www.jmscr.igmpublication.org
Impact Factor (SJIF): 6.379
Index Copernicus Value: 71.58
ISSN (e)-2347-176x ISSN (p) 2455-0450
crossref DOI: https://dx.doi.org/10.18535/jmscr/v6i3.110

IGM Publication
Journal Of Medical Science And Clinical Research
An Official Publication Of IGM Publication

A Clinico-Pathological Correlation Study of the Spectrum of Non-Infectious, Scaly Skin Lesions

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Abstract
A prospective correlation study was done on 51 patients, clinically diagnosed to have non-infectious, scaly skin lesions falling under the spectrum of Papulosquamous disorders. Thirty six of these patients were found to have good clinical and histopathological correlation.
Keywords: *non-infectious scaly skin lesions, papulosquamous disease.*

Introduction

Papulosquamous diseases form the largest conglomerate group of skin disease(1) wherein all are characterized by scaling papules, hence confusion may result in their clinical diagnosis. Therefore, histopathological analysis is important for a more definitive differentiation. Separation of each of these conditions into different entities becomes important because the treatment and prognosis is disease-specific. In such cases, histopathological diagnosis will help the dermatologist in instituting proper therapy and can vary the prognosis significantly.

Materials and Methods

All patients attending the Dermatology OPD between July 2014 and June 2016, with a clinical diagnosis of non-infectious, scaly skin lesion of any duration were included in the study.

After obtaining the informed consent from the patient, the patient was examined by the dermatologist. Following the clinical examination

and data collection in the Dermatology OPD, lesional punch or excisional biopsy was done and specimens were placed in 10% formalin and sent for histopathological study.

The various histological features such as hyperkeratosis, ortho/parakeratosis, acanthosis, spongiosis, basal cell layer changes, inflammation in the dermal and perivascular regions, dermal edema or fibrosis and periadnexal damage were recorded. The findings were compared with various other studies given in the literature and were critically analyzed.

Data compilation and analysis was done using statistical software: SAS 9.2

Observation and Results

The incidence of scaly skin lesions of noninfectious etiology in the present study showed 51% of the affected individuals were males and 49% were females.

Out of 51 patients studied, 25(49%) patients presented with hypo pigmented lesions, 25 (49%) patients presented with hyper pigmented lesions and 1(2%) patient presented with scaly lesion over normal appearing skin. Fifteen patients, who presented with hypo pigmented lesions were males (57.7%) and the rest (40%) were females. Out of the twenty-five patients who presented with hyper pigmented lesions, 14(56%) patients, were females and 11(42.7 %) patients males. One female patient presented with a scaly lesion without pigment alteration.

Out of 51 patients studied, 23 patients were clinically diagnosed as Psoriasis,16 patients as Lichen planus, 4 as Parapsoriasis, 2 cases as Hypertrophic lichen planus and lichen nitidus and 1 case each as Pustular psoriasis, erythrodermic psoriasis, pityriasis rosea and pityriasis rotunda. Out of these 51 patients, maximum number of psoriasis cases (30.4%) diagnosed clinically was seen in the fourth decade(40-50 years) while clinically diagnosed lichen planus was commonly seen in the age group of 20-30 years(37.5%).

Histopathological examination of the 51 biopsies showed that majority of cases 14(27.9%) patients had Psoriasis vulgaris, 11(21.6%) patients had Lichen planus, 4(7.8%) patients had Chronic dermatitis and hypertrophic lichen planus while 2 (3.9%) patients had Parapsoriasis and Lichen nitidus. About 2% of patients were diagnosed with chronic atopic dermatitis, Early psoriatic dermatitis, eczematous dermatitis, Erythrodermic psoriasis, Lichenoid dermatitis, mild dermatitis with psoriasiform hyperplasia, pityriasis rosea, pityriasis rubra pilaris, pityriasis rotunda, prurigo nodularis, psoriatic dermatitis, pustular psoriasis and seborrheic dermatitis.

In the present study, out of 51 patients, 23 cases were clinically diagnosed as Psoriasis vulgaris. Out of these 23 cases, only 13(56.5%) cases were diagnosed histopathologically as Psoriasis vulgaris while 3(13%) cases as early psoriasis vulgaris, 2(8.7%) cases as chronic dermatitis and one case (4.3%) each as that of seborrheic dermatitis, mild dermatitis with psoriasiform hyperplasia, pityriasis rubra pilaris and lichen planus.

Of the sixteen clinically suspected cases of Lichen planus,11 cases(68.8%) well correlated histopathologically while 2(12.5%)cases were reported as chronic atopic dermatitis and hypertrophic lichen planus and 1 case(6.3%) as prurigo nodularis histopathologically.

Four cases (100%) which was diagnosed clinically as lichen nitidus, pityriasis rosea and pityriasis rotunda correlated accurately with the histopathological diagnosis. But out of the 4 cases clinically reported as Parapsoriasis one case was reported as chronic atopic dermatitis and the other as Hansen's while two cases correlated histopathologically.

Out of 51 patients, histopathological diagnosis of 36 patients (70.60%) correlates with the clinical diagnosis. Histopathological diagnosis of 15 patients (29.40%) does not correlate with the clinical diagnosis.

Histopathology	Clinical Diagnosis									Total
	Psoriasis	Para psoriasis	Lichen planus	Hypertrophic lichen planus	Lichen nitidus	Pustular psoriasis	Erythroder micpsoriasis	Pityriasis rosea	Pityriasis rotunda	
Lichen planus, lichen nitidus	1(4.3%)	0(0%)	11(68.8%)	0(0%)	2(100%)	0(0%)	0(0%)	0(0%)	0(0%)	14(27.5%)
Psoriasis vulgaris	13(56.5%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	13(25.5%)
Chronic atopic dermatitis	2(8.7%)	1(25%)	2(12.5%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	5(9.8%)
Hypertropic lichen planus	0(0%)	0(0%)	2(12.5%)	2(100%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	4(7.8%)
Early psoriasis vulgaris	3(13%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	3(5.9%)
Pityriasis rubra pilaris, pityriasis rotunda	1(4.3%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	1(100%)	1(100%)	3(5.9%)
Parapsoriasis	0(0%)	2(50%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	2(3.9%)
Eczematous dermatitis	1(4.3%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	1(2%)
Erythrodermic psoriasis	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	1(100%)	0(0%)	0(0%)	1(2%)
Hansens disease	0(0%)	1(25%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	1(2%)
Mild dermatitis with psoriasiform hyperplasia	1(4.3%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	1(2%)
Prurigo nodularis	0(0%)	0(0%)	1(6.3%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	1(2%)
Pustular psoriasis	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	1(100%)	0(0%)	0(0%)	0(0%)	1(2%)
Seborrheic dermatitis	1(4.3%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	1(2%)
Total	23(100%)	4(100%)	16(100%)	2(100%)	2(100%)	1(100%)	1(100%)	1(100%)	1(100%)	51(100%)

Discussion

The accurate diagnosis of any non-infectious scaly skin lesion is important for its effective treatment and evaluation of its prognostic significance. Most of these scaly skin lesions have a similar clinical presentation, hence the histopathological study is considered as the gold standard for the evaluation of these lesions.

Histopathological Correlation with Clinical Correlation

Histopathological Diagnosis	Clinical Diagnosis
Correlated	36(70.6%)
Not Correlated	15(29.4%)
Total	51(100%)

A study by Grace D' Costa[2] showed that the maximum number of cases were seen in the age group of 30 years with a male preponderance (60.25%) much in concordance with our study where maximum number of cases detected fell in the 20 - 40 year age group with a male predominance (51%).

In the study by Veldhurthy vs et al[3], hyper pigmented scaly skin lesions was the common presentation accounting for 36.9% followed by hypo pigmented lesions (31.5%). However in this study, both hypo and hyper pigmented lesions share equal incidence accounting for about 49% each.

In the present study Psoriasis was the most common disease accounting to 27.9% of the cases similar to the study by Hosamane S et al.[4] Lichen planus accounted for 21.6%, which was the second most common lesion after psoriasis unlike the study of Veldhurthy et al wherein lichen planus though accounted for 26% of the total study population was the most common disease of their study.

The other histologic diagnosis given were chronic nonspecific dermatitis, Parapsoriasis, Lichen nitidus, chronic atopic dermatitis, eczematous dermatitis, erythrodermic psoriasis, lichenoid dermatitis, Psoriasiform dermatitis, Pityriasis rosea, pityriasis rubra pilaris, pityriasis rotunda, prurigo nodularis and seborrheic dermatitis.

Clinical and histopathological correlation in various studies

Younas et al [(1)] study showed 76.30% clinical and histopathological correlation compatibility while our study has 70.60% compatibility.

In the present study, histopathological diagnosis of lichen nitidus, Parapsoriasis, pityriasis rosea and pityriasis rotunda completely correlated with the clinical diagnosis (100%) while there was an observed clinico-histopathologic diagnostic incompatibility in 15 cases presenting with the other diagnosis.

Out of 15 cases, 4 cases which was clinically diagnosed as lichen planus were found to be chronic atopic dermatitis, prurigo nodularis and chronic dermatitis with pigment alteration. The rest (9 cases) which were clinically diagnosed as psoriasis were found to be eczematous dermatitis, lichen planus, pityriasis rubra pilaris and psoriasiform dermatitis. 2 cases of clinically diagnosed Parapsoriasis was found to be psoriasiform dermatitis and Hansen's disease.

In the Karumbaiah KP et al study[(6)], 5 cases which were clinically diagnosed as suspicious of psoriasis, 4 cases were diagnosed as Lichen planus and 1 case was diagnosed as Parapsoriasis histopathologically, emphasizing overlapping of clinical features in this group of conditions. In our study, it was noted that majority of the histologically diagnosed cases of psoriasiform dermatitis clinically presented with features mimicking Psoriasis. This emphasis the need for histopathological evaluation of all clinically suspected cases of psoriasis to rule out psoriasiform dermatitis since the treatment for both varies. Clinical management was definitely benefited in non-correlated cases by histopathological examination.

Summary and Conclusion

In our two-year study of 51 cases which showed a wide histopathological spectrum, Psoriasis vulgaris being the most common lesion accounted for about 27.9% followed by Lichen planus. High percentage (70.60%) of clinico-histopathological correlation was noted in this study with incompatibility observed in only 29.40% of the cases studied. This study reiterates that scaly skin lesions need a histopathological confirmation for an effective treatment protocol, since most of the Papulosquamous lesion have similar clinical presentation.

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