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Original Research

Clinico-Pathological Correlation of Papulosquamous Lesions of Skin: An Institutional Study

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ABSTRACT:

Introduction: Papulosquamous diseases are a heterogeneous group of disorders which assume considerable importance because of their frequency of occurrence. The interpretation of many skin biopsies requires the identification and integration of two different morphological features- the tissue reaction pattern and the pattern of inflammation. **Aim:** To study the histomorphology of papulosquamous lesions of skin with clinico-pathological correlation. **Material and methods:** This present study included 100 cases presenting with clinical features papulosquamous skin disorders were included in the study, irrespective of age and sex History and clinical examination of each patient was recorded on a self designed proforma. Final diagnosis was made on the basis of the histopathological findings. **Results:** Mean age observed was 42.2 years, with maximum number of cases in the age group 31-40 years. Male predominance was observed with Male: Female ratio of 1.5:1. Predominant lesion was Psoriasis(60%) followed by lichen planus (24%). While others were Pityriasis Rubra Pilaris with 5 cases (5%), lichen planus pigmentosum with 4 cases (4%), Parapsoriasis with 3 cases (3 %), Pityriasis rosea with 2 cases (2 %), seborrheic dermatitis 2 cases (2%). Overall a positive Correlation with the histopathological diagnosis was positive in 89% cases and negative in 11% cases. **Conclusion:** Most of these papulosquamous skin lesions have a similar clinical presentation characterized by scaling papules or plaques. Hence combination of proper clinical observation and histo morphological study will give a conclusive diagnosis.

Key words: Clinicopathological correlation, Histopathological features, Papulosquamous lesions, Psoriasis, Lichen planus.

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INTRODUCTION:

Skin is a complex organ. Diagnosis of skin disease involves history and examination. The visibility of skin allows an instant diagnosis in some cases, using a variety of visual clues such as site distribution, color, scaling and arrangement of lesions. The skin has a limited number of reaction patterns with which it can respond to various pathological stimuli; clinically different lesions may show similar histological patterns. Such apparently effortless pattern recognition is actually quite complex when the individual components are analyzed separately.^{1,2}

Papulosquamous diseases are a heterogeneous group of disorders whose etiology primarily is unknown. The nosology of these disorders is based on a descriptive morphology of clinical lesions which are

characterised by scaling papules or plaques as seen by dermatologist.³ To obtain the precise diagnosis of the skin biopsy, it should be accompanied by all clinical details. The interpretation of many skin biopsies requires the identification and integration of two different morphological features- the tissue reaction pattern and the pattern of inflammation.

The spectrum of clinical diseases related to non-infectious, erythematous, papular and squamous lesions are namely psoriasis, parapsoriasis, lichen planus, prurigo simplex, prurigo nodularis, pityriasis rosea, pityriasis rubra pilaris and many more. Few papulosquamous conditions like psoriasis mimic diverse dermatological conditions as they present with numerous clinical variants and pose to be a diagnostic dilemma for the clinician.⁴

Therefore, the aim of the present study was to study the histomorphology of papulosquamous lesions of skin with clinico-pathological correlation.

MATERIAL AND METHODS:

This study included 100 cases of clinically diagnosed/suspected and untreated cases of papulosquamous lesions of skin reporting in the Department of Pathology, MSY Medical College, Meerut, Uttar Pradesh after approval from Institutional Ethical Committee and after taking informed consent of the patient.

History and clinical examination of each patient was recorded on a self-designed proforma. All cases with clinical features suggestive of Papulosquamous skin disorders like Psoriasis, Lichen Planus, Pityriasis Rubra Pilaris, Parapsoriasis, Pityriasis Rosea, Lichen nitidus, Lichen striatus and Seborrheic dermatitis were included. While Skin disorders with infective etiology and other skin lesions which were not papulosquamous disorders were excluded.

Gross examinations of specimens were done and after routine paraffin processing, 3-5µm sections were cut. Paraffin embedded tissue sections were stained with routine haematoxylin and eosin stain (H&E) and diagnosis was made on the basis of the histopathological findings.

RESULTS:

A present study comprised of 100 cases of Papulosquamous disorders. Mean age of the study population was 42.2 years, with maximum number of cases in the age group 31-40 years. Male predominance was observed with Male: Female ratio of 1.5:1.

Papulosquamous disorders constituted 12.50% of the total surgical pathology load and 29.91% of the total number of skin biopsies at the institute. Out of all the total cases studied, most commonly encountered

lesions were Psoriasis with 60 cases (60%) followed by Lichen planus with 24 cases (24%), Pityriasis Rubra Pilaris with 5 cases (5%), lichen planus pigmentosum with 4 cases (4%), Parasoriasis with 3 cases (3 %), Pityriasis rosea with 2 cases (2 %), seborrheic dermatitis 2 cases (2%).

The anatomic distribution pattern revealed that the limbs were involved in the maximum number of cases (69.23%) followed by the trunk (15.54%) and head, neck and face (15.23%). Mainly all the category of papulosquamous showed features of scaly and plaques. The clinical presentation of Psoriasis was varied, like some presented as eczema, dermatitis herpatiformis and lichen planus. The diagnosis of Lichen Planus can usually be made from the characteristic clinical appearance and distribution of the lesion. However, Lichen Planus must be differentiated from other papulosquamous disorders such as Psoriasis and others.

FIGURE 1: GENDER DISTRIBUTION

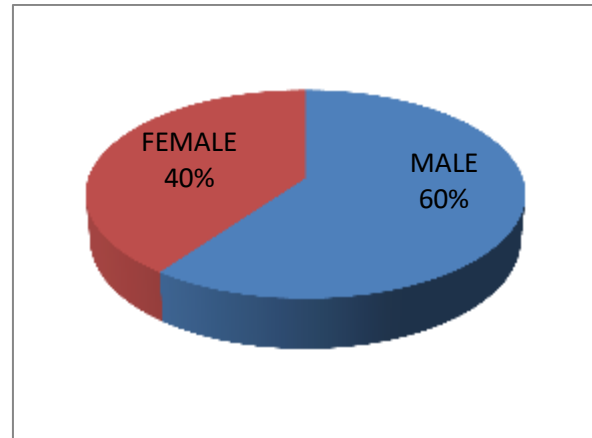
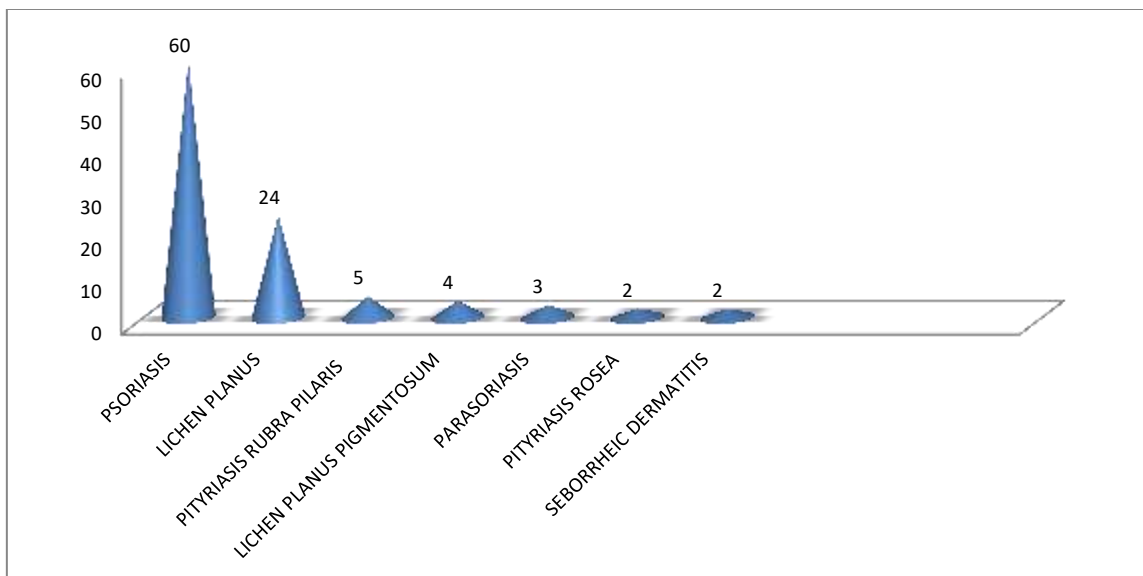


FIGURE 2: PERCENTAGE DISTRIBUTION OF PAPULOSQUAMOUS DISEASES



As the most common cases were of psoriasis and lichen planus, among them it was seen that out of 60 cases of psoriasis clinical and pathological correlation was seen in 51 cases whereas rest 9 cases were non correlating. Among 24 cases of lichen planus 19 cases showed agreement whereas 5 cases showed disagreement.

Overall, there was a positive correlation of clinical diagnosis with histopathological diagnosis in 89% cases and negative in 11% cases. The contribution of histopathology to the final diagnosis was significant.

TABLE 1: CORRELATION OF CLINICAL DIAGNOSIS WITH HISTOPATHOLOGICAL DIAGNOSIS

| Clinical correlation | Number of cases | %age |
|----------------------|-----------------|------|
| POSITIVE | 89 | 89% |
| NEGATIVE | 11 | 11% |

DISCUSSION:

The skin has a limited number of reaction patterns with which it can respond to various pathological stimuli; clinically different lesions may show similar histologic patterns. Therefore to obtain the precise diagnosis of a skin biopsy, it should be accompanied by all relevant clinical details.⁵

The accurate diagnosis of papulosquamous skin lesion is important for their effective treatment and evaluation of their prognostic significance. Therefore, the present study was conducted to study clinical and histopathological spectrum of Papulosquamous Skin Diseases with their clinico-histopathological correlation.

In the present study, we observed that majority of cases were in the age group of 31 to 40 years which was in similarity with Reddy BR et al⁶ and D’Costa G et al⁴ who also reported 31 to 40 years as the most common age group seen in their studies.

Male predominance was observed in our study which was again in similarity with Reddy BR et al⁶ and D’Costa G et al⁴ while in on contrary Bell et al⁷ and Anand et al⁸ reported female predominance and Fry L.⁹ found no sex predilection.

In the present study of 100 cases of papulosquamous disorders we encountered Psoriasis (60%) was the commonest followed by Lichen planus (24%). In similarity Reddy BR et al⁶ reported Psoriasis (42.5%) was the commonest, followed by Lichen planus (30%). In yet another studies by Agrawal S et al¹⁰ and Puri et al¹¹, similar findings were observed. Where as on contrary Balaji C et al¹² reported psoriasis as second most common lesion after lichen planus accounting for 31.48% which was similar to other study done by Younas et al¹³ which accounted to 36.8% while it accounted for about 11.95% of cases in Veldurthy VS et al¹⁴ study.

Psoriasis presented as erythematous sharply demarcated plaques covered with silvery scales over

the buttocks, ankles, soles and shin. The most frequent histopathological findings were hyperkeratosis, parakeratosis, irregular thinning and focal elongation of the rete ridges, Munro’s micro abscesses, dermis showed a dense chronic perivascular and periadnexal infiltrate in plaque psoriasis.

Lichen planus presented as flat topped, violaceous to erythematous lesions over the extremities and trunk which is classically described. Itching was the commonest presenting symptom. Scalp and nails were involved in some of the cases. Most of the patients had received topical corticosteroids and anti-histamines with partial relief in past. All hematological and biochemical investigations were within normal limits. On histopathology lesions typically showed hyperkeratosis, hypergranulosis, sometimes focally, irregular acanthosis, vacuolar degeneration of the basal layer and a band-like infiltrate in the papillary dermis. Max Joseph spaces and Civatte bodies are also seen. Patients of lichen planus pigmentosus presented with multiple, hyperpigmented patches over the face and extremities but also on the trunk.

Overall, there was a positive correlation of clinical diagnosis with histopathological diagnosis in 89% cases and negative in 11% cases. There is overlap of both clinical pattern and distribution of papulosquamous skin disorders, which often makes clinical diagnosis difficult. Some of the histological features overlap in lesions while some of the histological features are specific and characteristic for each entity.

In a study done by Younas et al¹³ a clinicopathological correlation carried out showed compatible clinical as well as histopathological diagnosis in 76.30% of the cases respectively.

In some other studies like by Faraz A et al.¹⁵ 67.5% of clinically diagnosed cases of papulosquamous lesion were confirmed histologically while 32.5% were histologically different diagnosis. In the study done by Choudhary R et al¹⁶, 58.7% of clinically diagnosed cases of papulosquamous lesion were confirmed histologically while 31.3% were histologically different diagnosis.

Hence combination of proper clinical observation and histo morphological study will give a conclusive diagnosis. Therefore, histopathological reporting should be accompanied with detailed clinical history as many of the lesions share similar histopathological features while clinically they present as different entities.

CONCLUSION:

Most of these papulosquamous skin lesions have a similar clinical presentation characterized by scaling papules or plaques. Hence combination of proper clinical observation and histo morphological study will give a conclusive diagnosis.

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