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Original Research Article

Papulosquamous: clinicopathological

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ABSTRACT

Background: Papulosquamous disorders comprise a group of dermatoses that have distinct morphologic features. The characteristic primary lesion of these disorders is a papule, usually erythematous, that has a variable amount of scaling on the surface. Some common papulosquamous dermatoses are Psoriasis, Pityriasis rosea, Lichen planus, Seborrheic dermatitis, Pityriasis rubra pilaris and Parapsoriasis. Drug eruptions, tinea corporis, and secondary syphilis may also have papulosquamous morphology. Because all papulosquamous disorders are characterized by scaling papules, clinical confusion may result during their diagnosis.
Methods: The present study of 60 cases of papulosquamous disorders of the skin was carried out in the Department of Pathology of a tertiary care centre from December 2009 to October 2011. In this study, the patients which were clinically diagnosed as papulosquamous disorders of skin, before starting the treatment and attending the outdoor skin department were selected. Histopathological findings were interpreted in light of clinical details.
Results: An analysis of the clinical diagnosis with the histopathological diagnosis of papulosquamous disorders of the skin, revealed a positive correlation in 54 (90%) cases and a negative correlation in 6 (10%) cases.
Conclusions: Histopathology may not resolve the issue and the picture is more typically 'compatible with' rather than 'diagnostic of' a clinical diagnosis. In these circumstances an attempt at clinicohistopathological correlation serves as an ideal approach.

Keywords: Clinicopathological, Papulosquamous

INTRODUCTION

Papulosquamous disorders comprise a group of dermatoses that have distinct morphologic features. The characteristic primary lesion of these disorders is a papule, usually erythematous, that has a variable amount of scaling on the surface. Some common papulosquamous dermatoses are Psoriasis, Pityriasis rosea, Lichen planus, Seborrheic dermatitis, Pityriasis rubra pilaris and Parapsoriasis. Drug eruptions, tinea corporis, and secondary syphilis may also have papulosquamous morphology.[1] Because all papulosquamous disorders are characterized by scaling papules, clinical confusion may result during their diagnosis. Separation of each of these becomes important because the treatment and prognosis for each tends to be disease-specific.[2] 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. Therefore, to obtain the precise diagnosis of the skin biopsy, it should be accompanied by all clinical details.[3] Clinical features when considered alone may not be reliable, as they vary with both disease duration and treatment. In these circumstances an attempt at clinicohistopathological correlation should serve as an ideal approach.[4] Thus, the

present study is carried out to study pattern of clinical and histopathological features of papulosquamous disorders of the skin with clinicopathological correlation.

METHODS

The present study of 60 cases of papulosquamous disorders of the skin was carried out in the Department of Pathology of a tertiary care centre from December 2009 to October 2011. In this study, the patients which were clinically diagnosed as papulosquamous disorders of the skin, before starting the treatment and attending the outdoor skin department were selected. Diagnoses of all clinical cases were given by two dermatologists. Detailed clinical history, thorough physical examination and thorough examination of lesions of each and every case were carried out as per the proforma. Informed consent was taken before biopsy. Before preceding the biopsy, xylocaine sensitivity test was done by injecting 0.5ml of xylocaine subcutaneously. The lesion was selected for biopsy and the skin surface was cleaned with a spirit swab. Local anaesthesia was best obtained by infiltration of 2% lignocaine solution with adrenaline under the lesion. Scalpel biopsy was done to obtain an adequate amount of tissue for diagnosis of the most skin lesions. Biopsy specimen was kept in 10% formalin for 24hrs for fixation. After fixation, the specimens were processed in an automatic tissue processor. After processing, the paraffin blocks were made and cut on a rotary microtome into 5microns thick sections. Sections were stained with hematoxylin and eosin and were examined by conventional light microscopy. Detailed microscopic examination was undertaken for histopathological diagnosis of papulosquamous disorders of the skin. Histopathological findings were interpreted in light of clinical details by two pathologists.

RESULTS

The present study of 60 cases of papulosquamous disorders of the skin was carried out in the Department of Pathology of a tertiary care centre from December 2009 to October 2011. Total number of surgical pathologies in our institute during the study period were 3458. Out of 3458 cases, 112 (3.2%) were skin biopsies and 60 (1.73%) were papulosquamous disorders of the skin. Papulosquamous disorders of the skin constituted 53.57% of the total number of skin biopsies at our institute. Distribution of papulosquamous disorders of skin shown in Figure 1.

Psoriasis occurred in age groups ranging from 11-20 years to 61-70years with maximum cases 12 (28.57%) in 4th decade, lichen planus was seen in 1st to 5th decade with maximum number of cases 6 (50%) in 3rd and 4th decade, while lichen striatus, pityriasis rosea and pityriasis rubra pilaris were noted in younger age group. In the present study, male preponderance was seen in psoriasis and lichen striatus, while female preponderance was seen in Pityriasis rubra pilaris. Both sexes were equally affected in lichen planus and Pityriasis rosea.

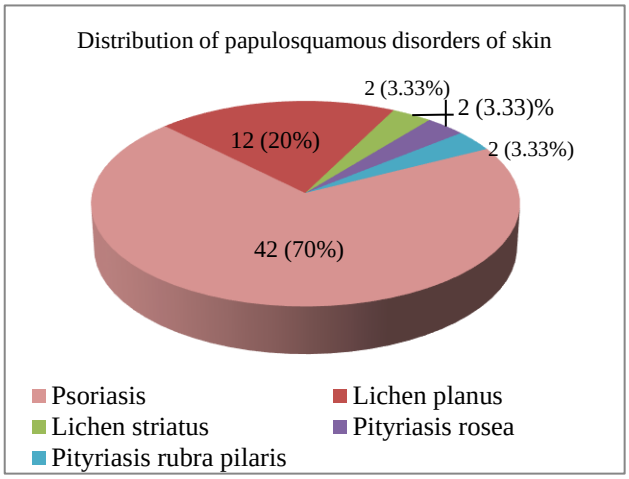

Figure 1: Distribution of papulosquamous disorders of skin.

Out of 42 cases of psoriasis 24 (57.14%) were males, 18 (42.86%) were females with male to female ratio of 1.33:1. Mean age was 34.45years. Maximum number of cases 22 (52.38%) were encountered in 3rd and 4th decade of life. Scaly plaque 39 (92.85%) was the commonest clinical presentation. Plaques were erythematous and covered with silvery scales shown in Figure 2.

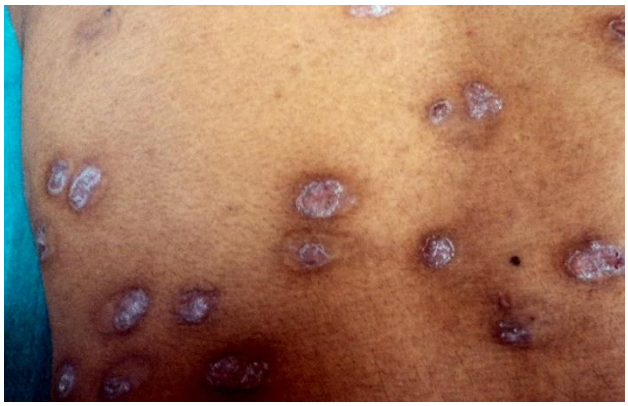

Figure 2: Psoriasis vulgaris showing multiple erythematous scaly plaques with silvery white scales on the trunk.

Limbs 35 (83.33%) were the most frequent site of involvement, followed by the trunk 20 (47.61%), scalp 17 (40.47%), face 10 (23.80%) and neck 2 (4.76%). Itching, Auspitz's sign, Koebner phenomenon and family history were noted in 35 (83.33%), 27 (64.28%), 5 (11.90%) and 3 (7.14%) cases respectively. Histopathological examination of 42 cases of psoriasis revealed that parakeratosis and lymphocytic infiltration in upper dermis were seen in all cases, followed by acanthosis 41 (97.61%), dilated capillaries in papillary dermis 41 (97.61%), suprapapillary thinning 40 (95.23%), spongiosis 40 (95.23%), hypogranulosis 39 (92.85%),

elongated rete ridges 36 (85.71%), Munro microabscesses 35 (83.33%), and hyperkeratosis 10 (23.80%). Kogoj pustules were noted only in 5 (11.90%) cases. Figure 3, 4, and 5, showing photomicrograph of psoriasis vulgaris.

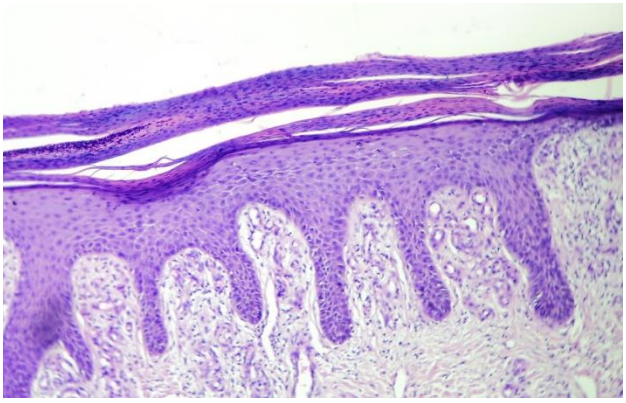

Figure 3: Photomicrograph of Psoriasis vulgaris showing acanthosis, parakeratosis, elongated rete ridges, suprapapillary thickening, Munro microabscesses, hypogranulosis, dilated dermal capillaris, and lymphocytic infiltration in papillary dermis. (100X H&E).

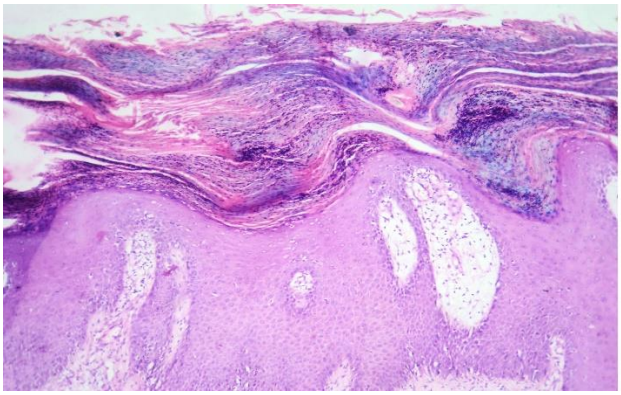

Figure 4: Photomicrograph of psoriasis vulgaris showing mounds of parakeratosis with munro microabscesses, acanthosis, suprapapillary thickening, hypogranulosis, spongiosis, dilated dermal capillaris, and lymphocytic infiltration in papillary dermis. (100X H&E).

Out of 60 cases of papulosquamous disorders of the skin, 12 (20%) cases were of lichen planus. Out of 12 cases 6 (50%) were males and 6 (50%) were females with male to female ratio of 1:1. Maximum number of cases 6 (50%) were noted in the age group of 21-40years. Mean age was 26.16years. Flat topped violaceous papule 10 (83.33%) was the commonest type of lesion in lichen planus. Anatomical distribution pattern revealed that most frequently involved site was lower limb 10 (83.33%), followed by upper limb 7 (58.33%), trunk 4 (33.33%), neck 3 (25%), face 1 (8.33%) and scalp 1 (8.33%). Itching was the commonest complaint of patients of lichen planus seen in 10 (83.33%) cases. Family history was noted only in one patient 1 (8.33%). Thus, flat topped violaceous papule with itching was the commonest clinical presentation and lower limb was the most frequent site of involvement. On histopathological examination of 12 cases of lichen planus, wedge shaped hypergranulosis, vacuolar alteration of basal layer and band like lymphocytic infiltration in upper dermis were noted in all cases, followed by hyperkeratosis 11 (91.66%), melanin incontinence 11 (91.66%), acanthosis with saw toothed rete ridges 10 (83.33%), spongiosis 4 (33.33%), civatte bodies 3 (25%), Max-Joseph space 2 (16.66%), focal parakeratosis 1 (8.33%), follicular plugging 1 (8.33%), marked acanthosis 1 (8.33%) and epidermal atrophy 1 (8.33%).

On histopathological examination of 12 cases of lichen planus, nine (75%) cases were of classical type, rest of the three cases were one each of hypertrophic (8.33%), lichen planopilaris (8.33%) and actinic type (8.33%). Hypertrophic variant revealed marked acanthosis and hyperkeratosis as compared to classical lichen planus, while actinic variant had epidermal atrophy and focal parakeratosis. One case was of lichen planopilaris which showed follicular plugging and dense infiltration around follicles along with changes of classical lichen planus. Figure 6 to Figure 11 showing lichen planus.

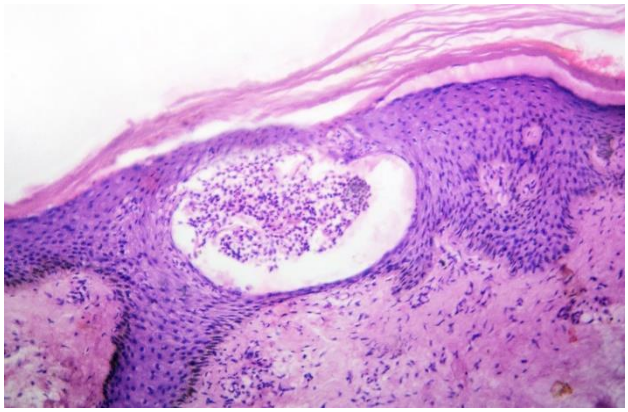

Figure 5: Photomicrograph of Psoriasis vulgaris showing kogoj pustules, acanthosis, hypogranulosis, and spongiosis. (100X H&E).

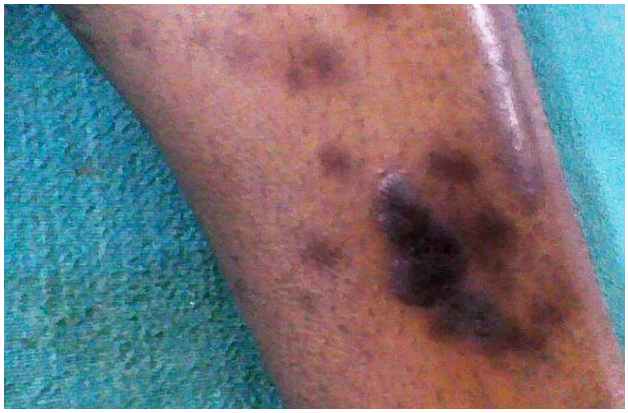

Figure 6: Lichen planus: flat topped violaceous scaly papules and plaques on the right lower limb.

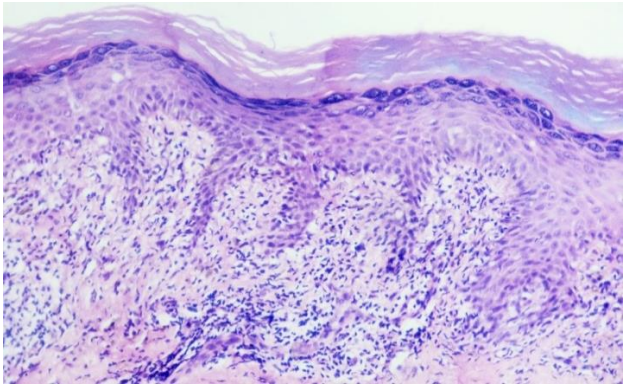

Figure 7: Lichen planus: photomicrograph of classical lichen planus showing ortho-hyper keratosis, wedge shaped hypergranulosis, irregular acanthosis, with saw toothed rete ridges, vacuolar alteration of basal layer and band like lymphocytic infiltrate at dermo-epidermal junction. (100x H and E).

Out of 60 cases of papulosquamous disorders of the skin, two cases (3.33%) were of lichen striatus. First case of lichen striatus was noted in a 12-year-old male child and other was noted in a 20year old male. Mean age was 16years. In both the cases lesions were present on the upper limb in linear pattern along Blaschko's lines. In lichen striatus, both the cases presented with flat topped scaly papules. On histopathological examination, both the cases of lichen striatus showed hyperkeratosis, focal parakeratosis, focal spongiosis with exocytosis of lymphocytes, slight acanthosis, periadnexal and perivascular lymphocytic infiltration. One of the two cases showed, focal band like infiltrate, and histiocytes in papillary dermis. Figure 12 and 13 showing lichen striatus.

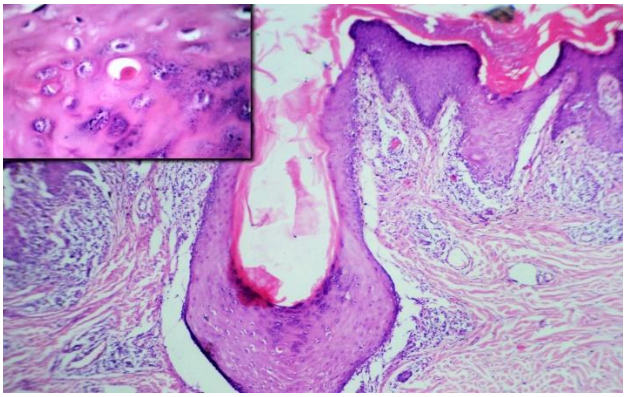

Figure 8: Lichen planus: photmicrograph of hypertrophic lichen planus showing marked acanthosis, ortho-hyper keratosis, wedge shaped hypergranulosis, vacuolar alteration of basal layer and civatte body (40x h&e). inset showing civatte body. (400x h and e).

Out of 60 cases of papulosquamous disorders of the skin, two (3.33%) cases were of Pityriasis rosea. First case of pityriasis rosea was noted in a 20-year-old female and other in 30-year-old male. Mean age was 25years. Male to female ratio was 1:1. Both cases presented with multiple round to oval erythematous plaques with thin scales, while one case had both papules and plaques. In both the cases lesions were present on chest, back, and thighs; one of the two cases showed involvement of arms, buttock, and abdomen. Herald patch was present in both cases, in one case on the chest and other case on the back. Lesions were distributed symmetrically and bilaterally with long axis along the cleavage lines in both cases. Histopathological examination of both the cases of Pityriasis rosea revealed following epidermal changes: focal parakeratosis, spongiosis, hyperkeratosis, acanthosis, exocytosis and hydropic degeneration. One of the two cases showed parakeratotic mound, basket weave hyperkeratosis, decreased granular layer, and erythrocytes in exudate. Dermal changes seen in both the cases were inflammatory infiltrate in papillary and reticular dermis, RBCs in papillary dermis and dilated superficial plexus of blood vessels. One of the two cases showed edema in papillary collagen, melanin in upper dermis and eosinophils in dermal infiltrate.

Figure 14 and 15 showing pityriasis rosea. Out of 60 cases of papulosquamous disorders of the skin, two (3.33%) cases were of Pityriasis rubra pilaris. First case of pityriasis rubra pilaris was noted in a 25-year-old female was of classic adult type and second in nine-year-old female of circumscribed juvenile type. Both the cases presented with flesh colored scaly follicular papules on both the limbs, predominantly on the elbows and knees. Histopathological examination of both the cases of Pityriasis rubra pilaris showed hypergranulosis, irregular acanthosis in the form of short and broad rete ridges, thick suprapapillary plates, sparse to moderate lymphocytic perivascular infiltrate in the dermis and dilated hair follicles filled with a dense, horny plug. One of the two cases showed alternating orthokeratosis and parakeratosis in both vertical and horizontal directions and narrow dermal papillae. Figure 16 and 17 showing pityriasis rubra pilaris.

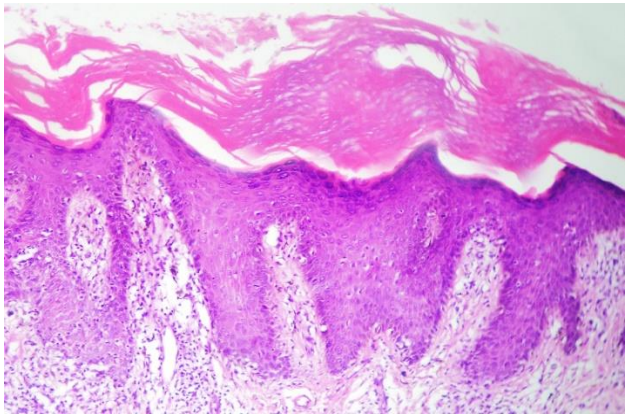

Figure 9: Lichen planus: photomicrograph of hypertrophic lichen planus showing marked acanthosis, ortho-hyperkeratosis, and wedge shaped hypergranulosis. (100x H and E).

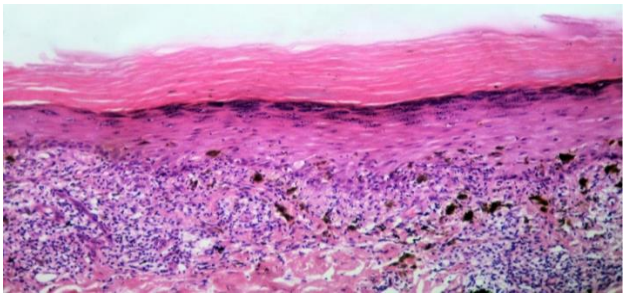

Figure 10: Lichen planus: photomicrograph of actinic lichen planus showing epidermal atrophy, pigment incontinence in the form of melanophages, orthokeratosis, wedge shaped hypergranulosis, vacuolar alteration of basal layer and band like lymphocytic infiltrate at dermo-epidermal junction. (100X H and E).

Out of 60 cases of papulosquamous disorders of the skin, 41 cases had clinical diagnosis of psoriasis, out of which 40 were confirmed histologically and one turned out to be lichen planus. Rest of the two cases of psoriasis were clinically diagnosed as tuberculous verrucosa cutis. Out of 11 clinically diagnosed cases of lichen planus, 10 were confirmed histologically. Out of the rest of the two cases of lichen planus, one had clinical diagnosis of psoriasis and other was lichen striatus. Out of two histologically diagnosed cases of lichen striatus, one had clinical diagnosis of lichen planus and other had lichen nitidus. One case which had clinical diagnosis of lichen striatus turned out to be lichen planus histologically. Both the cases of Pityriasis rosea and Pityriasis rubra pilaris were clinicohistologically concordant. Thus, out of 60 cases of papulosquamous disorders of the skin, we noted positive correlation in 54 (90%) cases i.e., 40 cases of psoriasis, 10 cases of lichen planus, two cases of Pityriasis rubra pilaris and two cases of Pityriasis rosea. An analysis of the clinical diagnosis with the histopathological diagnosis of papulosquamous disorders of the skin, revealed a positive correlation in 54 (90%) cases and a negative correlation in 6 (10%) cases. Thus, histopathology confirmed diagnosis in 90% of the cases and gave diagnosis in 10% of the cases.

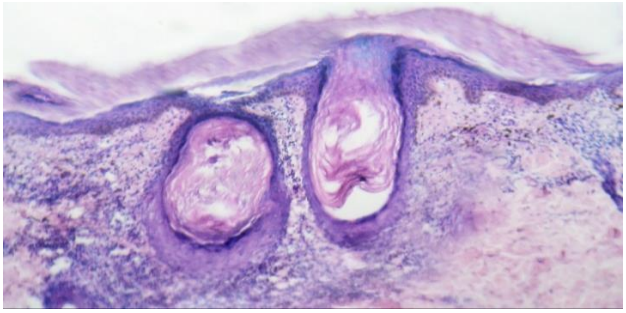

Figure 11: Lichen planus: photomicrograph of lichen planopilaris showing follicular plugging and dense infiltration around follicles and band like lymphocytic infiltrate at dermo-epidermal junction. (100X H and E).

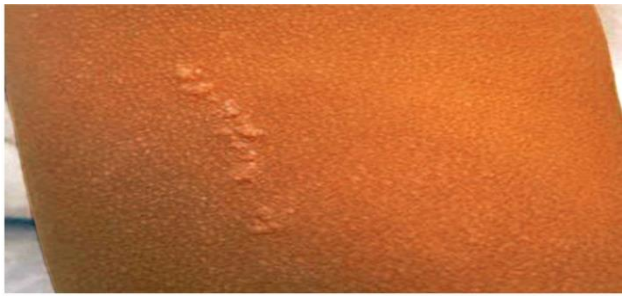

Figure 12: Lichen striatus showing multiple scaly papules over right arm.

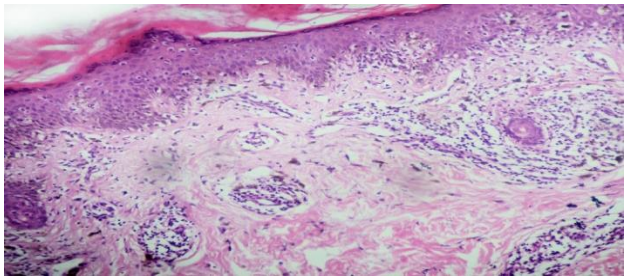

Figure 13: Photomicrograph of lichen striatus showing hyperkeratosis, slight acanthosis, focal spongiosis, exocytosis of lymphocytes, periadnexal and perivascular lymphocytic infiltrate. (100X H and E).

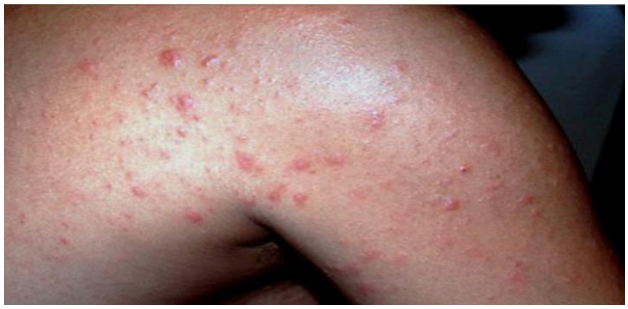

Figure 14: Pityriasis rosea showing, multiple round to oval, erythematous scaly macules, papules, patches and plaques on the arm.

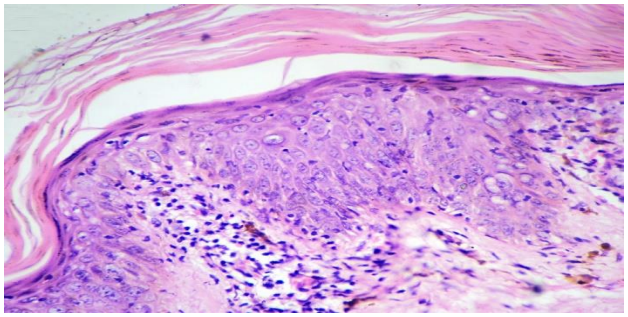

Figure 15: Photomicrograph of pityriasis rosea showing focal parakeratosis, basket weave hyperkeratosis, acanthosis, exocytosis, hydropic degeneration in epidermis, rbcs and inflammatory infiltrate in papillary dermis and edema in collagen. (100X H and E).

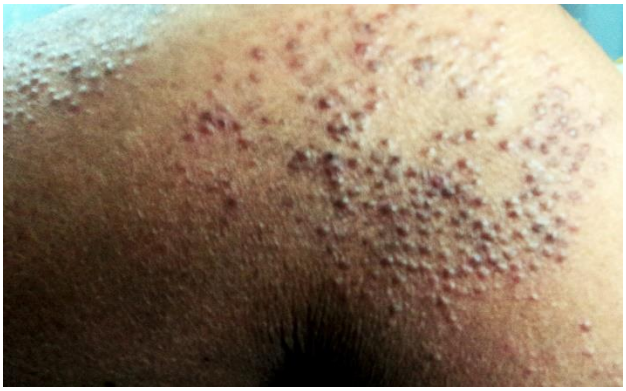

Figure 16: Pityriasis rubra pilaris showing scaly papules on the elbow.

DISCUSSION

In our study we noted psoriasis as the commonest lesion while, D'Costa et al noted lichen planus (26.70%) as the commonest lesion, followed by psoriasis vulgaris (19.88%).[3] Henseler et al identified two ages of onset: type I occuring at or before the age of 40years in approximately 75% of the patients; and type II presenting after the age of 40years.[5] Gudjonsson et al stated that type I psoriasis is HLA- associated, while type II lacks HLA association.[6] According to Gudjonsson et al, younger age of onset and positive family history has been associated with more widespread and recurrent disease.[6] Our histopathological findings of psoriasis correlate with Lal et al, Gordon et al and Mehta et al.[4,7,8] Mehta et al stated that, suprapapillary thinning and the absence of granular cell layer could be added to the list of essential histopathological criteria for psoriasis, in addition to Munro microabscess and Kogoj's abscess.[4]

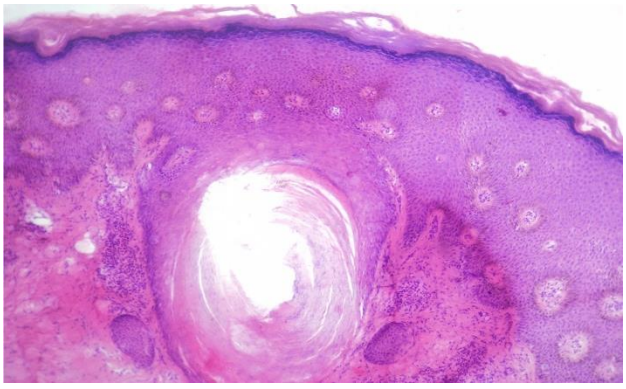

Figure 17: Photomicrograph of pityriasis rubra pilaris showing hypergranulosis, irregular acanthosis, in the form of short and broad rete ridges, thick suprapapillary plates, narrow dermal papillae, sparse lymphocytic perivascular infiltrate in the dermis, and dilated hair follicles, filled with a dense horny plug. (100x H and E).

According to Pittelkow et al there is no sexual predilection in lichen planus. Our clinical findings are similar to Garg et al, Nangia et al and Kachhawa et al.[9-12] Pittelkow et al stated that the familial form of lichen planus tends to be more protracted and severe and presents in erosive, linear, or ulcerative patterns or with atypical features affecting young adults and children.[9]

Our histopathological findings of lichen planus correlate well with Ellis et al, and Garg et al.[13,10] Boyd et al stated that the principal dermal feature is the band like interface inflammatory infiltrate that consists of lymphocytes and histiocytes that hug the basal layer.[14] Hypertrophic variant in our study revealed marked acanthosis and hyperkeratosis as compared to classical lichen planus which is in accordance with Boyd et al and Garg et al.[14,10] Garg et al reported that the epidermal thinning was observed in all cases of actinic lichen planus while Boyd et al stated that lichen planus actinicus is histologically identical to classical lichen planus except for the presence of focal parakeratosis.[10,14]

We noted upper limb involvement in both the cases of lichen striatus, which is in accordance with Taeib et al.[15] In lichen striatus, our histopathological findings correlate well with Gianotti et al, Won et al and Zhang et al.[16-18] However, Mobini et al stated that scattered necrotic keratinocytes in the spinous layer as well as subcorneal spogiotic vesicles filled with Langerhans cells are seen less frequently in lichen striatus.[19] Mobini et al postulated that a very distinctive feature of lichen striatus is the presence of inflammatory infiltrate in the reticular dermis around hair follicles and eccrine glands.[19]

In Pityriasis rosea, our clinical findings are in accordance with Chuh et al and Sharma et al.[20,21] In pityriasis rosea, our histopathological findings correlates well with Prasad et al and Dayrit et al.[22,23] Additional findings noted by Prasad et al were delling (depression of surface epidermis not related to opening of sweat duct or pilosebaceous duct), intracorneal microabscesses, intercorneal exudate, papillomatosis, intraepidermal vesicles, dyskeratosis and homogenisation of papillary collagen.[22]

Gerhaz et al stated that Pityriasis rubra pilaris has bimodal age distribution pattern with peak incidences in the first and fifth decades of life.[24] It affects all races and affects both sexes equally. Our histopathological findings of Pityriasis rubra pilaris correlates well with Soeprono and Magro et al.[25,26] Fung et al stated that the three most common histological features noted in pityriasis rubra pilaris were alternating orthokeratosis and parakeratosis in both vertical and horizontal directions, focal or confluent hypergranulosis and follicular plugging.[27]

In the present study, an analysis of the clinical diagnosis with the histopathological diagnosis of papulosquamous disorders of the skin, revealed a positive correlation in 54 (90%) cases and a negative correlation in 6 (10%) cases. D'Costa et al noted positive correlation in 97.52% cases and a negative correlation in 2.48 % cases.[3] In the present study, histopathology confirmed diagnosis in 90% cases

while histopathology gave diagnosis in 10% of the cases. Inaloez stated that the diagnostic rate increased up to 100% by the presence of clinical information and histological examination.[28] Gibson et al stated that histopathology is essential for more definitive differentiation of various papulosquamous disorders.[2] They also postulated that separation of each of these papulosquamous disorders is important because the treatment and prognosis for each tends to be disease-specific.

CONCLUSION

Histological features of some disorders (psoriasis and lichen planus) are quite diagnostic, while few disorders (lichen striatus and Pityriasis rosea) may show some overlap. Thus, at times, histopathology may not resolve the issue and the picture is more typically 'compatible with' rather than 'diagnostic of' a clinical diagnosis. In these circumstances an attempt at clinic histopathological correlation serves as an ideal approach. Thus, the most accurate diagnosis is the one that most closely correlates with clinical outcome and helps to direct the most appropriate clinical intervention.

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Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. Abel EA. Papulosquamous Disorders. In: Dale DC, Federman DD, editors. ACP (American College of Physicians) Medicine Principles and Practice, 2007:1-9.
2. Gibson LE and Perry HO. Papulosquamous eruptions and Exfoliative dermatitis. In: Moschella SL, Hurley HJ, editors. Dermatology 3rd ed. Philadelphia: WB Saunders Company;1992:607-51.
3. D'Costa G, Bharambe B M. Spectrum of non-infectious, erythematous, papular and squamous lesions of the skin. Ind J Dermatol. 2010;55(3):225-8.
4. Mehta S, Singal A, Singh N, Bhattacharya SN. A study of clinicohistopathological correlation in patients of psoriasis and psoriasiform dermatitis. Ind J Dermatol Venereol Leprol. 2009;75:100.
5. Henseler T, Christophers E. Psoriasis of early and late onset: characterization of two types of psoriasis vulgaris. J Am Acad Dermatol. 1985;13:450-6.
6. Gudjonsson JE, Elder JT. Psoriasis. In: Wolff K, Goldsmith LA, Katz SI, Gilchrest BA, Paller AS, Leffel DJ, editors. Fitzpatrick's dermatology in general medicine. 7th ed. New York:McGraw Hill;2008:169-93.
7. Lal S, SR Sadana, NL Chitkara. Histopathology of psoriasis at various stages. IJDVL. 1965;31(5):216-22.
8. Gordon M, Johnson WC. Histopathology and histochemistry of psoriasis. The active lesion and clinically normal skin. Arch Dermatol. 1967;95:402-07.
9. Pittelkow MR, Daoud MS. Lichen planus. In: Wolff K, Goldsmith LA, Katz SI, Gilchrest BA, Paller AS, Leffel DJ, editors. Fitzpatrick's dermatology in general medicine. 7th ed. New York: McGraw Hill;2008:244-54.
10. Garg KV, Nangia A, Logani K, Sharma RC. Lichen planus-a clinicohistopathological correlation. Indian J Dermatol Venerol Leprol. 2000; 66(4):193-5.
11. Nangia A, Kumar V, Logani KB. An immunopathological study of lichen planus. Ind J Dermatol Venereol Leprol. 2000;66:76-8
12. Kachhawa D, Kachhawa V, Kalla G, Gupta L. A clinico-aetiological profile of 375 cases of lichen planus. Ind J Dermatol Venereol Leprol. 1995;61:276-9
13. Ellis FA. Histopathology of lichen planus based on analysis. The J Investigative Dermatol. 1967;48:2.
14. Boyd AS, Neldner KH. Lichen planus. J Am Acad Dermatol. 1991;25(4):593-619.
15. Taieb A, Youbi AE, Grosshans, Bordeaux JM, Strasbourg. Lichen striatus: A Blaschko linear acquired inflammatory skin eruption. J Am Acad Dermatol. 1991;25:637-42.
16. Gianotti R, Restano L, Grimalt R, Berti E, Alessi E, Caputo RV. Lichen striatus- A chameleon: An histopathological and immunohistological study of forty one cases. J Cutan Pathol. 1995;22:18-22.
17. Won YH, Park CY, Lee JB, Lee SC. Clinical and Histopathological Study of Lichen Striatus. Chonnam Med J. 1999;35(3):399-406.
18. Zhang Y, Mcnutt NS. Lichen striatus. Histological, immunohistochemical and ultrastructural study of 37cases. J Cutan Pathol. 2001;28:65-71.
19. Mobini N, Toussaint S, Kamino H. Noninfectious Erythematous Papular and Squamous Diseases. In: Elder DE, Elenistas R, Johnson Jr. BL, Murphy GF, editors. Lever's histopathology of the skin. 10th ed. Wolters Kluwer: Lippincott Williams and Wilkins;2009:169-204.
20. Chuh AA, Albert Lee, Vijay Zawar. Pityriasis rosea-an update. IJDVL. 2005;71(5):311-14.
21. Sharma L, Srivastava K. Clinicoepidemiological study of pityriasis rosea. Ind J Dermatol Venereol Leprol. 2008;74:647-9
22. Prasad D, Mittal RR, Walia RLS, Popli R. Pityriasis rosea: A histopathologic study. Ind J Dermatol Venerol Leprol. 2000;66:244-6.
23. Dayrit JF, Broyer J, Boer- Auer A. Pityriasis rosea: critical reassessment of histopathological and immunohistological feautures. Dermatopathology; practical and conceptual. 2010.
24. Gerharz DB, Ruzicka T. Pityraisis rubra pilaris. In: Wolff K, Goldsmith LA, Katz SI, Gilchrest BA, Paller AS, Leffel DJ, editors. Fitzpatrick's dermatology in general medicine. 7th ed. New York:McGraw Hill;2008:232-35.

25. Soeprono FF. Pityriasis rubra pilaris. The American J Dermatopathol. 1986;8/4(277-83):193-1091.
26. Magro CM Crowson AN. The clinical and histomorphological features of pityriasis rubra pilaris. J Cutaneous Pathol. 1997;24:416-24.
27. Fung YP. Pityriasis Rubra Pilaris: an Update Review. Hong Kong Dermatology Venereology Bulletin. 2001;9(1):10-6.
28. Inaloez H S. The Clinicopathological Correlation of Lichen Planus. Acta Dermatologica. 1998;93:471-5.

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