.

Psoriasis Area Severity Index (PASI) was calculated for all the patients to assess the severity of the disease initially at the time of presentation and subsequently to measure the response to therapeutic modality employed. Majority (75.4%) of the patients had PASI score between 20 to 40. PASI score was less than 20 in 19.4% cases. Remaining 5.2% had a score of more than 40.

Nails were involved in 744 (62.2%) patients with psoriasis. Finger nails were affected in 442 (36.9%), toe nails in 71 (5.9%) and both finger and toe nails in 231 (19.3%) cases. The nail changes recorded were pitting (61.5%), thickening of nail plates (39%), discoloration of nail plates (37.3%), subungual hyperkeratosis (27.2%), onycholysis (16.3%), transverse grooves (10.6%), complete or partial nail destruction (2.9%), leukonychia (2.3%) and oil spots (1.7%). Isolated nail involvement was seen in 7 (0.6%) patients.

Arthritis was present in 87 (7.3%) of our patients with psoriasis. Of these, 57 (4.8%) were males and 30 (2.5%) were females. Forty two patients (48.3%) had symmetrical polyarthritis. This was followed by asymmetrical oligoarthritis in 23 (26.4%), spondyloarthropathy in 17 (19.5), distal interphalangeal arthritis in 3 (3.4%) and arthritis mutilans in 2 (2.3%) cases. Nail changes were observed in 79% cases of arthritis. Enthesitis was present in 36% cases, tendonitis in 38%, fasciitis in 22% and dactylitis in 11% cases. No correlation was found between severity of skin involvement, nail dystrophy and arthropathy.

DISCUSSION

Psoriasis is a common dermatological disorder. Its prevalence and pattern is greatly influenced by diverse genetic, ethnic and environmental factors.[2] Uttarakhand, a hill state, is situated in the north-western part of India. It is administratively divided into two divisions, namely Garhwal and Kumaon. It has a total geographical area of 53,483 sq. km. of which only 7,448 sq. km. is plain. Temperature here varies from sub-zero levels to more than 40 degree Celsius, depending upon the altitude of the place and season. Average rainfall is 1,631 mm and average relative humidity 76%, which may go beyond 90% during rains, particularly

in plains like Doon valley where the capital city of Dehradun is located.

During the study period, a total of 46,044 patients sought treatment from Skin OPD of HIMS, Dehradun. Of these, 1,197 patients were diagnosed with psoriasis translating to a prevalence rate of 2.6% for psoriasis. This is well within the prevalence rate of 0.44% to 2.8% described for psoriasis in India.[1] Males outnumbered females with a male-to-female ratio of 2.4:1. Similar male preponderance in psoriasis has been reported in other studies too.[3,5,8-12] Mean age of onset in females (31.7 years) was less than in males (39.6 years). Younger mean age at onset among females was also noted in other studies.[5,8,11,12] Okhandiar et al,[3] however, reported comparable mean age of onset in both males and females. Duration of disease in patients varied from 6 weeks to 42 years with 547 (45.7%) of the patients reporting disease duration of up to 5 years. Bedi et al[9] also reported a widely varied disease duration of 1 week to more than 30 years in his study from North India. Psoriasis is a known inheritable disease with polygenic mode of inheritance. Familial occurrence of psoriasis has been reported to vary from 4.4% to 90.9%.[13] A positive family history of psoriasis in first-degree relatives was elicited in 8.2% of our patients. A variable positive family history of psoriasis ranging from 2 to 14% has been reported in various studies.[5,8-10,12] History of smoking and alcoholism, past or present, was recorded in 48.9% and 55.4% of our patients, respectively. Near similar positive history of smoking and alcoholism in 45.1% and 51.3% patients, respectively, was also recorded in a study from south India.[11] Smoking and alcoholism are well known aggravating factors in psoriasis.[2]

Scalp was the first site affected in 35.3% of our cases followed by extremities in 30.7% cases. Psoriasis starting from scalp in 32.99% and 25.2% of the patients, respectively, was also observed in other studies from North India.[8,10] In contrast to predominant extensor involvement in 93% cases,[3] 59.3% of our patients had predominant extensor involvement. We found seasonal variation in disease severity in 64.5% cases with winter aggravation in 49% of them. Kaur et al[10] also found seasonal variation in half of their patients with 43% reporting improvement during summers and 7% in winter season. Bedi et al[9] described significant seasonal variation in 72% of their patients with worsening in winter in 30% and monsoon and early summer in 16% and 4% of the cases, respectively.

Itching was the predominant symptom in 62.2% patients, in our study, followed by itching and burning in 21.8% of the patients. Itching, as a major symptom, has also been described in many other studies.[5,8-10] Painful fissuring was the main symptom in 7.8% cases with prominent involvement of palms and soles. Isolated palmoplantar involvement was present in 4.3% of these cases, whereas remaining 3.5% patients had psoriasis elsewhere as well. Chronic plaque type psoriasis was the commonest morphological type with 88% of cases as observed in many other studies.[8-12] This was followed by cases of localised psoriasis of palms and soles in 4.3% cases, which is more than double the incidence of 2% reported by Bedi et al.[9] Palmoplantar psoriasis causes marked morbidity due to itching, difficulty in manual work and walking due to painful fissures. It is believed that friction plays a role in localisation of lesions over certain areas on palms and soles. High prevalence of plantar involvement has been ascribed to customs of barefoot walking and wearing of open slippers, which result in frequent minor trauma compared to closed footwears.[1] Complicated psoriasis like pustular, erythrodermic and psoriatic arthropathy, all accounted for less than 1% cases each.

Nail involvement is a common feature of psoriasis and affects approximately 10-78% of patients with 5-10% of patients having isolated nail psoriasis.[14] In our study, nail was involved in 62.2% patients. Isolated nail involvement was seen in 0.6% cases, which is in agreement with the 0.51% reported by Kaur et al.[8] The commonest nail change was pitting in 61.5% cases, followed by thickening and discoloration of nail plates in 39% and 37.3% patients, respectively. Pitting of nail plates as the commonest change in nails in psoriasis has been described by various authors.[9,14] In a study of nail change in psoriasis, Ghosal et al[15] observed that pitting and subungual hyperkeratosis were the most common finger and toe nail changes noted in 65% and 33% cases, respectively. Subungual hyperkeratosis was seen in 27.2% patients in our study.

The association of psoriasis with inflammatory, usually seronegative, polyarthritis is well known. We found 7.3% of patients with psoriasis afflicted with seronegative arthritis. Similar joint involvement in 10.24% and 8.7% patients of psoriasis has been reported in two other studies from north India.[8,16] Male outnumbered females in our study, which in consonance with the findings of other studies from India.[1,8,16] Symmetric polyarthritis (48.3%) was the commonest type of arthritis followed by asymmetric oligoarthritis (26.4%) in our patients. Kumar et al[16] also reported symmetric polyarthritis as the most common pattern of psoriatic arthritis in 58% cases in their series.[16] In western literature, asymmetric oligoarthritis has been found to be the commonest pattern in psoriasis and female preponderance has also been described.[1]

CONCLUSION

Psoriasis is a common dermatological disease in Garhwal region of Uttarakhand with prevalence pattern and epidemiological characteristics similar to the presentation of the disease elsewhere in the country.

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