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Clinical Features And Histopathological Evaluation Of Psoriasiform Dermatoses.

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ABSTRACT

Psoriasis is a chronic skin condition, which can have varied presentation either per se or because of various treatment modalities, which can closely simulate any different dermatological conditions. Hence, a clinic-histopathological correlation is necessary for confirmation of diagnosis and treatment. The present study is aimed to study the clinical and histological features of psoriasiform dermatitis and psoriasis. This is a study on evaluation of clinical features and histopathology of Psoriasiform dermatosis undertaken in the department of pathology, Government Dharmapuri Medical College over a period of 1 year. After obtaining written understandable and consent as mentioned in the consent format from the patients, skin biopsies are obtained from the patients. These skin biopsies are done by the dermatologists as a outpatient procedure. A detailed clinical history was taken from the patient where specialemphasis is laid on duration of illness, symptoms, site of involvement, distribution of lesions, past history. A punch biopsy including both lesional and perilesional area was taken so as to compare the normal and the diseased skin. The biopsy is kept in 10% neutral buffered formalin immediately in a well closed container and transported to the histopathology lab with adequate measures. Majority of the cases (50 %) were in the age group of 31 - 45 years. Most common clinical diagnosis was psoriasis (40 %) followed by parapsoriasis. Most common presentation of cutaneous lesion was in the upper and lower limbs [45%]. Upper and lower limbs involvement was seen most commonly in psoriasis. Scaling was the chief complaint. Plaques were seen as the common cutaneous lesion. In the present study psoriasiform hyperplasia, downward elongation of rete ridges is both seen in all of cases of psoriasis. Clinically psoriasis vulgaris can be diagnosed by presence of micaceous scales, along with grattage test and Auspitz's sign. But in few, morphological variants of psoriasis and psoriasis modified due to various treatment modalities, we may not see the classical presentation and may mimic various other conditions (psoriasiform dermatitis), in which case a histopathological conformation is essential for diagnosis and treatment.

Keywords: Psoriasis, Psoriasiform Dermatitis, Histopathology

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INTRODUCTION

Psoriasis is a common, relapsing chronic inflammatory condition affecting about 1.5-3% of the world's population, causing significant morbidity [1]. The presence of a well-defined margin and a silvery white scale, over a glossy homogenous membrane, is clinically diagnostic of psoriasis [2]. The successive removal of the psoriatic scales usually reveals an underlying smooth, glossy red membrane with multiple bleeding points where thin suprapapillary epithelium is torn off (Auspitz's sign) [3]. When the scaling is not evident, it can be induced by light tangential scratching with the edge of glass slide (Grattage). Psoriasis often involves nails, scalp, mucosae, and joints, as well.

Psoriasis has different clinical variants that mimic diverse dermatological conditions. Besides, clinical features in one patient may differ at different times and sometimes, the diagnosis may get obscured, as in case of erythroderma. These patients often prove to be a diagnostic dilemma for the clinician and warrant a histopathological confirmation. Histologically, psoriasis vulgaris must be differentiated from psoriasiform dermatitis. The term psoriasiform implies that the lesion either clinically or histologically mimics psoriasis [4, 5] This group includes: psoriasis, seborrheic dermatitis, pityriasis rubra pilaris, allergic dermatitis, atopic dermatitis, nummular dermatitis, lichen simplex chronicus, pityriasis rosea, dermatophytosis, and mycosis fungoides.

In standard textbooks, dilated blood vessels, regular epidermal hyperplasia, and presence of Munro microabscess and/or Kogoj's abscess have been described to be the most constant or characteristic histopathological features in skin biospy of psoriasis [6-8] Similarly, spongiosis, irregular epidermal hyperplasia, and absence of Munro micro and Kogoj's abscess have been found consistently in psoriasiform dermatitis. Histopathological criteria for psoriasis have been well established inmany studies and articles. However, there is a diagnostic dilemma whenone is confronted with psoriasiform patterns versus true psoriasis lesions.In psoriasis there is accelerated epithelial turnover and these keratinocytes are resistant to apoptosis.

However, the frequency with which an individual feature (or a combination of features) is seen, in clinically diagnosed cases, has not been extensively studied. Moreover, the 'diagnostic' histopathological findings of psoriasis, namely, Kogoj's spongiform pustules and Munro microabscess, can also be seen in dermatophytoses, candida infection, and others. In addition, histopathological changes too, vary greatly with the stage and the clinical presentation of the disease, as seen in patients on treatment. Based on this aim of our study is to analyse the clinical features and histopathology of Psoriasiform Dematoses

MATERIALS AND METHODS

This is a study on evaluation of clinical features and histopathology of Psoriasiform dermatosis undertaken in the department of pathology, Government Dharmapuri Medical College over a period of 1 year.

After obtaining written understandable and consent as mentioned in the consent format from the patients, skin biopsies are obtained from the patients. These skin biopsies are done by the dermatologists as a outpatient procedure. There is practice of doing skin punch biopsies as a routine diagnostic procedure.

A detailed clinical history was taken from the patient where specialemphasis is laid on duration of illness, symptoms, site of involvement, distribution of lesions, past history, history of drug intake and general medical conditions.

A punch biopsy including both lesional and perilesional area was taken so as to compare the normal and the diseased skin. The biopsy is kept in 10% neutral buffered formalin immediately in a well closed container and transported to the histopathology lab with adequate measures.

The skin biopsy specimens are received in Department of Pathology in 10% neutral buffered formalin. Specimens are left in the fixative for adequate time. After adequate fixation tissue processing is done as routine in the issue processor, four-to-five-micron thick sections are cut from paraffin blocks using microtome cutting and are subjected to Hematoxylin and Eosin staining. Data obtained are tabulated and

statistical analysis is performed.

OBSERVATION AND RESULTS

In our study a total of 382 various skin biopsies were received in the Department of Pathology during the study period, out of which Psoriasiform Dermatoses lesions along with the Non Psoriasis Psoriasiform Dermatoses case constituted 10.47% (40 cases) of the skin biopsies received. The clinicopathological analysis from thestudy is as follows:

Table 1: Distribution of various Psoriasiform dermatoses

DISEASE	FREQUENCY	PERCENTAGE
Psoriasis	20	40%
Parapsoriasis	10	20%
Pityriasis Rubra Pilaris	7.5	15%
Lichen simplex chronicus	5	10%
Pityriasis rosea	3.75	7.5%
Chronic superficial dermatitis	3.75	7.5%
TOTAL	50	100%

In the present study out of 40 cases, psoriasis constituted the most common psoriasiform dermatoses cases constituting 40% [16 out of 40 cases] followed by parapsoriasis 20% [8 outof 40 cases], pityriasis rubra pilaris 15% [6 out of 40 cases], lichen simplex chronicus 10% [4 out of 40 cases], pityriasis rosea 7.5%[3 out of 40 cases] and chronic superficial dermatitis 7.5% [3 out of 40 cases].

In the present study out of 40 cases, male accounted for 62.5% ofcases. Psoriasis, parapsoriasis, pityriasis rubra pilaris and lichen simplex chronicus showed predominantly male predominance [62.5%, 75%, 66.6%and 100% respectively]. Pityriasis rosea showed female predominance [100%], also chronic superficial dermatitis [66.6%]. A statistically significant association was observed between gender and histopathologicaldiagnosis in the present study.

In the present study Psoriasis presented most commonly in age group of 31-45 years [50%], parapsoriasis presented most commonly in age group of 31-45 years [37.5%], pityriasis rubra pilaris presented equally in three age groups of 18-30 years, 31-45 years and 46-60 years [33.3% each] , lichen simplex chronicus presented most commonly in 31-45 years [50%] and chronic superficial dermatitis presented equally in three age groups 18-30 years, 31-45 years and 46-60 years [33.3% each].

In the present study, most common presentation of cutaneous lesion was in the upper and lower limbs [45%]. Upper and lower limbs involvementwas seen most commonly in psoriasis [62.5%] and chronic superficial dermatitis [66.6%]. Next common presentation was seen all over the body [40%]. In all over the body most common diseases were parapsoriasis [75%], pityriasis rubra pilaris [66.6%] and pityriasis rosea[66.6%]. Lichen simplexchronicus showed most common presentation in axilla and groin [50%].

Table 2: showing associated symptoms in psoriasiform dermatosescases

Disease	Rashes	Scaling	Itching	Total
Psoriasis	5(31.2%)	10(62.5)	1(6.25%)	16(100%)
Parapsoriasis	8(100%)	0(0%)	0(0%)	8(100%)
Pityriasis Rubra Pilaris	1(16.6%)	4(66.6%)	1(16.6%)	6(100%)
Lichen simplex chronicus	0(0%)	1(33.3%)	3(66.6%)	4(100%)
Pityriasis rosea	2(66.6%)	0(0%)	1(33.3%)	3(100%)
Chronic superficial dermatitis	1(33.3%)	0(0%)	2(66.6%)	3(100%)
TOTAL	17(42.5%)	15(37.5%)	8(20%)	40(100%)

In the present study in psoriasifrom dematoses lesions, scaling was the chief complaint in psoriasis (62.5%), pityriasis rubra pilaris(66.6%). Rashes was the most common complaint in parapsoriais(100%) and pityriasis rosea(66.6%). Itching was the most common complaint in lichen

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simplex chronicus(66.6%) and chronic superficial dermatitis(66.6%).

In this study plaques were seen as the common cutaneous lesion in psoriasis (68.7%), pityriasis rubra pilaris(83.3%) and lichen simplex chronicus (50%). Scaling is seen exclusively in psoriasis (25%), erythema is seen in all cases of chronic superficial dermatitis (100%). Patches are seen exclusively in pityriasis rosea (100%) and was statistically significant.

Table 3: Showing morphology of cutaneous lesion

Disease	Plaques	Scaling	Erythema	Patches	Total
Psoriasis	11(68.7%)	4(25%)	1(6.25%)	0(0%)	16(100%)
Parapsoriasis	2(25%)	0(0%)	6(75%)	0(0%)	8(100%)
Pityriasis Rubra Pilaris	5(83.3%)	0(0%)	1(16.6%)	0(0%)	6(100%)
Lichen simplex chronicus	2(25%)	0(0%)	0(0%)	2(50%)	4(100%)
Pityriasis rosea	0(0%)	0(0%)	0(0%)	3(100%)	3(100%)
Chronic superficialdermatitis	0(0%)	0(0%)	3(100%)	0(0%)	3(100%)
TOTAL	20(50%)	4(10%)	11(27.5%)	5(12.5%)	40(100%)

In the current study oral mucosal involvement was seen most commonly in psoriasis (62.5%). Oral mucosal involvement was completely absent in pityriasis rubra pilaris, pityriasis rosea and chronic superficial dermatitis.

Table 4: Epidermal changes in histopathological examination

Disease	Hyperkeratosis	Acanthosis	Psoriasiform hyperplasia	Suprapapillary thinning	Downward elongation of rete ridges	Spongiosis	Basal vacuolar change	Epidermotrophism of lymphocytes	orthokeratosis and parakeratosis	Follicular plugging
Psoriasis	4 (25%)	14(87.5%)	16(100%)	14(87.5 %)	16(100 %)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)
Parapsoriasis	0(0%)	8(100%)	8(100%)	2(25%)	4(50%)	4(50%)	2(25%)	4(50%)	0(0%)	0(0%)
Pityriasis Rubra Pilaris	6(100%)	1(16.6%)	2(33.3%)	0(0%)	1(16.6%	2(33.3%)	2(33.3%)	0(0%)	4(66.6 %)	2(33.3 %)
Lichen simplex chronicus	3(75%)	1(25%)	1(25%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)
Pityriasis rosea	0(0%)	3(100%)	3(100%)	0(0%)	0(0%)	2(66.6%)	0(0%)	1(33.3%)	0(0%)	0(0%)
Chronic superficial dermatitis	1(33.3%)	1(33.3%)	1(33.3%)	0(0%)	0(0%)	3(100%)	2(66.6%)	2(66.6%)	0(0%)	0(0%)

In the present study psoriasiform hyperplasia, downward elongation of rete ridges are both seen in all (100%) of cases of psoriasis. Other features seen in psoriasis are acanthosis and suprapapillary thinning seen in all14 cases (87.5%) of all psoriasis cases. Hyperkeratosis is seen in 4 cases (25%) of psoriasis cases.Most common histological finding seen in epidermis of parapsoriasis cases are acanthosis (100%), psoriasiform hyperplasia (100%) followed by downward elongation of rete ridges , epidermotrophism of lymphocytes and spongiosis in 4 cases (50%) of all parapsoriasis cases. Pityriasis rubra pilarisshows hyperkeratosis in 6 cases (100%) and alternating orthokeratosis and parakeratosis in 4 cases (66.6%) followed by psoriasiform hyperplasia, spongiosis, follicular plugging and basal vacuolar change in 2 cases (33.3%). Lichen simplex chronicus shows hyperkeratosis in 3 cases (75%) and acanthosis and psoriasiform hyperplasia in each 1 case (25%) of all lichen simplex chronicus cases. Pityriasis rosea shows acanthosis and psoriasiform hyperplasiain all 3 cases (100%). It also shows spongiosis in 2 cases (66.6%)and epidermotrophism of lymphocytes in 1 case (33.3%).

The most common epidermal histological feature of chronic superficial dermatitis is spongiosis seen in 3 cases (100%) followed by basal vacuolar change (66.6%) and acanthosis with psoriasiform hyperplasia in 1 case (33.3%).

DISCUSSION

The accurate diagnosis of any erythematous skin lesion resembling psoriasis is important both clinically and histopathologically for its effective treatment and evaluation of its prognostic significance.

Most of the psoriasiform skin lesions have a similar clinical presentation, thereby making histopathological study and immunohistochemical evaluation as the gold standard for the final diagnosis of these differentials.

The present study was conducted to compare the clinical presentation including age, sex, clinical features, histopathological findings along with immunohistochemical correlation of all the differential diagnosis of Psoriasiform dermatoses reactions.

Out of all the psoriasiform lesions, the common lesions encountered in the present study are Psoriasis, Parapsoriasis, Pityriasis Rubra Pilaris, Lichen simplex chronicus, Pityriasis Rosea and Chronic Superficial Dermatitis.

In the present study of 40 cases of clinically suspected psoriasiform lesions , 16 cases turned out to be psoriasis in histopathological examination, 8 cases as parapsoriasis, 6 cases as pityriasis rubra pilaris , 4 cases are lichen simplex chronicus, 3 cases are pityriasis rosea and 3 others are chronic superficial dermatitis.

In the present study, Psoriasis was the most common psoriasiform dermatoses lesion which was similar to Alexander et al [9].

A characteristic pattern of epidermal hyperplasia was the most common feature seen in psoriasis case in the current study which is also mentioned as the same in Farmer and Hood classification of psoriasiform lesions [10].

Elder et al [6] classified psoriasis according to predominant dermal inflammatory infiltrate which was in correlation with the present study that neutrophilic dermal infiltrate is a prominent finding in psoriasis cases. This finding is similar to that of Gordon [11], Johnson and Chopra et al [12] who also found neutrophils as prominent inflammatory infiltrate in psoriasis cases. Instead Helwig [13] and Ackerman et al [14] and Tomasini et al [15] found in their studies that lymphocytes are the prominent inflammatory infiltrate. In the present study neutrophilic infiltrate was identified in 8 cases (50%) of all psoriasis cases.

Tirumalae R et al [16] mentioned in their study that all other diseases other than psoriasis exhibit an uneven psoriasiform pattern i.e., rete ridges are of uneven lengths and thickness with thick suprapapillary plates.

In the present study psoriasis cases showed acanthosis in 14 cases (87.5%) which was similar to studies by Lal et al [17] a in which acanthosis was seen in 110% of cases and also in studies of Gordon et al.

Lal et al [17], Gordon et al [11] showed that acanthosis is seen in 100% of psoriasis cases and Mehta et al [18] mentioned that 93.10% of psoriasis cases featured acanthosis. This finding is similar to the data in my present study.

Pityriasis rubra pilaris is characterized by horizontal and vertical alternating areas of ortho and parakeratosis along with follicular plugging which was similar to the present study seen in 4 cases (66.6%) and 2 cases (33.3%) respectively. Since psoriasis is itself a hyperproliferative disorder, it has a high likelihood of turning into malignancy. But during the studies done in the past years it is found that it is not so common.

CONCLUSION

Clinically psoriasis vulgaris can be diagnosed by presence of micaceous scales, along with grattage test and Auspitz's sign. But in few, morphological variants of psoriasis and psoriasis modified due to various treatment modalities, we may not see the classical presentation and may mimic various other conditions (psoriasiform dermatitis), in which case a histopathological conformation is essential for diagnosis and treatment. The major determinants for the diagnosis of psoriasiform dermatitis include spongiosis, lymphocyte exocytosis, and irregular epidermal hyperplasia histologically.

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