

Original Research Article

Clinical pattern of papulosquamous dermatoses: an observational study conducted at tertiary care center, Ujjain, Madhya Pradesh, India

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ABSTRACT

Background: Papulosquamous dermatoses is a complex group of disorder characterized by scaly papules and plaques. There is a need to study the exact, pattern and prevalence of this disorder in different age groups and their line of treatment. Objective of the study was to observe the clinical pattern of various papulosquamous dermatoses and their prevalence at tertiary care center, Ujjain.

Methods: This was an observational study done in R.D. Gardi Medical college, Ujjain over a period of one year. A total of 229 cases including male and female of papulosquamous dermatoses were enrolled from the outpatient department. All patients were studied clinically and relevant data was recorded. Microsoft excel was used for data entry and analysis was done using SPSS version 23.

Results: There were 139 (60.7%) males and 90(39.3%) females with overall male to female ratio was 1.54:1. Most common age group affected with papulosquamous dermatoses was 31-50 years. The clinical pattern observed was psoriasis 49.3%, lichen planus 24.5% followed by pityriasis rosea 10.5%. The least common papulosquamous diseases were pityriasis rubra pilaris (1.3%) and lichen nitidus (1.3%). Most common variant of psoriasis and lichen planus was chronic plaque and classical respectively. Classical juvenile variant of pityriasis rubra pilaris was seen in our study. A single rare case of lymphomatoid papulosis was noted in our study.

Conclusions: Psoriasis, lichen planus and pityriasis rosea were commonest papulosquamous diseases were observed but still we need more longer duration of observational studies on papulosquamous dermatoses to understand the morphological features for the effective management of these diseases.

Keywords: Clinical pattern, Papulosquamous dermatoses, Ujjain

INTRODUCTION

The papulosquamous dermatoses are a heterogenous group of disorders that comprise the largest group of skin diseases seen by dermatologist. They are characterized by scaly papules and plaques and they form quite a common group amongst the wide spectrum of skin disease in all age group. The disease which comes under this group varies from the inflammatory skin disease like psoriasis to infections like syphilis and from self-resolving pityriasis rosea to the treatment resistant parapsoriasis.

Atypical presentations can be there in individual diseases. Among wide spectrum of skin diseases, papulosquamous condition form most common group. Gibson et al considered psoriasis, pityriasis rubra pilaris, pityriasis rosea, lichen planus, lichen nitidus, lichen striatus and parapsoriasis in their study.¹ Toussaint et al considered the same set of diseases in their study.² But Hall included psoriasis, pityriasis rosea, lichen planus, tinea versicolor, seborrheic dermatitis, secondary syphilis and drug eruptions in his study.³

There is a need to study the exact pattern and prevalence of this disorder in different age groups. Besides the prevalence, clinical types and presentation of these skin diseases also differ nationwide according to the geographical regions and the management of patient will also differ accordingly. Some of papulosquamous disorder mimic each other and a good diagnostician mind can navigate through it. If we make good diagnosis it will save our time, money and biopsy investigation and others resources.

International classification of statistical diseases of papulosquamous disorders.⁴

Psoriasis vulgaris

Psoriasis vulgaris such as generalized pustular psoriasis, impetigo herpetiformis, Von zumbusch’s disease, acrodermatitis continua, pustulosis palmaris et plantaris, guttate psoriasis, arthropathic psoriasis, other psoriasis and psoriasisun specified.

Parapsoriasis

Parapsoriasis such as pityriasis lichenoides et varioliformis acuta, mucha habermann disease, pityriasis lichenoides chronica, lymphomatoid papulosis, small plaque parapsoriasis, large plaque parapsoriasis, retiform parapsoriasis, other parapsoriasis and parapsoriasis unspecified.

Pityriasis rosea, lichen planus, other papulosquamous disorders such as pityriasis rubra pilaris, lichen nitidus, lichen striatus, lichen ruber moniliformis, infantile papular acrodermatitis (Gianotti-Crosti syndrome), other specified papulosquamous disorders and papulosquamous disorder, unspecified.

METHODS

The present study was conducted in the outpatient department of dermatology, R.D. Gardi Medical College and C.R. Gardi Hospital between the time period of January 2018 and January 2019. This was the cross sectional and observational study of papulosquamous dermatoses in general population who were clinically diagnosed to have the papulosquamous disorder as per ICD 10 classification and were willing to participate in the study. Ethical committee clearance was obtained. A written informed consent form was obtained from patients. Papulosquamous dermatoses patients with secondary malignancies and sexually transmitted diseases and drug induced Papulosquamous disorders were excluded in the study. Total two hundred twenty-nine (229) patients were clinically diagnosed to have the papulosquamous dermatoses and given written consent to participate during the study period. A detailed history of onset, duration, progression and associated symptoms were obtained from the patients and their parents. Relevant past history, family history and drug intake

prior the onset of the disease is recorded. General and systemic examination was done.

Dermatological examination was carried out. Morphology, distribution, character of scales and any special features were recorded. Nail, oral and genital mucosa were examined in detail. All routine investigations including haemoglobin, total leukocyte count, differential count, hepatic and renal profile was done depending on the requirement of the management of the disease. Special investigation like biopsy was done in doubtful cases for confirmation of diagnosis. The findings were recorded in the proforma and tabulated in the master chart. The results were analysed and discussed in detail using spss version 23.

RESULTS

Total 229 cases participated in the study, the minimum age of the patient was 2 months and the maximum 77 years. The most common papulosquamous dermatoses prevalent was psoriasis 113 (49.3%) followed by lichen planus 56 (24.5%) followed by pityriasis rosea 24 (10.5%) (Table 1).

Table 1: Distribution of patients having various papulosquamous dermatoses.

Diagnosis	Patients	%
Lichen planus	56	24.5
Psoriasis	113	49.3
Pityriasis rosea	24	10.5
Seborrheic dermatitis	9	3.9
Lichen striatus	8	3.5
Pityriasis lichenoides chronica	5	2.2
Parapsoriasis	7	3.1
Lichen nitidus	3	1.3
Classical juvenile PRP	3	1.3
Lymphomatoid papulosis	1	.4
Total	229	100.0

There were 139 (60.7%) males and 90 (39.3%) females, showing a male preponderance in the study patients. Overall male to female ratio was 1.54:1. In lichen planus females have outnumbered the males having male to female ratio 1: 1.33. In psoriasis males outnumbered females having male to female ratio 2.2:1. In pityriasis rosea males have outnumbered females having males to female ratio is 1.6:1. In Lichen striatus male to female ratio was 1:3. In pityriasis lichenoides chronica females are more than males. Three male cases of classical variant of juvenile pityriasis rubra pilaris and one male case of lymphomatoid papulosis is recorded (Table 2).

Majority of the patients belong to the group 31-50 years (43.2%), followed by 11-30 years (31.4%) and the least age group was more than 70 years (0.4%). In lichen planus maximum number of cases are within 11 to 50 year of age group. In psoriasis most common age group

involved is 31 to 50 year. In pityriasis rosea most common age group involved is 11to 30 year. In seborrheic dermatitis, lichen striatus, lichen nitidus maximum cases were under 10 year of age group. In pityriasis lichenoides and parapsoriasis maximum cases were under 11-30 years of age group as shown in (Table

3). There were 208 (90.8%) hindus and 21(9.2%) muslims in the study, showing a hindu preponderance in the study. Farmer 58 (25.3%), housewife 52 (22.7%), 52 (22.7%), daily wage labour 32 (14%) formed the bulk of patients.

Table 2: Distribution of various papulosquamous dermatoses according to sex.

Diagnosis	Sex		Total (%)
	Female (%)	Male (%)	
Lichen planus	32 (57.1)	24 (42.9)	56 (100)
Psoriasis	35 (31.0)	78 (69.0)	113 (100)
Pityriasis rosea	9 (37.5)	15 (62.5)	24 (100)
Seborrheic dermatitis	2 (22.2)	7 (77.8)	9 (100)
Lichen striatus	6 (75.0)	2 (25.0)	8 (100)
Pityriasis lichenoides chronica	3 (60.0)	2 (40.0)	5 (100)
Parapsoriasis	2 (28.6)	5 (71.4)	7 (100)
Lichen nitidus	1 (33.3)	2 (66.7)	3 (100)
Classical juvenile PRP	0 (0.0)	3 (100)	3 (100)
Lymphomatoid papulosis	0 (0.0)	1 (100)	1 (100)
Total	90 (39.3)	139 (60.7)	229 (100)

Table 3: Distribution of various papulosquamous dermatoses in different age group.

Diagnosis	Age (in years)					Total (%)
	≤10 (%)	11-30 (%)	31-50 (%)	51-70 (%)	>70 (%)	
Lichen planus	2 (3.6)	22 (39.3)	22 (39.3)	9 (16.1)	1 (1.8)	56 (100)
Psoriasis	2 (1.8)	20 (17.7)	69 (61.1)	22 (19.5)	0 (0.0)	113 (100)
Pityriasis rosea	0 (0.0)	20 (83.8)	4 (16.7)	0 (0.0)	0 (0.0)	24 (100)
Seborrheic dermatitis	8 (88.9)	0 (0.0)	1 (11.1)	0 (0.0)	0 (0.0)	9 (100)
Lichen striatus	8 (100)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	8 (100)
Pityriasis lichenoides chronica	1 (20.0)	3 (60.0)	1 (20.0)	0 (0.0)	0 (0.0)	5 (100)
Parapsoriasis	0 (0.0)	5 (71.4)	2 (28.6)	0 (0.0)	0 (0.0)	7 (100)
Lichen nitidus	3 (100)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	3 (100)
Classical juvenile PRP	2 (66.7)	1 (33.3)	0 (0.0)	0 (0.0)	0 (0.0)	3 (100)
Lymphomatoid papulosis	0 (0.0)	1 (100)	0 (0.0)	0 (0.0)	0 (0.0)	1 (100)
Total	26 (11.4)	72 (31.4)	99 (43.2)	31 (13.5)	1 (0.4)	229 (100)

According to the Kuppaswamy classification, majority of the cases belonged to the lower socioeconomic class i.e., 68.6%. Most common lesion observed is papule along with plaque in 45.4% patients followed by plaque in 38% followed by papule in 15.4% respectively.

Table 4: Distribution of patients according to various morphological types of psoriasis.

Diagnosis	Patients	Percent
Chronic plaque psoriasis	77	69.4
Erythrodermic psoriasis	3	2.7
Guttate psoriasis	1	0.9
Inverse psoriasis	2	1.8
Palmoplantar psoriasis	25	22.5
Pustular psoriasis	2	1.8
Scalp psoriasis	1	0.9
Total	111	100.0

The most common morphological variant of psoriasis in our study was chronic plaque psoriasis 77 (69.4%) followed by palmoplantar psoriasis 25 (22.5%) and erythrodermic, inverse pustular, guttate and scalp psoriasis are minor variants as shown in Table 4. The most common morphological variant of lichen planus in our study was classical lichen planus 38 (67.9%) followed by hypertrophic lichen planus 12 (21.4%) followed by actinic lichen planus 4 (7.1%) as shown in Table 5.

Table 5: Distribution of patients according to various morphological types of lichen planus.

Diagnosis	Patients	Percent
Actinic lichen planus	4	7.1
Classical lichen planus	38	67.9
Hypertrophic lichen	12	21.4
Linear lichen planus	2	3.6
Total	56	100.0

Table 6: Most common anatomical site involved in papulosquamous dermatoses.

Lesion side	Frequency	Percentage (%)
Face	10	4.4
Neck	20	8.7
Upper limb	187	81.7
Lower limb	169	73.8
Trunk	111	48.5
Back	121	52.8
Scalp	62	27.1
Oral mucosa	12	5.2
Genital mucosa	8	3.5

Among all papulosquamous dermatoses decreasing order on basis of site of involvement in our study was upper limb 187 (81.7%), lower limb 169 (73.8%), back 121 (52.8%), trunk 111 (48.5%), scalp 62 (27.1%). The least common site involved was genital mucosa 8 (3.5%) respectively as shown in Table 6.

In lichen planus cases oral mucosa, it 12 (21.4%) is involved while in other dermatoses it is uninvolved. Genital mucosa was involved in 3 (5.4%) lichen planus and in 3 (2.7%) inverse psoriasis cases. Pruritus was the most common symptom present in all papulosquamous dermatoses present in 78.6%. Past history of similar illness is present in 47.2% cases. In lichen planus pterygium was present in 2 (3.6%) cases. In Psoriasis most common nail finding is pitting which is present in 29 (25.7%) and followed by pitting with subungual hyperkeratosis in 6 cases (5.3%). Nail dystrophy was present in one case of lichen striatus.



Figure 1: Chronic plaque psoriasis showing silvery white scaling.



Figure 2: Trunk involvement in classical juvenile variant of pityriasis rubra pilaris with island of sparing.



Figure 3: Classical variant of lichen planus showing violaceous flat topped papules.



Figure 4: Case of pityriasis lichenoides chronica showing reddish brownish scaly papules.



Figure 5: Case of lymphomatoid papulosis showing central necrotic ulceration on elbow and lesion healing with varioliform scars.

DISCUSSION

The present study was conducted in R.D. Gardi Medical college a tertiary care center, Ujjain. In the present study 229 cases of papulosquamous dermatoses were observed. Papulosquamous disorder is collection of heterogenous diseases. The diseases which forms major part like psoriasis, *lichen planus*, *pityriasis rosea*, *seborrheic dermatitis*, *parapsoriasis*, *lichen nitidus*, *lichen striatus*, *pityriasis lichenoides* shows characteristic skin and nail changes. In our study of 229 cases males outnumbered females. The number of males is 139 (60.7%) and females is 90 (39.3%) and male to female ratio is 1.54:1. The most common age group which was affected was 31-50 year of age group, this study was comparable to Sivaprakasam et al in which male were 59 (56.7%) and female were 45 (43.2%) and the most common age group affected was 31-45 year of age group and overall male to female ratio is 1.2:1.⁵ There were 113 cases of psoriasis with male to female ratio is 2.2:1 which is comparable to Okhandiar et al study in which ratio was 2.46:1.⁶ Maximum no of patients in psoriasis were in 31-50 years of age group in our study which was comparable to the that of Sivaprakasam et al in which most common age group was 31-45 years and Sharma and Sepaha in which most common age group was 20-50 year.^{5,7} This may be cause as patients are more prone to stress and strain. Most common variant of psoriasis was chronic plaque psoriasis 77 (69.4%) followed by palmoplantar psoriasis 25 (22.5%). This is comparable to Nanda et al in which 69.6% cases of chronic plaque psoriasis were noted.⁸ Most common site of involvement in present study in psoriasis was extremities i.e. upper limb (92%) and lower limb (91.2%) which is comaparable to Okhandiar et al in which most common site of involvement is extensor of extremities which is 93%. In psoriasis genital and oral mucosa were involved were 2.7% and 0 percent which is comparable to Kaur et al in which 0.4% and 0.7% involvement was seen.^{8,9}

In present study the most common age group affected with lichen planus is between 11 to 50 years which is comparable to Parihar et al in which 20-40 years of age group is most common affected.¹⁰ In present study females 32 (57.1%) has outnumbered the males 24 (42.9%), M: F ratio is 1:1.33 while in Bhattacharya et al and Sivaprakasam et al ratio was 1:1 and 1.3:1 respectively.^{11,5} Most common variant of lichen planus is classical 67.9% which is more compared to Bhattacharya et al study in which 47.4% cases of classical lichen planus were noted.¹¹ Most common site involved in lichen planus is lower limb 78.6% which is comparable to Parihar et al in which 77.2% involvement is present.¹⁰ Oral mucosa and genital mucosa is involved in 21.4% and 5.4% cases in present study while in Bhattacharya et al it is 16.8% and 5.2% cases.

Most common age group affected in pityriasis rosea was 11-30 years which and Kambil et al in which 10-30 years was affected.¹² In pityriasis Rosea male preponderance was present which is similar to Kambil et al study in which male preponderance was seen.^{12,13} The mean age of pityriasis rosea in our study was 23.71 years which was comparable to Ganguly et al study in which the mean age was 20.32.¹⁴

Male preponderance in seborrheic dermatitis was seen in present study with male to female ratio to 3.5:1 which is high compared to Wananukul et al.¹⁵

In which M:F ratio was 1.06:1. Scalp was common site involved in seborrheic dermatitis which was comparable to Foley et al and Kalyani et al study in which scalp was the common site.^{16,17}

Prevalence of lichen striatus among all papulosquamous cases was 3.5% which was comparable to Sivaprakasam et al who observed in 3.8% cases.⁵ Male to female ratio was 1:3 which has outnumbered Patrizzi et al who noted male to female ratio of 0.5:1.¹⁸ In present study the most common site of involvement in lichen striatus was extremities; upper limb 62.5 % and lower limb 37.5%. Taieb et al reported upper limb, the most common site, while in Taniguchi et al in which lesions were predominant in the lower limbs.^{19,20} In Patrizzi et al no difference on involvement of upper and lower extremities was seen.¹⁸

Only 1.3% cases of lichen nitidus was noted which was low compared to the Sivaprakasam et al in which 4.9% cases were noted.⁵ In present study male to female ratio is 2:1 which is low to Zapata et al in which male to female was 3:1.²¹ Lapins et al also reported a higher male to female ratio of 4:1.²² Upper limb and trunk were the most common site of involvement which was comparable to Zapata et al in which upper limb and trunk were most common site in their study.²²

Parapsoriasis constitute about 3.1% of all papulosquamous dermatoses in our study which is

comparable to the Sivaprakasam et al in which 2.9% cases were present.⁵

In present study pityriasis lichenoides constitutes 2.2 percent of all cases of papulosquamous dermatoses which is low as compared to Sivaprakasam et al in which 4.8% were present.⁵ In pityriasis lichenoides male to female ratio is 1:1.5. In various studies ratio of male to female varies from 1.4:1 to 2:1.^{23,24} In present study 3 (1.3%) cases presented with classical juvenile variant of pityriasis rubra pilaris which is very low as compared to Sivaprakasam et al 6.5% reported.⁵

Only a single rare case of lymphoatoid papulosis was noted in a male.

CONCLUSION

Out of 229 cases of papulosquamous dermatoses maximum cases were in the age group of 31-50 years with the male to female ratio 1.54:1. The most common papulosquamous dermatoses was psoriasis followed by lichen planus followed by pityriasis rosea. By understanding the morphology, distribution of lesions, characteristics of scales and special features like Koebner phenomenon, auspitz sign, Herald patch etc. will help to differentiate the individual disease clinically. This will avoid unnecessary invasive procedures like biopsy, as patients and parents will be anxious. When it is difficult to diagnose clinically then biopsy and histopathological investigations come in the role.

By understanding the morphological features of papulosquamous dermatoses and differentiating the disease clinically, we can explain the prognosis of the disease to the patients and their parents, which will help in removing their anxiety.

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