



AN EPIDEMIOLOGICAL STUDY OF 104 CASES OF PAPULOSQUAMOUS DISORDERS IN SOUTH INDIA

Dermatology

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ABSTRACT

BACKGROUND: Papulosquamous disorder is heterogeneous group of diseases characterised by scaly papules and plaques.

AIM OF THE STUDY: To observe the recent trends in age and sex distribution ,co-morbidities and associated nail changes in a sample of patients with Papulosquamous disorders.

MATERIALS AND METHODS: In a Tertiary care centre in Tamilnadu , 104 patients with Papulosquamous disorders were selected over a period of one year and studied clinically with special attention to nail changes.

RESULTS: The male: female ratio was 1.2:1. Age group commonly affected was 31-45 years. Psoriasis was most common followed by Lichen planus and Pityriasis rubra pilaris. Pityriasis Lichenoides chronica and parapsoriasis were least common. 61.5% of the total patients had nail changes with nail pitting being the most common change. The common co-morbidities observed were diabetes mellitus, hypertension and atopy. .

CONCLUSION: More detailed studies are required for effective management of this subset of skin disorders.

KEYWORDS

Papulosquamous disorders ,Epidemiological study, Nail changes

INTRODUCTION

Papulosquamous disorders are heterogeneous group of disorders whose primary aetiology is unknown. They are typically characterised by well demarcated areas of papules and scales on an erythematous background. Plaques and patches may form by coalescence of primary lesions. Many of these disorders are complex and difficult to identify because they may resemble a similar disorder which can be misleading .Frequently these disorders can be misdiagnosed. Knowledge about configuration and distribution of lesions on various parts of body is important for diagnosis of these disorders. The morphology of lesions will vary with disease duration and treatment .Hence diagnostic tests like biopsy should be done if doubtful. Sometimes histopathological features may not be conclusive for diagnosis. In these situations, clinicohistopathological correlation will be the ideal approach¹. Correct diagnosis of each type of Papulosquamous disorder is important as the treatment and prognosis for each tends to be disease specific². Similar skin conditions like Dermatophytosis and Secondary syphilis have to be ruled out by appropriate investigations. Drug eruptions, photosensitive eczema, pigmented purpura and sarcoidosis also have similar clinical picture to Papulosquamous disorders³. A study on the epidemiological pattern of Papulosquamous disorder in general population will help in better diagnosis and management of different types of Papulosquamous disorders.

Table 1: ICD-10 Classification Of Papulosquamous Disorder¹¹

I. Psoriasis
II. Parapsoriasis
III. Pityriasis rosea
IV. Lichen planus
V. Others
• Pityriasis rubra pilaris
• Lichen nitidus
• Lichen striatus
• Lichen rubermoniliformis
• Infantile papular acrodermatosis
• Other specified Papulosquamous disorder
• Parapsoriasis Unspecified

OBJECTIVE: This study was conducted to know the magnitude and pattern of Papulosquamous disorders in general population.

MATERIALS AND METHODS

This descriptive study of Papulosquamous disorders was conducted in the outpatient clinic in the department of Dermatology Venereology and Leprosy at Coimbatore Medical College Hospital ,Tamilnadu between the time period June 2016 - June 2017. Ethical committee clearance was obtained. Informed consent in the regional (Tamil) language was obtained from patients and from parents in case of

children <12 years .The sample size was calculated as 100 , by Open -Epi Info, using alpha error fixed as 5% at 99.5% confidence interval. Patients with Papulosquamous disorders according to ICD- 10 who presented to Dermatology OPD were included in the study. Pregnant and lactating females, patients who did not give consent for study were excluded . Patients who had history of using artificial nails, at any time of their lives were also excluded due to the fact that acrylic nails can induce severe onychodystrophy, onycholysis and subungual hyperkeratosis. After applying inclusion and exclusion criteria , 104 cases of Papulosquamous disorder were enrolled in the study. Detailed history including age, duration of skin lesion, site of lesion, time duration of nail changes and associated factors and the different type of nail changes were taken. Details regarding clinically relevant associated illnesses like history of atopy, diabetes mellitus and systemic hypertension obtained. Other necessary investigations like skin biopsy and KOH mount were taken in relevant cases. All these data were recorded in a proforma and tabulated in a master chart . The results were analysed and discussed in detail .

OBSERVATION AND RESULTS

The total number of patients included in the study were 104 of whom 59 (56.7%) were males and 45 (43.2%) were females. The male to female ratio was 1.2 : 1. The maximum number of patients were in the age group of 31-45 years (27.9%) and the least number of patients were of age group >60 years. The highest percentage of male patients were in the age group of 31-45 years (31.2%). The highest percentage of female patients were in the age group of 46-60 years (24.5%)

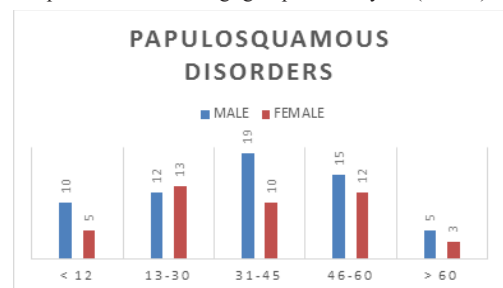


Chart 1 : Frequency Distribution of Gender in age groups

Psoriasis (47cases) was the most common Papulosquamous disorder followed by Lichen Planus(23 cases), Pityriasis rosea (10 cases), PRP (7 cases). In both males and females the most common Papulosquamous disorder was psoriasis, followed by lichen planus. The other order of preference was PRP in males and Pityriasis rosea in females. The least common Papulosquamous disorder in males was

parapsoriasis and in females were lichen striatus, parapsoriasis and Pityriasis Lichenoides.

Table 2: Frequency Of Various Papulosquamous Disorder :

DIAGNOSIS	NO. OF PATIENTS
PSORIASIS	47 (45%)
LICHEN PLANUS	23 (22%)
PITYRIASISROSEA	10 (10%)
PITYRIASISRUBRAPILARIS	7 (6.5%)
LICHEN NIDITUS	5 (4.9%)
PITYRIASISLICHENOIDES	5 (4.8%)
LICHEN STRIATUS	4 (3.8%)
PARAPSORIASIS	3 (2.9%)

In 26.5% the skin lesions started to appear in upper limbs and spread to other areas whereas in only 0.9% face was initially affected. Nail changes were present in 64 (61.5%) patients and was absent in 40 (38.5%) patients. Nail involvement was mostly seen in Psoriasis , Pityriasis rubra pilaris, and Lichen Planus .In Pityriasis Lichenoidis Chronica, Pityriasis Rosea and Lichen nitidus nails were least affected . Pitting (51.9%) was the commonest nail abnormality noted in both male and females, followed by subungual hyperkeratosis (26.9%) with Beau's line and thickening of nail plate contributing to 23 % each. The least common nail change seen was pterygium.

Among the total 104 cases, 14 cases (13.2%) suffered from systemic hypertension, 10 patients (9.4%) were diabetics, 20 patients (18.8 %) had history of atopy and three patients were HIV Reactive.

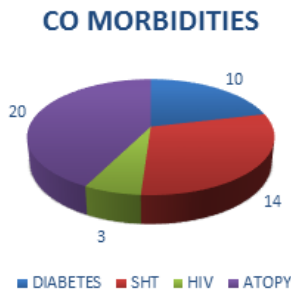


Chart 2 : Co morbidities - Pie chart



Figure 1: Psoriasis with nail changes Figure 2: Pityriasis Lichenoides Chronica



Figure 3 Lichen nitidus Figure 4: Lichen striatus

DISCUSSION

Papulosquamous disorder is a heterogeneous disease. The major diseases included in this group include Psoriasis, Lichen planus, Pityriasis rosea , Lichen nitidus, Lichen striatus, Parapsoriasis and Pityriasis Lichenoides which have characteristic skin and nails lesions. In our study of 104 cases of Papulosquamous disorders 47 were psoriasis, which forms the major class of Papulosquamous disorders. Among them 24 were male and 23 were female. The male to female

ratio was 1 : 1, comparable to a study conducted by Sun Jae et al and Kaur et al⁴. Majority of the patients with psoriasis were in the age group of 31-45 years and it is comparable to the study done by Sharma and Sepaha⁵ (1964), who concluded that psoriasis in India is seen more during 20-50 years of life, when the patients are more liable to the stress and strain of life⁵. Among the Papulosquamous disorders included in our study, all the psoriasis patients had nail changes . Related studies claim that 80-90% of patients with psoriasis will at some point of time present with nail involvement,⁶ which is higher than in the study conducted by SN et al which was 78% nail changes.⁷ Nail involvement has been reported in 50% of psoriasis cases but the incidence cumulatively increases to 80-90%⁸ Pitting was more common in finger nails and subungual hyperkeratosis more common in toe nails, comparable to the study conducted by Salmon J et al ⁸ and Atikmoni Ghosal et al, where pitting and subungual hyperkeratosis were the most common finger and toe nail changes noted in 65% and 33% cases respectively.

Eight psoriasis patients had associated diabetes mellitus, 10 patients suffered from systemic hypertension and six patients had history of atopy, which is comparable to a study conducted by Mrityunjay Kumar Singh⁹, in which diseases associated with psoriasis, were diabetes mellitus (2.43%), hypertension (4.35%), heart disease (1.75%), and atopy (7.01%)⁹. HIV was seen among 2 psoriasis patients. The association between psoriasis and onychomycosis is roughly 18% in a study done by Solomon J et al ⁸ and Natarajan V et al¹⁰ is comparable to our study. The incidence of psoriatic arthritis was 7% in an observation by Gladman DD, Rahman P whereas in our study psoriatic arthritis was seen in 5 cases (10.6%)¹¹. In this study, lichen planus was seen in 23 patients, of these 13 were male and 10 .The age group most commonly affected in our study was 31-45 years, which is comparable to studies by OP Singh and A. J. Kanvar et al that report the occurrence of LP in 30- 60 years.¹² Out of 23 cases, 9 (39.5 %) patients had nail changes which is comparable to a study conducted by Kanvar and De et al.¹² Out of 23 patients, 3 (13%) patients had twenty nail dystrophy which is comparable to a study by Scher R K et al. Trachyonychia is seen in 10% of patients affected by nail lichen planus¹³. Trachyonychia was common in children between age of 3 to 12 years as in a study conducted by Scheinfeld NS,¹⁴ which is similar to ours .In our study 4 patients with LP had associated history of Atopy which is similar to a study by Nanda et al¹⁵. Of this, 2 patients had nail LP and 2 (8.6%) were suffering from diabetes mellitus, which is comparable to the study by Altman et al¹⁶ Whereas 4 (17%) patients had associated systemic hypertension, which is higher compared to the study done by Lowe N. J. et al¹⁷.

In this study, Pityriasis rosea was seen in 10 (9.6%) patients of these 5 were male and 5 were female. The male to female ratio was 1 : 1. The patients were in the age group of 13 to 30 years which is comparable to the study by Turhan A. P.¹⁸. Of the 10 patients, one patient had Beau's lines after 3 months of onset of skin lesions, which is comparable to a literature which reports nail changes comprising of multiple transverse indentation and pitting as observed in our study¹⁹. 4 patients had history of atopy .

In this study, Pityriasis rubra pilaris was seen in 7 patients of these 5 were male and 2 were female. The male to female ratio was 2.5: 1. The most common nail changes were thickening of nail plate followed by subungual hyperkeratosis and pitting which is comparable to the study by Mortimer P. S. et al²⁰

In our study lichen nitidus was seen in 5 patients (4.90%), of these 2 were male and 3 were female. All the patients with lichen nitidus were less than 12 years of age. In our study two patients had leukonychia which is similar to an observation by Natarajan S where nail changes are mild.²¹. One patient had associated history of atopy.

In our study, lichen striatus was seen in 4 (9.8%) patients, all of whom were males. According to a study by Voza et al²², lichen striatus was seen in children between four months and 15 years of age and is uncommon in adults, which is comparable to our study .Tosti et al²³ and Ahmer (2014) reported longitudinal ridging and splitting as the common features of nail involvement in lichen striatus, which is similar to our study. Two patients had history of atopy.

In this study, parapsoriasis was seen in 3 patients (2.90%), of which 2 were male and 1 were female. The most common nail change was Beau's lines. Pityriasis lichenoidis chronica was seen in 5 (4.9%) of

whom 4 were male and 1 was female. The most common nail change seen was Beau's line and had atopy.

CONCLUSION

Our study of 104 cases of Papulosquamous disorder were mostly in the age group of 31-45 years and showed male to female ratio 1.2:1. Upper limbs were affected first and pruritus was seen in most of the patients. The most common Papulosquamous disorder was Psoriasis, followed by Lichen planus and PRP. The least common were PLC and Parapsoriasis. Nearly 61.5% had nail changes. Out of these the most common nail change observed was pitting (51.9%), followed by subungual hyperkeratosis and least common was pterygium. Nearly, 7.8% of patients had associated onychomycosis. Roughly 10.6% of psoriasis patients had associated joint involvement. Concomitant association with Atopy(18.8%), Diabetes mellitus (9.4%) and Systemic Hypertension (13.2%) was seen among the patients with Papulosquamous disorder. Particular localisation of specific pattern enables the clinician to differentiate between various Papulosquamous disorders. Correlation of the nail changes helps dermatologist to reach conclusive diagnosis and thus assisting in early diagnosis as well as prognosis of the disease. We need more long duration observational studies of Papulosquamous disorders for better understanding of the geographical and environmental influences.

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