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Original Research Article

Clinical profile of palmoplantar dermatoses in patients attending tertiary health center in central India

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ABSTRACT

Background: Palmoplantar dermatoses include specific skin diseases affecting palm and soles and are frequently encountered dermatoses in the dermatology practice. Apart from diagnostic difficulties, few palmoplanter dermatoses cause great discomfort and disability and may also affect a person's livelihood.
Methods: It was a cross sectional descriptive study conducted in the Department of Dermatology, Chirayu Medical College and Hospital, Bhopal. A total of 200 patients of palmoplanter dermatoses, attending outpatient department of dermatology of tertiary health center were enrolled for study.
Results: In our study, a total of 200 patients were included in the study, of which 116 (58.0%) were males and 84 (42.0%) were females. Male to female ratio was 1.38 showing male preponderance of disease. The most common age group affected was 31–40 years followed by 21–30 years in both the sexes. In our study, only palms were involved in 30 (15%) cases, soles in 39 (19.5%), and both palms and soles in 131 (65.5%) cases. Out of all palmoplanter dermatoses, 161 (80.5%) cases had palms and 170 (85%) cases had soles involvement. Palmoplantar psoriasis was the most common dermatoses found in 48 (24.0%) cases followed by palmoplanter keratoderma in 26 (13.0%).
Conclusions: Early recognition of clinical symptoms and signs is important to plan further supportive diagnostic investigations as well as appropriate and effective management to further improve outcome of illness and the quality of life.

Keywords: Palmoplantar dermatoses, Psoriasis, Palmoplanter keratoderma

INTRODUCTION

Palmoplantar dermatoses include specific skin diseases affecting palms and soles and are frequently encountered dermatoses in the dermatology practice. Some palmoplanter dermatoses are specific to palms and soles only while some have tendency to involve other body parts also. Palmoplanter dermatoses often pose challenges in diagnosis because of alteration of classic skin lesions manifestation. Apart from diagnostic difficulties, few palmoplanter dermatoses cause great discomfort and disability and may also affect a person's livelihood.[1] The most common palmoplanter dermatoses includes palmoplantar psoriasis, eczema, palmoplantar keratoderma, infections (fungal, viral, bacterial), corn and callosities, hyperhidrosis, keratolysis exfoliativa, contact dermatitis etc. The present study was conducted to evaluate clinical profile of patients suffering from palmoplantar dermatoses at a tertiary care center.

METHODS

Study design

A cross sectional descriptive study was conducted over the duration of 3 yrs.

Sample size

A total of 200 patients of palmoplanter dermatoses, attending outpatient Department of Dermatology of tertiary health center were enrolled for study after institutional ethics committee approval and individual disease were confirmed by relevant available investigations

Study duration

The study was conducted over the duration of three years (from April 2015 to March 2018).

Study setting

Department of Dermatology, Chirayu Medical College and Hospital, Bhopal.

Inclusion criteria

Patients with dermatoses involving palms and soles with or without other body part involvement were included. Patients of age group between 11-70 years and both the sexes were included after informed written consent.

Exclusion criteria

Patients who have already been receiving treatment, patients with sexually transmitted infections/Hansen's disease with palmoplanter lesions and patients who did not give written consent for study participation were excluded.

Data analysis

Data were entered and analyzed using Microsoft Excel 2007.

Procedure

After obtaining the informed written consent from all the participants of the study a detailed clinical history was taken in terms of age, sex, occupation, duration of skin lesions, course and progression of disease, family history of similar disease, presence of associated complaints (like itching, burning sensation, erythema, pain), presence or absence of symmetrical involvement, seasonal variation and presence or absence of systemic disease. Complete clinical examination was done in all patients to identify morphology of lesions, its extension and involvement of any other body parts or any other concomitant or relevant systemic illness. Investigations like complete blood test, blood sugar, liver and renal function tests, thyroid profile, X-ray chest, KOH mount (for suspected dermatophytoses) and patch test (for suspected eczema) were done wherever necessary. Skin biopsy for histopathological examination was done in all cases to further confirm the diagnosis.

RESULTS

In our study, a total of 200 patients were included in the study, of which 116 (58.0%) were males and 84 (42.0%) were females. Male to female ratio was 1.38 showing male preponderance of disease. The most common age group affected was 31–40 years followed by 21–30 years in both the sexes. Males included 32 (16.0%) cases followed by 25 (12.5%) cases and females included 23 (11.5%) cases followed by 19 (08.5%) cases in the respective age group. Least number of patients belonged to 61-70 age group in both the sexes. Age and sex wise distribution of palmoplantar dermatoses patients is shown in Table 1.

Table 1: Age and sexwise distribution of palmoplantar dermatoses patients.

Age in years	Males N (%)	Females N (%)	Total N (%)
11-20	18 (09.0)	16 (08.0)	34 (17.0)
21-30	25 (12.5)	19 (08.5)	44 (22.0)
31-40	32 (16.0)	23 (11.5)	55 (27.5)
41-50	21 (10.5)	14 (07.0)	35 (17.5)
51-60	12 (06.0)	09 (04.5)	21 (10.5)
61-70	08 (04.0)	03 (01.5)	11 (05.5)
Total	116 (58.0)	84 (42.0)	200 (100)

Table 2: Occupation wise distribution of palmoplanter dermatoses patients.

Occupation	Number of patients N (%)
Agriculturists	72 (36.0)
Housewives	49 (24.5)
Laborers	21 (10.5)
Mechanical workers	18 (09.0)
Students	15 (07.5)
Job	11 (05.5)
Business	08 (04.0)
Healthcare workers	04 (02.0)
Unemployed	02 (01.0)

As per our study, palmoplanter dermatoses involved most commonly in agriculturists in 72 (36.0%) patients followed by housewives in 49 (24.5%) patients. Manual workers like laborers and mechanical workers constituted 21 (10.5%) and 18 (09.0%) cases respectively. Occupation wise distribution of palmoplanter dermatoses is shown in Table 2.

In our study, majority of the patients 72 (36%) had presenting complaint of itching at the site of the lesion followed by lesional scales in 33 (16.5%) of patients. 45 (22.5%) patients presented with a combination of two or more complaints. 10 (05.0%) patients had other complaints like edema, pustules, crusting, blisters, hyperpigmentation etc. Distribution of palmoplantar

dermatoses patients according to the presenting complaints is shown in Table 3.

Table 3: Distribution of palmoplantar dermatoses patients according to the presenting complaints.

Presenting complaint	N (%)
Pruritus	72 (36.0)
Scaling	33 (16.5)
Erythema	21 (10.5)
Painful lesions	19 (09.5)
Any combination of above complaints	45 (22.5)
Any other complaints	10 (05.0)
Total	200 (100)

Table 4: Distribution of palmoplantar dermatoses patients according to the diagnosis.

Diagnosis	Males N (%)	Females N (%)	Total N (%)
Palmoplantar Psoriasis	26 (13.0)	22 (11.0)	48 (24.0)
Palmoplanter Keratoderma	15 (07.5)	11 (05.5)	26 (13.0)
Hyperkeratotic Eczema	10 (05.0)	07 (03.5)	17 (08.5)
Dyshidrotic Eczema	05 (02.5)	03 (01.5)	08 (04.0)
Contact Dermatitis	06 (03.0)	05 (02.5)	11 (05.5)
Dermatophytoses	11 (05.5)	08 (04.0)	19 (09.5)
Verruca Vulgaris	07 (03.5)	06 (03.0)	13 (06.5)
Pitted Keratolysis	06 (03.0)	04 (02.0)	10 (05.0)
Keratolysis Exfoliativa	05 (02.5)	04 (02.0)	09 (04.5)
Vitiligo	04 (02.0)	03 (01.5)	07 (03.5)
Cutaneous Drug Eruptions	04 (02.0)	02 (01.0)	06 (03.0)
Erythema Multiforme	03 (01.5)	01 (00.5)	04 (02.0)
Palmoplanter Hyperhidrosis	02 (01.0)	02 (01.0)	04 (02.0)
Palmoplanter Pustulosis	01 (00.5)	00 (00.0)	01 (00.5)
Others	11 (05.5)	06 (03.0)	17 (08.5)
Total	116 (58)	84 (42)	200 (100)

In our study, only palms were involved in 30 (15%) cases, only soles in 39 (19.5%), and both palms and soles in 131 (65.5%) cases. Out of all palmoplanter dermatoses, 161 (80.5%) cases had palms and 170 (85%) cases had soles involvement. Involvement of other body parts was seen in 30 (15%) cases along with palms and soles involvement. Bilateral symmetrical lesions were seen in 174 (87%) patients. Presence of similar palmoplanter dermatoses in family members was found in 26 (13.0%) cases. 68 (34%) patients complained of seasonal exacerbation of the disease, 41 (20.5%) in winters and 27 (13.5%) in summer season. 71 (35.5%) patients had disease for less than 6 months, 65 (32.5%) patients between 6 months to 1 year, 39 (19.5%) patients between 1 year to 3 years and remaining 25 (12.5) patients had disease for more than 3 years.

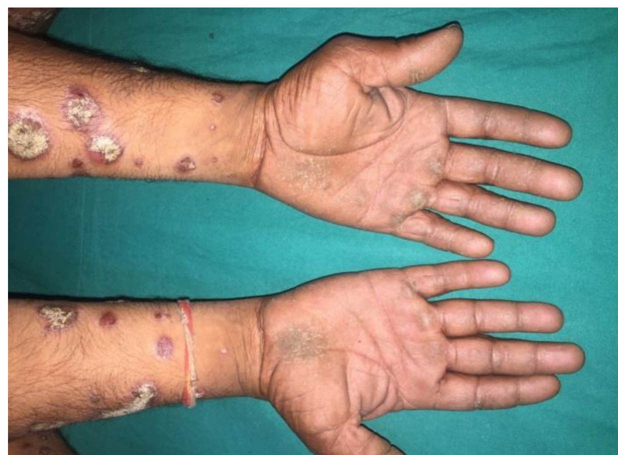

Figure 1: Psoriasis involving palms and forearms.

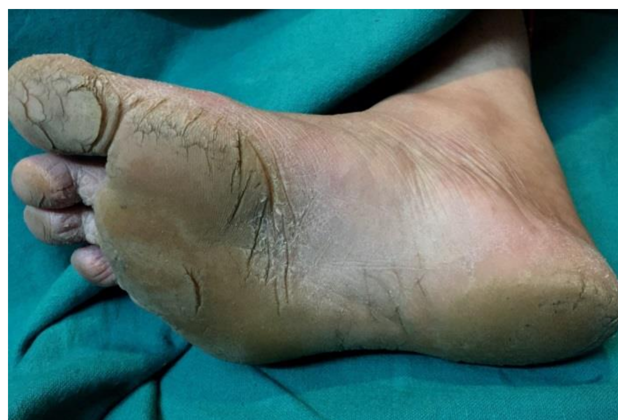

Figure 2: Planter keratoderma.

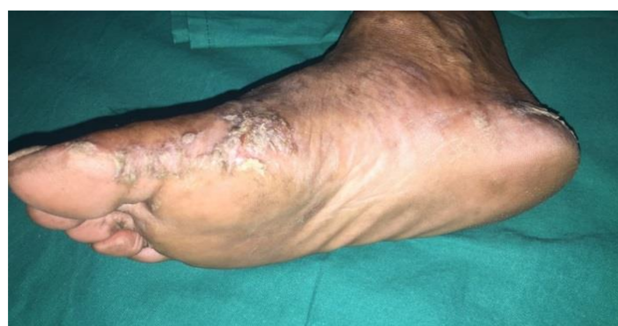

Figure 3: Hyperkeratotic eczema involving medial aspect of foot.

Palmoplantar psoriasis (Figure 1) was the most common dermatoses found in 48 (24.0%) cases followed by palmoplanter keratoderma (Figure 2) in 26 (13.0%).

Other common palmoplanter dermatoses were dermatophytoses (n=19/9.5%), hyperkeratotic eczema (Figure 3) (n=17/8.5%) and verruca vulgaris lesion over palms and soles (n=13/6.5%). Distribution of palmoplantar dermatoses patients according to the diagnosis is shown in Table 4.

DISCUSSION

In the present study, the pattern of sex distribution of patients showed 58% males and 42% females with male to female ratio of 1.38:1; while there was male preponderance in study by Kang et al, with F:M= 1:1.01.[2] Male preponderance of palmoplantar dermatoses could be because of occupation and activities related to exposure of various environmental pollutants, occupation related chemicals, mechanical/physical injuries, contact allergens and irritants. In the present study, most of the patients belonged to the age group of 31-40 years while in the study by Kang et al, maximum incidence was seen in two age groups 40-49 years and 50-59 with 18.1% each.[2] Male preponderance found in our study was also similar to few other studies, while age group wise incidence in our study were also comparable to the study conducted by Agarwal et al where psoriasis of palms and soles, hyperkeratotic eczema and tinea pedis and manuum, all seemed to be more prevalent in middle aged adults.[3-6]

In our study, majority of the patients (n=72/36%) had presenting complaint of itching at the site of the lesion followed by lesional scales in 33 (16.5%) of patients. 45 (22.5%) patients presented with a combination of two or more complaints. There were few other studies also in which itching was found to be the predominant symptom in palmoplantar dermatoses.[6,7] In our study, palmoplantar psoriasis was the most common dermatoses found in 48 (24.0%) cases followed by palmoplanter keratoderma in 26 (13.0%), while in a study conducted by Nair et al in 2017, they found 28.22% cases with palmoplantar psoriasis, 26.72% cases with keratinizing disorders, 13.36% cases with eczema, 9.90% cases with viral infections, 7.92% cases with fungal infections and 4.45% cases with drug reactions.[8] In another similar type of study conducted by Hongal et al, they found the most common five diseases in their study were palmoplantar psoriasis (20.7%), moniliasis (19%), palmoplantar hyperhidrosis (7%), keratolysis exfoliativa (6%) and pitted keratolysis (6%).[9]

CONCLUSION

Males and middle age patients of 31-40 years were the most commonly affected group in our study. Both palms and soles were the more commonly affected body parts than palms or soles alone. Palmoplantar psoriasis was found to be the most common dermatoses followed by palmoplantar keratoderma. Our study helps to give information regarding various aspects of clinical profile of palmoplanter dermatoses. Early recognition of clinical symptoms and signs is important to plan further supportive diagnostic investigations as well as appropriate and effective management to further improve outcome of illness and the quality of life.

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Conflict of interest: None declared
Ethical approval: The study was approved by the institutional ethics committee

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