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A Descriptive Study on Patients of Papulosquamous Lesion at Tertiary Care Institute

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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:** A cross sectional study was done in department of pathology in which after satisfying inclusion criteria all papulosquamous lesion patients irrespective of age & gender were included in study in defined period. A brief history and dermatological examination was carried out. Skin biopsies taken were fixed in 10% formalin and subjected for tissue processing. The processed tissue was embedded in paraffin to obtain five-micron thin sections. The sections were stained with routine hematoxylin and eosin stain, followed by microscopic examination. **Result:** Out of 61 patients of papulosquamous lesion most common diagnosis was Lichen planus, (57.37 %) followed by Psoriasis (32.78 %). Commonest age group reporting Lichen planus & Psoriasis was 21–40 yrs. Male preponderance was noted in all papulosquamous lesion patients. Histological features commonly seen were hyperkeratosis, parakeratosis in both Lichen planus & Psoriasis patients.

Keywords: Papulosquamous, Clinical, Histologiscal, Histological Features.

1. Introduction

The Papulosquamous skin disorders are a heterogeneous group of disorders that comprise the largest group of diseases seen by dermatologist. The nosology of these disorders is based on a descriptive morphology of clinical lesions characterized by scaly papules and plaques[1]. These diseases assume considerable importance because of their frequency of occurrence.

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[2].

Histomorphologic diagnosis is important for separation of these disorders because the treatment and prognosis for each tends to be disease specific.

2. Materials and Methods

2.1 Source of Data

The present study is a histopathological study of papulosquamous disorders of skin, which includes 61 cases of clinically diagnosed papulosquamous eruptions, having attended the Department of Dermatology, Venerology, and Leprosy.

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2.2 Method of Collection of Data

This is a cross sectional study, undertaken in Department of Pathology from June 2010 to November 2012. The patients were selected at random, irrespective of age, sex, socioeconomic status, and residence. Informed consent was taken from study participants. A brief history and dermatological examination was carried out. Skin biopsies taken were fixed in 10% formalin and subjected for tissue processing. The processed tissue was embedded in paraffin to obtain five-micron thin sections. The sections were stained with routine hematoxylin and eosin stain, followed by microscopic examination.

2.3 Inclusion Criteria

Cases with clinical features suggestive of papulosquamous skin disorders like Psoriasis, Lichen Planus, Pityriasis Rosea, Prurigo Nodularis, Lichen nitidus, Prurigo Simplex and Inflammatory Linear Verrucous Epidermal Naevus were included.

2.4 Exclusion Criteria

Patient having high bleeding time, clotting time and keloidal tendency were excluded.

Table 1. Distribution of cases – papulosquamous skin diseases

Sr. No	Histopathological diagnosis	No of cases (%)
1	Lichen Planus	35 (57.37 %)
2	Psoriasis	20 (32.78 %)
3	Prurigo Nodularis	2 (3.27 %)
4	Pityriasis Rosea	1 (1.63 %)
5	Lichen Nitidus	1 (1.63 %)
6	Prurigo Simplex	1 (1.63 %)
7	Inflammatory Linear Verrucous Epidermal Nevus	1 (1.63 %)
	Total	**61 (100 %)**

3. 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 (57%).

Age distribution of study group is given in Table 2.

Lichen Planus occurred in all age groups but was commonly seen in young and middle aged. Prurigo Nodularis and Psoriasis were seen in middle aged. But association of age & diagnosis is not significant (p> 0.05).

In Table 3, we found high prevalence in males (67%) as compared to females, but the association between gender & diagnosis was not found statistically significant (p> 0.05).

Histologically, the common features were hyperkeratosis, irregular acanthosis and saw toothed rete ridges, hypergranulosis, vacuolar degeneration of basal cells, dermal lymphocytic and band like infiltrate and pigment incontinence. Hypertrophic lichen planus was the commonest subtype. (Table 4, Figure 1)

Histological features commonly seen were hyperkeratosis, parakeratosis, acanthosis, psoriasiform hyperplasia, suprapapillary thinning of epidermal plates, Munro microabscess, hypogranulosis, vascular changes, and dermal inflammation (Figures 2–4, Table 5).

4. Discussion

Maximum cases of lichen planus (52%) were reported in age group of 21–60 yrs in our study. This was in

Table 3. Distribution of cases as per gender

Disease	Male (%)	Female (%)	Total
Lichen Planus	21 (60 %)	14 (40%)	35 (100%)
Psoriasis	15 (75%)	5 (25 %)	20 (100%)
Others	5 (83 %)	1 (17%)	6 (100%)
Total	**41 (67 %)**	**20 (33 %)**	**61 (100%)**

p = 0.35 Not significant

Table 2. Distribution of cases as per age

Age Group (yrs)	LP	Psoriasis	Prurigo Nodularis	Others	Total
<20	8(22%)	2(10 %)	-	1(25%)	13(21%)
21-40	11(32%)	8(40%)	2(100%)	3(75%)	24(39%)
41-60	7(20%)	6(30%)	-	-	12(20%)
> 60	9(26%)	4(20%)	-	-	12(20%)
Total	**35(100%)**	**20(100%)**	**2(100%)**	**4(100%)**	**61(100%)**

p = 0.44 Not significant

Table 4. Histopathological changes in Lichen Planus

Histopathological changes	No of cases (%)
Epidermal changes	
Hyperkeratosis	10 (29 %)
Focal parakeratosis	2 (6 %)
Irregular acanthosis with saw toothed rete ridges	23 (66 %)
Hypergranulosis	31 (89%)
Vacuolar degeneration of basal cells	29 (83 %)
Max Joseph Spaces	2 (6 %)
Civatte bodies	2 (6 %)
Dermal changes	
Dermal infiltrate - Band like - Spotty	31 (89 %) 4 (11 %)
Cell type of infiltrate - Mononuclear - Epithelioid	35 (100 %) -
Pigment incontinence	17 (49%)

Table 5. Histological changes observed in Psoriasis

Histopathological changes	No of cases (%)
Epidermal changes	
Hyperkeratosis	5 (25 %)
Parakeratosis	15 (75 %)
Acanthosis	18(90 %)
Suprapapillary thinning	4(20 %)
Spongiform pustule	11(55 %)
Munro microabscesses	15(75 %)
Hypogranulosis	10(50 %)
Dermal changes	
Papilary edema	3(15 %)
Vascular changes	2(10 %)
Dermal inflammation	18(90 %)

accordance with Singh and Kanwar[3], Kumar et al.[4] Seema[5], Rahnama et al.[6] and Anand[7] who reported high prevalence in 30–60 yr age group. Male preponderance (60%) was noted in lichen planus in our study. Similar findings were noted by Rahnama et al.[6] and Seema[5] on the contrary studies by Singh and Kanwar[3], Kumar et al.[4] and Anand[7] showed female preponderance.

In the present study, 35 cases (57.37%) were classical Lichen planus. Majority of cases displayed hyperkeratosis, irregular acanthosis with saw toothed rete ridges, hypergranulosis, vacuolar degeneration of basal cells and dermal band like mononuclear infiltrate and pigment incontinence. These findings are consistent with the classic description of Lichen planus, given by Kumar et al.[4], Thippeswamy[8] and Mobini et al.[9]. Other than classical Lichen planus, hypertrophic Lichen planus was the commonest subtype seen, followed by pigmented Lichen planus. In the present study, biopsies of 7 cases of hypertrophic lichen planus showed hyperkeratosis, focal parakeratosis, papillomatosis and acanthosis of epidermis. Dermis showed typical dermal infiltrate. Four cases of lichen planus pigmentosus showed increased pigmented macrophages in upper dermis along with other classical features of Lichen planus. One case of follicular lichen planus studied showed follicular plugging, orthokeratosis and perifollicular lymphocytic infiltrate. These changes observed were consistent with the description, given by Mobini et al.[9] and Banushree et al.[10].

In present study, psoriasis was seen commonly above 40 yrs of age (50%); this was in accordance with Alexander et al.[11], Thippeswamy[8] and Anand[7] who reported psoriasis being common in age group of 41–50 yrs. Seventy five percent psoriasis patients were male in our study. Kaur et al.[12], Alexander et al.[11] and Yang et al.[13] also noted high prevalence in males. Major epidermal changes in histopathology of psoriasis patients exhibited acanthosis and parakeratosis; dermal changes were inflammation. Similar findings were noted by Thippeswamy[8] and Anand[7].

Thippeswamy[8] studied 10 cases of Pityriasis rosea, 5 were in 2nd decade, 3 cases were in 3rd decade, 1 case, each in 4th and 7th decade respectively. This study had 6 males and 4 females. Anand[7] had 3 cases of Pityriasis rosea. All were in 31–40 year age group. 1case was in male and 2 were in female. In the present study 1 case of Pityriasis rosea was studied and was male. Age group was in 31–40 year.

In present study, one case of Lichen nitidus in 7 years male was encountered. Prevalence of Lichen nitidus is not established[12]. It commonly occurs in young adults and children, particularly in males[14, 15]. In present study, one case of Prurigo simplex in middle-aged male patient was encountered. It commonly occurs in young adults, particularly in males[14].

In the current study, Prurigo simplex can be clinically confused with Pityriasis rosea. Prevalence of inflammatory linear verrucous epidermal nevus is not known[16]. We

had one case of inflammatory linear verrucous epidermal naevus in a young adult male. Inflammatory linear verrucous epidermal naevus is known to mimic lichen striatus. and psoriasis.

5. Conclusion

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, Prurigo Nodularis and Prurigo Simplex.

However, some of the histopathological features are specific and characteristic for each entity. Hence, combination of proper clinical observation and histomorphological study will give a conclusive diagnosis.

The importance of the immediate diagnostic categorization of the skin biopsy is better understood in view of expanding series of modalities that are being used to confirm, negate, or elucidate the basic histological analysis.

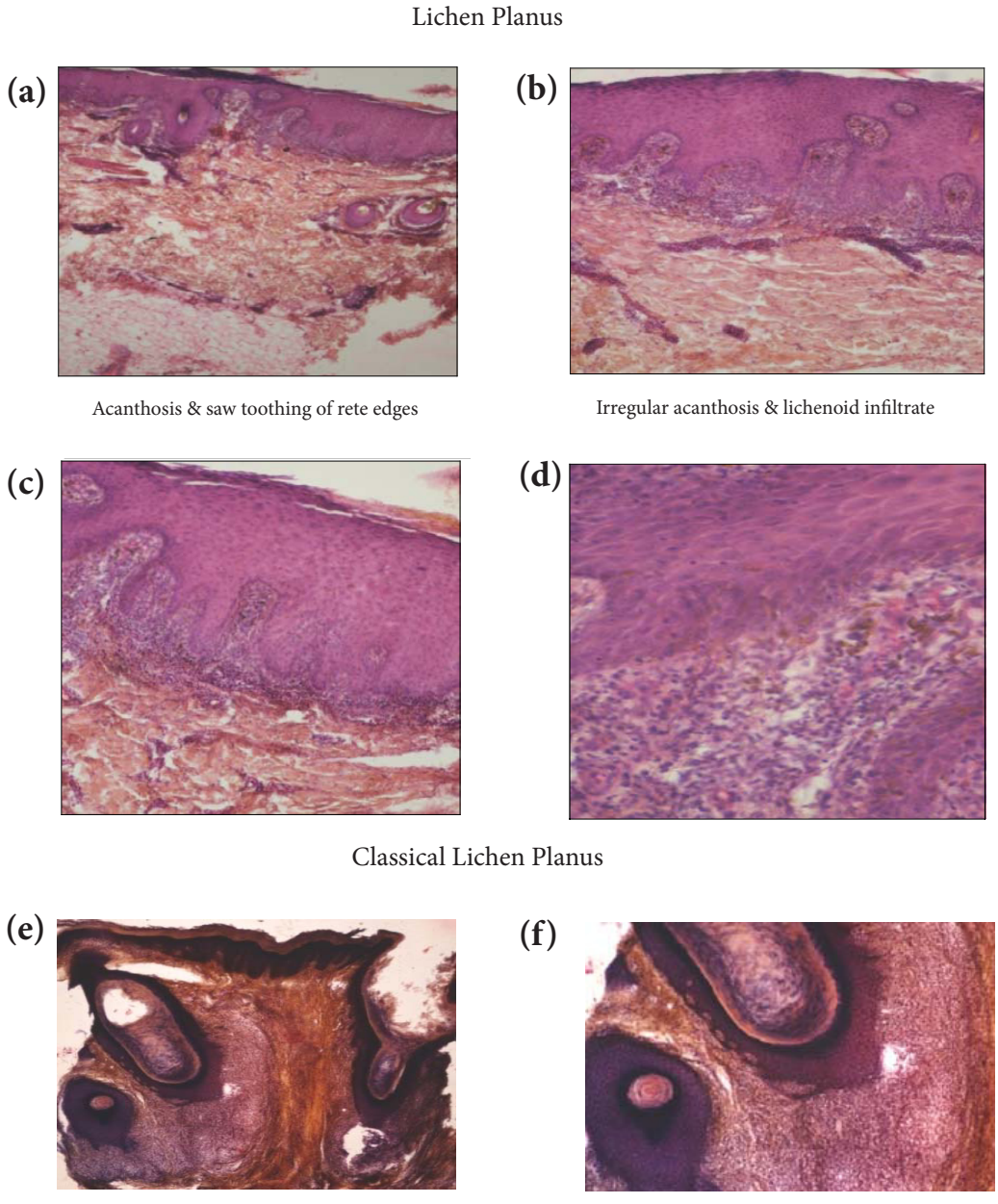

Figure 1. Lichen Planus (a, b, c, d, e, f).

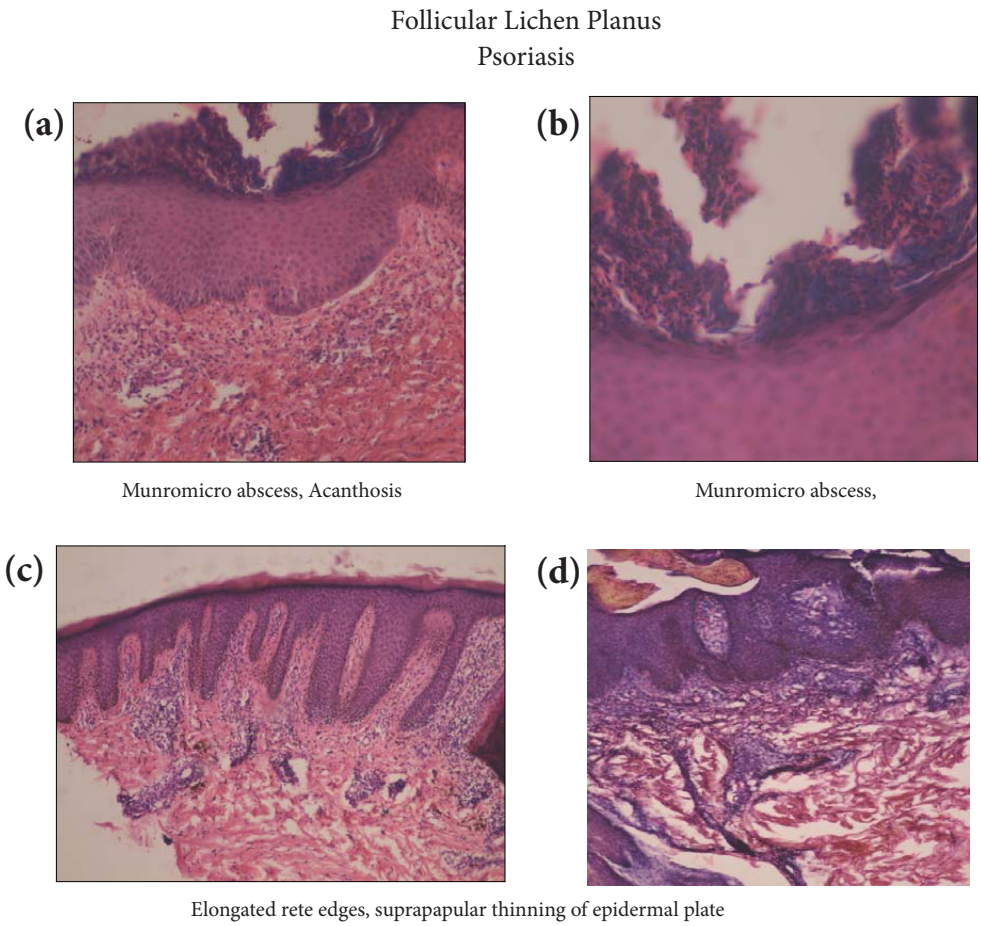

Figure 2. Follicular Lichen Planus (a, b, c, d).

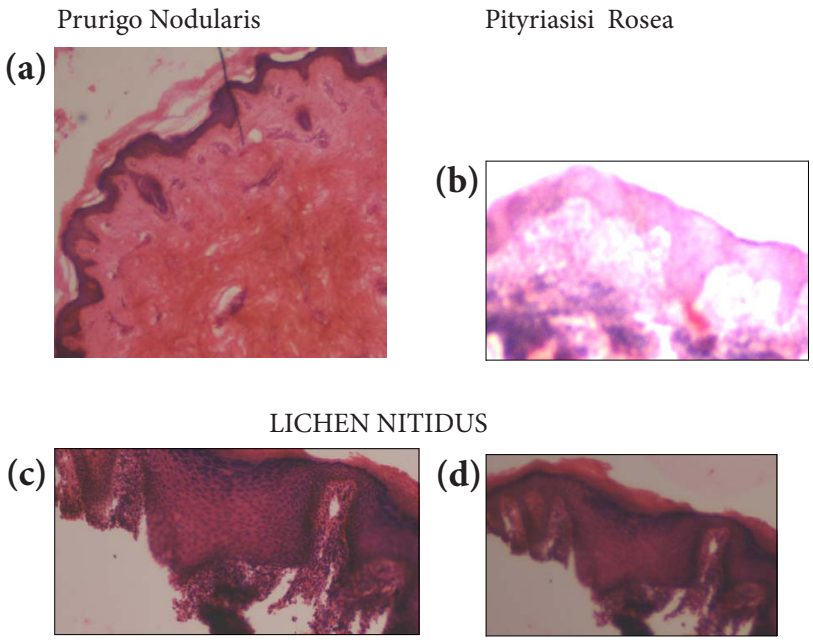

Figure 3. Prurigo nodularis, Pityarisis roasea, Lichen Nitidus (a, b, c, d).

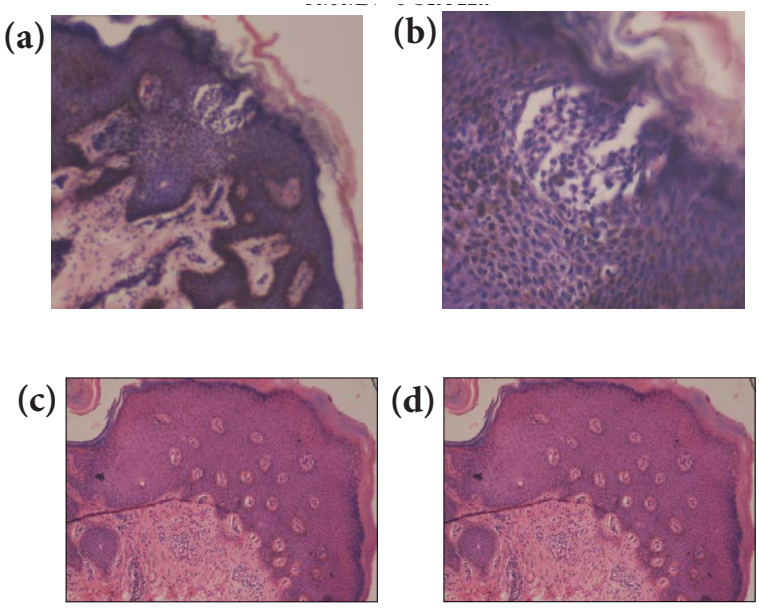

Figure 4. Prurigo Simplex, Inflammatory Linear Verrucous Epidermal Nevus (a, b, c, d).

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