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Original Research Paper

Pathology

A CLINICO-HISTOPATHOLOGICAL STUDY ON PAPULOSQUAMOUS SKIN LESIONS- TERTIARY CARE HOSPITAL

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ABSTRACT

Background: Papulosquamous lesions of the skin are encountered with considerable frequency. There is overlap of both clinical pattern and distribution of papulosquamous skin disorders, which often makes clinical diagnosis difficult. However, some of the histopathological features are specific and characteristic for each entity. Hence, combination of proper clinical observation and histopathological study will give a conclusive diagnosis.

Material & Methods: Retrospective and prospective histopathological study of 43 cases was carried out in the Department of Pathology, kakatiya medical college ,MGM,Warangal,over a period of 2 1/2 years from Jan 2015-june 2017.

Result: Out of 30 patients of papulosquamous lesion most common diagnosis was Lichen planus, (48.8%) followed by Psoriaisis (16.27%). Commonest age group reporting Lichen planus was 11–30 yrs. female preponderance was noted in all papulosquamous lesion patients except Pityriasis rosea and Prurigo simplex.

Conclusion: It is concluded from this study that lichen planus was the commonest papulosquamous lesion followed by Psoriasis.

KEYWORDS : papulosquamous lesion, clinical features, microscopic features

1. INTRODUCTION

The skin is the largest organ of the body, accounting for about 15% of the total body weight in adult humans. The spectrum of skin diseases, including rare genetic disorders, infectious diseases, neoplasms and a wide range of inflammatory disorders, is huge and although in many conditions the histological features are pathognomic of particular skin disorders, in others the changes may be characterstic but not specific of one disease. Only by close liaison between the discipline of clinical dermatology and histopathology, the limitations of skin biopsy examination can be appreciated[1].

As for any other organ system, 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. Such apparently effortless pattern recognition is actually quite complex when the individual components are analyzed separately[2]. The frequency of occurrence of erythematous, papulosquamous diseases is high.

Histopathology is highly specific and sensitive for many lesions and it remains the gold standard for much dermatological diagnoses[3].

The Papulosquamous skin disorders are a heterogeneous group of disorders which comprise the largest group of diseases seen by dermatologist. This group of skin disorder includes relatively common conditions like Psoriasis (PSO) and Lichen Planus (LP)along with rare conditions like Pityriasis Rosea(PR),Parapsoriasis (PP), Pityriasis Rubra Pilaris (PRP),Lichen Nitidus (LN) and Lichen Striatus (LS). The nosology of these disorders is based on a descriptive morphology of clinical lesions characterized by scaly papules and plaques[4].The papulosquamous disorders are complex to diagnose as they are difficult to identify and may resemble a similar disorder of the group. Hence these disorders are commonly misdiagnosed[5].

Distinct histopathological features and clinical correlation gives a conclusive diagnosis. Specific histomorphological diagnosis is important to distinguish these lesions as the treatment and prognosis varies significantly.

2. OBJECTIVES

1. To study the histomorphological findings of various papulosquamous lesions of skin in detail.
2.. To correlate the clinical findings with histomorphological features of papulosquamous lesions of skin.

3. MATERIAL AND METHODS

The present study is a retrospective and prospective study done to evaluate the role of histopathology in the diagnosis of the papulosquamous lesion of skin and its correlation with the clinical signs and symptoms.

All patients of papulosquamous disorders,attending dermatology outpatient department from Jan 2015 to June 2017 were screened. Finally 43 cases of papulosquamous disorders, those undergone for skin biopsy were selected for our study. Patients with clinical features suggestive of papulosquamous skin disorders were examined and skin biopsy from skin lesion was taken for histopathological examination. The clinical details were obtained from the original case record like age, sex, symptoms and other investigation. After taking consent,biopsy(punch/excision biopsy) was performed in clinically diagnosed/suspected cases of papulosquamous lesions in the department of dermatology. After proper labelling, biopsy specimen was sent to histopathology department with short clinical history and their probable diagnosis, for histopathological examination. Tissue sections were prepared from paraffin block and stained with haematoxylin and eosin stain, followed by microscopic examination. Finally clinical & histopathological data of each patient prepared & clinico-histopathological correlation was done.

Inclusion criteria

Cases with clinical features suggestive of Papulosquamous skin disorders like Psoriasis,Lichen Planus, Pityriasis Rubra Pilaris, Parapsoriasis, Pityriasis Rosea, ,PLEVA,prurigo simplex were included.

Exclusion criteria

Diseases with similar clinical features like lupus erythematosus, dry forms of eczema, some superficial varieties of fungal diseases,high clotting time or bleeding time,keloidal tendency were excluded.

4. RESULTS

Distribution of papulosquamous skin diseases as per histopathology is as shown in Table 1. As per Table 1 most common diagnosis found on histopathology was lichen planus (48.8%).

Age distribution of study group is given in Table 2. Lichen Planus occurred in all age groups but was commonly seen in young and elderly aged.Pityriasis was commonly seen in 2nd and 4th decade.Pityriasis was commonly seen in 2nd decade.

In Table 3, we found high prevalence in females (65%) as compared to males, but the association between gender & diagnosis was not found statistically significant (p> 0.05).

Table 1 : Distribution of cases- Papulosquamous Skin Diseases

DISEASE	NUMBER OF CASES	PERCENTAGE
Lichen planus	21	48.84%
Psoriasis	07	16.27%
Parasoriasis	02	4.66%
Pityriasis rosea	03	6.97%
Pityriasis lichenoides chronica	03	6.97%
PLEVA	02	4.66%
Prurigo nodularis	02	4.66%
Prurigo simplex	03	6.97%
total	43	100%

Table 2: Age Incidence

Age group (in yrs)	Lichen planus	Psoriasis	Pityriasis Rosea	PLEVA	Pityriasis lichenoides chronica	Prurigo simplex	Prurigo nodularis	parapsoriasis
0-10	-	-	-	-	-	-	-	-
11-20	04	02	01	-	01	02	-	-
21-30	03	-	01	01	-	01	01	01
31-40	04	02	01	01	01	-	01	01
41-50	03	02	-	-	01	-	-	-
51-60	05	01	-	-	-	-	-	-
>60	02	-	-	-	-	-	-	-

Table 3: Sex Incidence

disease	male		female		Total no.of cases
	No.of cases	percentage	No.of cases	percentage	
Lichen planus	07	33.3%	14	66.7%	21
psoriasis	03	42.8%	04	57.2%	07
Pityriasis rosea	02	66.7%	01	33.3%	03
Pityriasis lichenoides chronica	0	0	03	100%	03
PLEVA	1	50	01	50%	02
Parasoriasis	0	0	02	100%	02
Prurigo simplex	02	66.7%	01	33.3%	03
Prurigo nodularis	0	0	02	100%	03
total	15	34.8%	28	65.2%	43

5.DISCUSSION

Response to various pathological stimuli leads to various tissue reaction patterns which show different sets of clinical features which may have similar histopathological findings. Clinico-histopathological correlation may be useful in evaluating different group of cutaneous disorders of same tissue pattern reaction. Histopathological study is considered to be the gold standard for the diagnosis of skin lesions. The goal of improving diagnostic specificity will be achieved by a detailed correlation of histopathological findings with physical findings and clinical history[6]. Skin biopsies are easy to perform, can be done under direct visual control, allow precise clinic-histopathological correlation and accordingly, the significance of skin biopsies is very high. On the basis of the diagnosis, therapy and follow up are determined.

Total 43 patients of clinically diagnosed as papulosquamous disorders were included in this study and skin biopsies were taken at institute during January 2015 to June 2017.

In the present study of 21 cases of lichen planus , 7(33.33%) were males and 14 (66.67%) were females.

Younas M and Haque A[7] in their analysis of 12 cases of lichen planus found 8(66.66%) to be males and 4(33.33%) females, similar to the present study. Lichen planus may affect all ages and incidence is equal in both sexes but distinctly rare in children[7]. It was more common in all the age groups. lichen planus usually appears as purplish, often itchy, flat-topped papule .The epidermal changes showed hyperkeratosis and vacuolar degeneration of basal cells,irregular acanthosis with saw toothed ridges and hypergranulosis , Max Joseph spaces ,focal parakeratosis and civatte bodies. The dermal changes showed band like infiltrate and spotty infiltrate , pigment incontinence. These findings are consistent with the classic description of LP given by Mobini et al[8]and Banushree et al[9].our study showed similar findings [fig: 1]. lichen planus pigmentosus was the commonest subtype in our study.

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[10] . Hence confirmation with a skin biopsy is always warranted to exclude few other papulosquamous disorders like Psoriasis and Parapsoriasis from Lichen Planus as depicted in our study.

Psoriasis is common in younger age groups. Dogra S and Yadav S [11], reported highest incidence of psoriasis in the age group of 20-39 years. D'Costa and Bharambe BM [12] reported maximum incidence in the age group of 30-40 years. Younas M and Haque A[13] reported the highest incidence in the age group of 21-30 years. In the present study, psoriasis was seen commonly in the 11-20 years age group. 57.2% psoriasis patients were female in our study. Kaur et al.[14], Alexander et al.[15] and Yang et al.[16] also noted high prevalence in males.

Schon MP and Boehncke WH [17], have stated that patients with psoriasis typically have sharply demarcated chronic erythematous plaques covered by silvery white scales, which most commonly appear on the elbows, knees, scalp, umbilicus and lumbar area.In the present study most common sites of lesion were trunk and back followed by extremities.

Younas M and Haque A [13] in their study observed, hyperkeratosis, elongated rete ridges and acanthosis in 100 % cases, parakeratosis in 78.5% , micro munro abscesses in 71.4% and spongiform pustules in 42.8%. Attenuated or absent granular layer, suprapapillary thinning, exocytosis and telengiectatic vessels were observed in majority. The present study showed features comparable with the above study[Fig:2] Often clinical manifestations are misleading in these conditions. While some cases are clinically suspicious others may present differently.

3cases of Pityriasis rosea were studied, which comprised of 2(66.7%) males and 1 (33.3%) females and a ratio of 2:1 which is concordant with the other studies. Egwin AS et al [18] , in their clinical study of 50 patients, reported 30(60%) were males and 20(40%) were females giving male: female ratio 1.5:1.Younas M and Haque A[13], in their study of 3 cases of of PR noted 2(66.66%) males and 1(33.33%) female.Relhan V et al [19], in their study revealed that all the cases showed, focal parakeratosis, prominent spongiosis, and perivascular lymphocytic infiltrate in the upper dermis. Extravasation of RBCs and exocytosis of lymphocytes into the epidermis was also seen. Similar changes were observed in all the cases in the present study[Fig:3].

In the present study, 2 cases of Parapsoriasis were diagnosed in the 21-40 years age group. Lewin J and Latkowski JA [20], in their article have reported that small-plaque parapsoriasis is more common in

middle-aged and elderly individuals, with a peak in the 40- to 50-year-old range .Sunil kumar et al [21], noted parakeratosis, acanthosis,dermal perivascular inflammation in majority of the cases of parapsoriasis and few cases showed hyperkeratosis, exocytosis of lymphocytosis and spongiosis. Basket weave cornified layer is also seen.Similar histologic findings were noticed in the present study[Fig:4]

In the present study, 2 cases of Pityriasisl Lichenoides Et Varioliformis Acuta (PLEVA) were diagnosed in the 21-40 years age group. PLEVA, also referred to as Mucha- Habermann disease present mainly on trunk and proximal extremities.Present study showed acanthosis,parakeratosis,perivascular and dense ,bandlike lymphocytic infiltrate in papillary dermis extending into reticular dermis in a wegde shaped pattern,vacuolar alteratiom of basal layer, exocytosis of lymphocytes and erythrocytes,inter and intracellular edema ,epidermal necrosis[22][Fig:5]

Pityriaisis lichenoides chronica presents with brown-red papules.In present study 3 cases of pityriasis lichenoides chronica were studied which on histopathology showed a superficial perivascular and lichenoid infiltrate composed of lymphocytes ,vacuolar alteration of the basal layer, mild spongiosis, a few necrotic keratinocytes, and confluent parakeratosis[22][Fig:6]

Prurigo simplex is characterized by intensely pruritic ,erythematous utricarial papules seen in symmetric distribution on trunk and extensor surfaces of extremities of middle aged patients.3 cases of prurigo simplex were reported in present study in age group of 20-30years which showed mild acanthosis,spongiosis, parakeratosis, upper dermis showed mild lymphocytic infiltrate in a largely perivascular arrangement[22][Fig :7]

2 cases of Prurigo Nodularis were studied which presented with papules and nodules in middle aged group and on histopathology showed parakeratosis,acanthosis and vertically arranged collagen bundle[Fig:8].

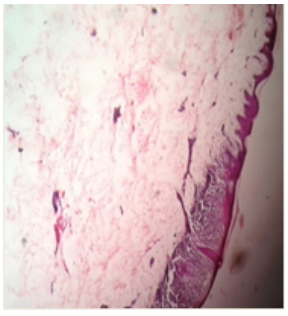

Fig:1 hyperkeratosis , vacuolar degeneration of basal cells,irregular acanthosis with saw toothed ridges and, dermal band like infiltrate

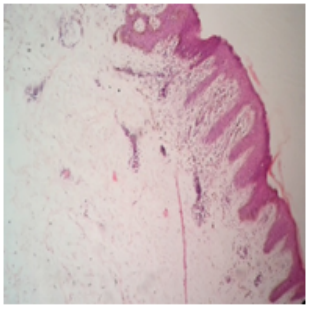

Fig:2 hyperkeratosis, elongated rete ridges , acanthosis ,suprapapillary thinning, spongiform pustules

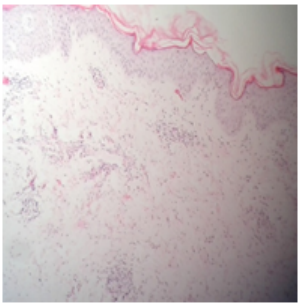

Fig:3 focal parakeratosis, prominent spongiosis, perivascular lymphocytic infiltrate in upper dermis.

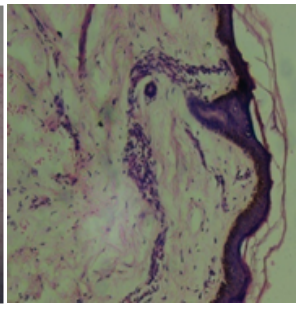

Fig:4 exocytosis of lymphocytes,basket weave cornified layer,

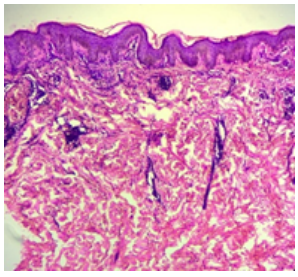

Fig:5 Parakeratosis, perivascular Lymphocytic infiltrate. (wegde shape),

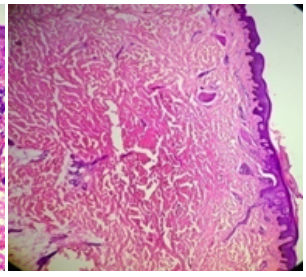

Fig: 6 Parakeratosis,hyperkeratosis

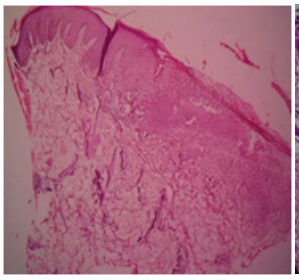

Fig:7 spongiosis, parakeratosis, acanthosis

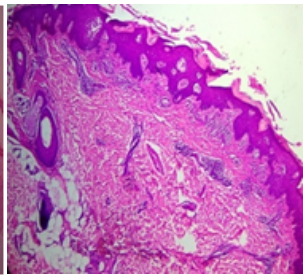

Fig:8 parakeratosis, vertically arranged collagen bundles

6.CONCLUSION

Our study was designed to explore the hypothesis that certain tissue reaction patterns mechanisms might be common in the papulosquamous disorders and it lead to new approaches for better understanding of their etiopathogenesis and management of same group of disorders. 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 like pityriasis rosea, parapsoriasis. However some of the histological features are specific and characteristic for each entity. Hence combination of proper clinical observation and histomorphological study will give a conclusive diagnosis The pathologist's ability to render an accurate diagnosis depends on the available clinical information. Biopsy specimens of these lesions submitted for histopathology with clinical information & differential diagnosis and a clinico-pathological correlation is key to better patient care.

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