



HISTOPATHOLOGICAL ANALYSIS OF SCALY LESIONS OF NON INFECTIOUS ETIOLOGY-A INSTITUTIONAL STUDY OF 4 YEARS

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ABSTRACT

BACKGROUND Scaly skin lesions with pigment alterations are the most frequent presentation encountered in the patients with skin disease. Common cause may be innumerable ranging from disease like psoriasis, lichen planus, pityriasis versicolor etc. Histopathological confirmation is necessary not only to distinguish the various entities but also for disease specific treatment protocol. **AIM** 1. To study the age and sex distribution of non infectious scaly skin lesions. 2. To analyze the histopathological spectrum of clinically diagnosed non infectious scaly lesions. **MATERIAL AND METHODS** Retrospective study, conducted in the department of pathology, GMC jammu from year 2017 to 2021. A total of 93 skin biopsies of patients who presented clinically with non infectious scaly skin lesions were received, fixed and processed under departmental protocol and then were stained with H and E for histopathological examination. **RESULTS** Out of 93 cases, lichen planus was the most common (23.6%), followed by psoriasis (16.6%) and chronic dermatitis (16.6%). Male female ratio of 1.8:1. Scaly lesion was the most common clinical presentation (63.4%), followed by hyperpigmented lesions (23.6%) and hypopigmented lesions (12.9%). 31 to 40 year of age group was the most commonly involved age group. **CONCLUSION** Scaly lesions are commonly encountered with lichen planus being the most common. Histopathological examination is the gold standard as most of these lesions have similar clinical presentation.

KEYWORDS :

INTRODUCTION

Skin is the largest organ in the body which has limited patterns of reaction in response to different pathological stimuli. Like other organ systems, proper clinical history and examination is important for skin diseases as well. Clinically different lesions may show similar histological patterns. Therefore, though histopathology is considered the gold standard in dermatological diagnosis, there exist few limitations and very often a definite 'specific' diagnosis is not possible. In such instances, the correlation of histopathological findings with clinical findings will aid in arriving at a plausible diagnosis and thereby help in the disease treatment. Studies in pathology have documented the extent of spread of various skin lesions. Since papulosquamous diseases are all characterized by scaling papules, clinical confusion may result in their diagnosis. Therefore histopathological analysis is important for a more definitive differentiation. Separation of each of these conditions into different entities becomes 2 important because the treatment and prognosis is disease-specific. These lesions can also be associated with hypo and hyperpigmentation. The papulosquamous group of diseases include psoriasis, parapsoriasis, lichen planus, lichen nitidus, prurigo simplex, prurigo nodularis, pityriasis rosea, pityriasis rubra pilaris and many more. Certain conditions, like psoriasis mimic diverse dermatological conditions as they present with numerous clinical variants leading to diagnostic dilemma for the clinician. In such cases histopathological diagnosis will help the dermatologist in instituting proper therapy and can vary the prognosis significantly. It has made significant contribution to the understanding of etiology and pathogenesis.

AIMS AND OBJECTIVES

1. To study the age and sex distribution of non infectious scaly skin lesions.
2. To analyze the histopathological spectrum of clinically diagnosed non infectious scaly lesions.

MATERIAL AND METHODS

Study design: Hospital-based retrospective observational study

Study area: Government Medical College and Hospital, Jammu

Study period: July 2014 to July 2016 (Two years)

Study population: The skin biopsy of patients presenting with scaly, noninfectious lesions received in the Department of Pathology is microscopically analysed and evaluated.

Inclusion criteria: Patients clinically diagnosed with non-infectious scaly lesions consenting for biopsy

Exclusion criteria: Patients with non-infectious scaly lesions not consenting for biopsy

All non-scaly lesions

Sampling method and Sample size:

All patients attending the Dermatology OPD with H/O scaly skin lesions of any duration within the 4 year period (July 2017 to July 2021) will be registered for the study after applying the inclusion and exclusion criteria. The participants will be recruited for the study after obtaining their written informed consent. The purpose and objectives of the study will be clearly explained in the local language to them while recruiting.

Data collection:

Clinical Data: After obtaining the informed consent from the patient, the patient is examined by the dermatologist to identify the site, size, colour and distribution of the lesion/lesions. Following the clinical examination and data collection in the department of Dermatology, lesional punch or excisional biopsy is done on the patient clinically diagnosed to have scaly skin lesion of non-infectious etiology.

The biopsy techniques commonly employed are Punch biopsy, Superficial and deep shave biopsy, Deep incisional biopsy, Complete excision and Curettage. Punch biopsy is the standard procedure for obtaining samples of inflammatory dermatoses. Specimen obtained with a 4-mm biopsy punch is adequate for histologic study. A punch biopsy specimen can be squeezed gently out of its socket or carefully speared with the syringe needle. Immediately after removal it should be placed in fixative, to prevent autolysis. The skin specimen biopsied is fixed in 10% formalin and sent to the department of Pathology.

GROSS EXAMINATION: The skin specimen received should be given a proper gross description which should include

tissue size, presence or absence of epidermis, color, presence and absence of hair and alterations to the epidermal surface. The tissue is then thinly sliced, processed and embedded in paraffin blocks, after which sections are cut and affixed on glass slides. The tissue sections are then subjected to hematoxylin and eosin staining, followed by mounting and proper labeling of the slides. The slides are then subjected to meticulous microscopic examination by the reporting pathologist.

RESULTS

In the present study, a total of 51 biopsies taken from the study group of patients was studied in the Department of Pathology, Government Medical College and Hospital, Jammu between July 2017 to July 2021. The objectives of the study include the age and sex distribution of patients clinically presenting with scaly skin lesions of non-infectious etiology which are tabulated in the Table 1 and Table 2 respectively. In the present study, maximum numbers of cases were found to be in second decade i.e., (31-40) years comprising of 22.5% of the study population.

Minimum number of cases is found to be in the age group of less than 10 years. Male:female ratio of 1.8:1. Out of 93 patients studied, 59 (63.4%) patients presented with scaly lesions, 22 (23.6%) patients presented with hyperpigmented and 12 (12.9%) patients presented with hypopigmented lesions. Clinicohistological correlation was seen in 89 patients (95.69%) while only 4 (4.3%) patients showed clinical non-correlation with histopathological examination. Out of 4 patients who showed clinicohistological non-correlation, one of the patients was 60-year-old male who presented with erythematous papules over sun-exposed areas and was clinically diagnosed as chronic dermatitis and was diagnosed as psoriasis on HPE. Another patient was 48-year-old female presented with scaly plaques and was diagnosed clinically as dermatitis herpetiformis and was diagnosed as chronic dermatitis on HPE. A 3rd patient was 14-year-old female presenting with hyperpigmented plaques clinically diagnosed as cutaneous tuberculosis and was diagnosed as chronic dermatitis on HPE, and another patient 36-year-old male was diagnosed as parapsoriasis on HPE, clinically presented with hypopigmented plaques and was diagnosed clinically as morphea/lichen sclerosus.

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. The present study was conducted to determine the age and sex incidence of scaly non-infectious skin lesions and its clinical correlation. Ninety-three patients who came with complaints of scaly skin lesions and clinically thought to arise from a non-infectious etiology were subjected to biopsy and evaluated histopathologically. Yonus et al and Vijay et al showed that maximum number of cases are seen in the age group of 21-30 years.

In the present study, maximum number of cases are detected in the 31-40 years of age group. Studies by Grace et al and Rajasekhar et al study show that the incidence of non-infectious scaly skin lesions is higher in males as in concordance with our present study which shows a higher incidence (63.4%) in males. In the study by Veldhury vs et al, hyperpigmented scaly skin lesions were the common presentation accounting for 36.9% followed by hypopigmented lesions (31.5%). However, in this study, scaly lesion constituted 63.4%, followed by hyperpigmented lesions (23.6%) and hypopigmented lesions accounting for about 12.9%.

CONCLUSION

Papulosquamous lesions are the most common skin disease

encountered. These present clinically as a scaly skin lesion with pigment alteration. The most common of this group being Psoriasis vulgaris followed by Lichen planus. This study reiterates that these lesions show a definite male preponderance with maximum patients in their second decade (20-30 years). Histopathological confirmation is mandatory for the treatment protocol, since most of the papulosquamous lesions have similar clinical presentation.

Age distribution of patients

Age in years	No. of patients	%age
<10	3	3.22
10-20	13	13.9
21-30	11	11.8
31-40	21	22.5
41-50	20	21.5
51-60	13	13.9
>60	12	12.9
Total	93	100

Gender distribution of patients studied

Gender	No. of patients	%age
Female	33	35.4
Male	60	64.5
Total	93	100

Presenting symptoms of patients studied

Presenting symptoms	No. of patients	%age
Scaly lesions	59	63.4%
Hyperpigmented lesions	22	23.6%
Hypopigmented lesions	12	12.9%
Total	93	100%

Spectrum of histopathological lesions studied according to gender

HPE Diagnosis	Total no of patients	No of Male	No of Females
Lichen planus	24(25.8%)	16(26.6%)	8(24.24%)
Psoarisis	15(16.12%)	12(20%)	3(9.09%)
Chronic dermatosis	14(15.05%)	10(16.6%)	4(12.12%)
Lichen planus pigmentosus	7(7.5%)	3(5%)	4(12.12%)
Lichen planus hypertrophicus	5(5.37%)	2(3.33%)	3(9.09%)
Prurigo nodularis	4(4.30%)	3(5%)	1(3.03%)
Parapsoriasis	3(3.22%)	2(3.33%)	1(3.03%)
Lichenoid dermatosis	3(3.22%)	2(3.33%)	1(3.03%)
Lichen planus planopilaris	2(2.15%)	1(1.66%)	1(3.03%)
Lichen sclerosis atrophicus	2(2.15%)	1(1.66%)	1(3.03%)
Lichen simplex chronicus	2(2.15%)	1(1.66%)	1(3.03%)
Lichen planus follicularis	2(2.15%)	2(3.33%)	-
Pityriasis rubra pilaris	2(2.15%)	1(1.66%)	1(3.03%)
Pityriasis lichenoid chronica	2(2.15%)	1(1.66%)	1(3.03%)
Psoariform dermatitis	2(2.15%)	-	2(6.06%)
Atrophic lichen planus	1(1.07%)	-	1(3.03%)
Pityriasis versicolor	1(1.07%)	1(1.66%)	-
Lichen Planus Pityriasis	1(1.07%)	1(1.66%)	-
Lichen planus amyloidosis	1(1.07%)	1(1.66%)	-
Total patients	93(100%)	60(100%)	33(100%)