

Original Research Article

Histopathological spectrum of non-infectious erythematous, papulo-squamous lesions: at a tertiary care institute

Sonal Agrawal^{1*}, K. B. Mishra¹, C. M. Gupta²

¹Department of Pathology, ²Department of Dermatology, L. N. Medical College and Research Center, Bhopal, Madhya Pradesh, India

Received: 28 March 2018

Accepted: 27 April 2018

***Correspondence:**

Dr. Sonal Agrawal,

E-mail: drsonalagrawal8871@gmail.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Background: Dermatologic disorders are common in many countries, but the spectrum varies greatly. 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. Histopathology is highly specific and sensitive for many lesions and its remains the gold standard for most dermatological diagnosis.

Methods: A prospective histopathological study of 50 cases, which was carried out in the department of dermatology and Pathology in L. N. medical college and J. K. hospital research center, over a period of 1 year. A brief history and dermatological examination was carried out, skin biopsies taken were fixed in 10% formalin and subjected for tissue processing. Followed by microscopic examination.

Results: In the present study of 50 cases of papulosquamous disorders psoriasis 60% (30 Cases) was the commonest followed by lichen planus 20% (10 cases), 3% (6 cases) each of pityriasis rubra, pilaris, parapsoriasis, *Pityriasis rosea*, and 4% (02 cases) of seborrheic dermatitis. Commonest age-group 31-40 years was more affected, sex distribution pattern revealed a male preponderance. 30 cases showed compatible clinical as well as histopathological diagnosis.

Conclusions: Key histopathological features and clinico-pathological study gives a conclusive diagnosis. The importance of specific histo-morphological diagnosis lies in the distinguishing various lesions and their prognosis.

Keywords: Clinical features, Histopathological features, Lichen planus, Papulosquamous lesions, Psoriasis

INTRODUCTION

Skin is a complex organ. Diagnosis of skin disease involves history and examination. The visibility of skin allows an instant diagnosis in some cases, using a variety of visual clues such as site distribution, color, scaling and arrangement of lesions. Such apparently effortless pattern recognition is actually quite complex when the individual components are analyzed separately.¹

Papulo squamous skin disorders are a heterogeneous group of disorders that comprise the largest group of diseases. The nosology of these disorders is based on a descriptive morphology of clinical lesions characterised by scaly papules and plaques. Disease assumes considerable importance because of their frequency of occurrence. Histomorphologic diagnosis is important for separation of these disorders because the treatment and prognosis for each tends to be disease specific.²

Aim of the study was to study the histomorphology of papulosquamous lesions of skin with clinico-pathological correlation.

METHODS

Study was carried out on patients who consulted the Department of dermatology and Department of Pathology at L.N. medical college and J. K. Hospital and Research center during a period of 1 year, a prospective study. Study comprised of 50 clinically diagnosed/suspected and untreated cases of papulosquamous lesions of skin.

Grossing

Gross examinations of specimens were done under heads of overall appearance, size, and external appearance, appearance of cut surface, cutting sensation, and consistency.

After routine paraffin processing, 3-5µm sections were cut and stained by H and E stain method.

Fixation for light microscopy and technique of processing

- Fixation-2 changes of 10% buffered neutral formalin
- Dehydration-3 changes of graded alcohol and 2 changes of acetone.
- Clearing
- Paraffin impregnation
- Embedded in paraffin wax
- Labelled and blocks were made after trimming excess paraffin.
- Sections were cut at a microtome setting of 4 microns.
- The sections were floated on a water bath at 60 °C temperature.
- Sections were mounted on a slide using a very thin layer of glycerol egg albumin as an adhesive.
- The slide is then kept on Hot plate at 50°C for melting the wax
- Slide is now, taken for staining.

Inclusion criteria

Cases with clinical features suggestive of Papulosquamous skin disorders like Psoriasis, Lichen Planus, Pityriasis Rubra Pilaris, Parapsoriasis, Pityriasis Rosea, Lichen nitidus, Lichen striatus and Seborrheic dermatitis were included.

Exclusion criteria

Diseases with similar clinical features like lupus erythematosus, dry forms of it eczema some superficial varieties of fungal diseases were excluded. Pt. suffering from multiple disorders was excluded.

RESULTS

A present study comprised of 50 cases of Papulosquamous disorders. Psoriasis 30 cases (60%) was the commonest followed by Lichen planus 10 cases (20%), Pityriasis Rubra Pilaris 3 cases (6%), Parasoriasis 3 cases (6%), Pityriasis rosea 2 cases (4%), seborrheic dermatitis 02 cases (4%). There was no case found of Lichen nitidus and Lichen striatus (Figure 1). Mainly all the category of papulosquamous show features of scaly and plaques. In these cases males are more affected than female.

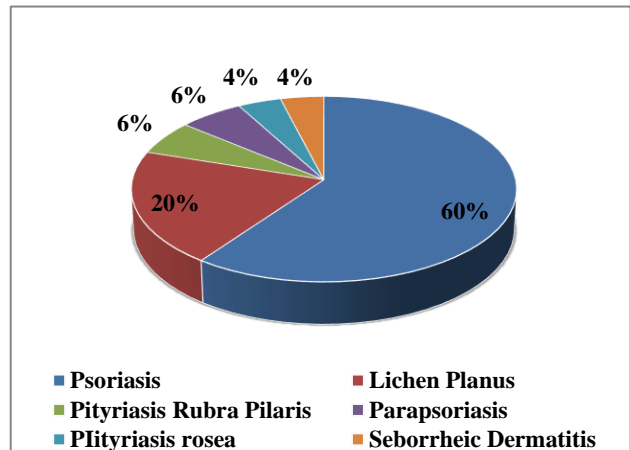


Figure 1: Distribution of cases-a papulosquamous skin disease.

Psoriasis was seen commonly in age group 31-40 years; Lichen planus was most common in age group 21-40 years. And Pityriasis Rubra Pilaris, Parapsoriasis, Pityriasis rosea, seborrheic dermatitis was commonly seen in young age group (Figure 2).

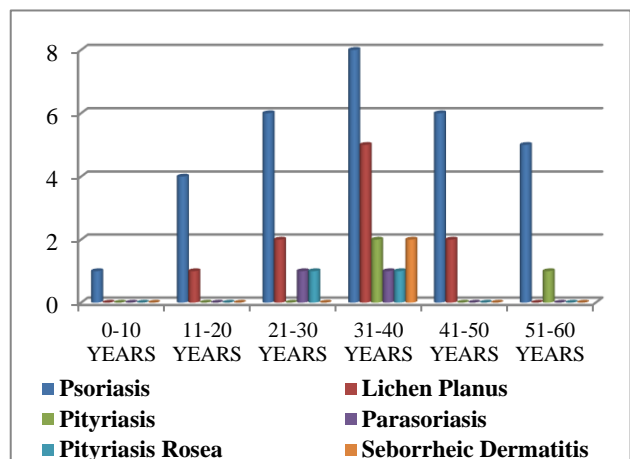


Figure 2: Age incidence.

In the present study, high prevalence was observed in males in psoriasis whereas in lichen planus females were predominant (Figure 3). The diagnosis of Lichen Planus can usually be made from the characteristic clinical

appearance and distribution of the lesion. However, Lichen Planus must be differentiated from other papulosquamous disorders such as Psoriasis and others. Hence confirmation with a skin biopsy is always warranted to exclude few others.

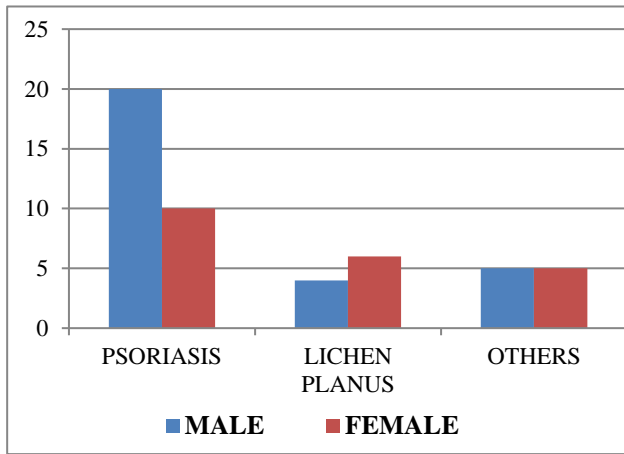


Figure 3: Distribution of cases as per gender.

A concordance between clinical diagnosis and histopathological diagnosis was observed in 58% of cases and discordance of 21% was analyzed. Out of 30 cases of psoriasis clinical and pathological correlation was seen in 18 cases (60%) whereas 12 cases (40%) were non correlating. Among 10 cases of lichen planus 6 cases (60%) shows agreement whereas 4 cases (40%) shows disagreement. Among 03 cases each of pityriasis rubra pilaris and Parapsoriasis, 2 cases (66%) shows agreement where as 01 cases (33%) shows disagreement (Table 1).

Table 1: Correlation between clinical diagnosis and histopathological diagnosis.

Clinical diagnosis	Total number of cases	Cases correlating on histopathology (no.) (%)			
Psoriasis	30	18	60%	12	40%
Lichen planus	10	06	60%	04	40%
Pityriasis rubra pilaris	03	02	66%	01	33%
Parapsoriasis	03	02	66%	01	33%
Pityriasis rosea	02	01	50%	01	50%
Seborrheic dermatitis	02	02	100%	00	00%

In the present study, 58% of clinically diagnosed cases of papulosquamous lesion were confirmed histologically while 42% were histologically had different diagnosis. 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, parapsoriasis and lichen striatus. However, some of the histological features are specific and characteristic for each entity. In the study done by Faraz A et al.⁶ 67.5% of clinically diagnosed cases of papulosquamous lesion

The clinical presentation of Psoriasis is varied, and mimicked other papulosquamous diseases as encountered in our study. Hence many times the definitive diagnosis depends on histological examination.

DISCUSSION

In the present study of 50 cases of papulosquamous disorders. Psoriasis (60%) was the commonest followed by Lichen planus (20%). In the study done by Reddy BR et al.³ 80 cases of papulosquamous disorders were studied in which Psoriasis (42.5%) the commonest, was followed by Lichen planus(30%).When the present study was compared to a study by Puri et al, shows same finding.⁴ Among the 150 cases, 88 cases were clinically suspected to be psoriasis of which 40 cases (45.45%) were confirmed histopathologically, Out of 39 cases clinically suspected to be lichen planus, only 19 cases (48.71%) turned out to be lichen planus histopathologically. In the present study out of 10 cases of Lichen Planus, 06 were clinically diagnosed and confirmed by histopathology.

Hence confirmation with a skin biopsy is always warranted.⁵ To exclude few other papulosquamous disorders like psoriasis and parapsoriasis from Lichen Planus as depicted in our study. In the present study, out of 50 cases of psoriasis, 18 were clinically diagnosed and confirmed by histopathology. The clinical presentation of Psoriasis is varied, and mimicked other papulosquamous diseases as encountered in our study. Hence many times the definitive diagnosis depends on histological examination. 20 out of 50 cases had 2 or more clinical differential diagnosis. Histologically we were able to diagnose these lesions.

were confirmed histologically while 32.5% were histologically different diagnosis. In the study done by Choudhary R et al, 58.7% of clinically diagnosed cases of papulosquamous lesion were confirmed histologically while 31.3% were histologically different diagnosis.⁷ A clinico histopathological and etiological study done by K Dilip et al, in India show that Out of 375 patients, 220 were male and 155 were female.⁸ psoriasis was the most common in male in our study same as in Kaur et al, Alexander et al and Yang et al.⁹⁻¹¹ Hence combination of proper clinical observation and histo morphological study

will give a conclusive diagnosis. Therefore, histopathological reporting should be accompanied with detailed clinical history as many of the lesions share similar histopathological features while clinically they present as different entities.¹²

ACKNOWLEDGEMENTS

Authors would like to thank all the technicians and staff and patients for their support during the period.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. Calonje E. Histopathology of the skin: General Principles. In: Burns T, Breathnach S, Cox N, Griffiths C, editors. Rook's Textbook of Dermatology. 8th ed. UK: Blackwell. 2010;10(1):10-43.
2. Chavhan SD, Mahajan SV, Vankudre AJ. A Descriptive Study on Patients of Papulosquamous Lesion at Tertiary Care Institute. MVP J Med Sci. 2014 Jan 1;1(1):30-5.
3. Reddy R, Krishna N. Histopathological spectrum of non-infectious erythematous, papulo-squamous lesions. Asian Pac J Health Sci. 2014;1(4S):28-34.
4. Puri N, Mahajan BB, Kaur S. Clinico-histopathological correlation of psoriasis in acute exacerbation. Open Access Sci Rep. 2012;1:455.
5. Gibson LE, Perry HO. Papulosquamous eruptions and exfoliative dermatitis. In: Moschella SL, Hurley HJ, editors. Dermatology. 3rd ed. Philadelphia: WB Saunders Company. 1992:607-51.
6. Faraz A, Dharamshi HA, Zahir N, Saleem A, Ullah S. Role of skin biopsy in papulosquamous lesions-a comparative study. Comparative Clinical Pathology. 2015 Sep 1;24(5):1205-9.
7. Chaudhary Raju G, Chauhan Ankur P, Makwana Vaishali R, Modi Khushbu R. Study of Clinico-histopathological Correlation of Papulosquamous Disorders at Tertiary Care Hospital. Sch J App Med Sci. 2015;3(3B):1154-8.
8. Kachhawa D, Kachhawa V, Kalla G, Gupta L. A clinico-aetiological profile of 375 cases of lichen planus. Indian J Dermatol Venerol Leprol. 1995;61(5):276-79.
9. Kaur I, Kumar B, Sharma VK, Kaur S. Epidemiology of psoriasis in a clinic from North India. Indian J Dermatol Venerol Leprol. 1986;52(4):208-12.
10. Alexander E, Pinto J, Pai GS, Kamath N, Kuruvilla M. Disease concomitance in psoriasis: a clinical study of 61 cases. Indian J Dermatol Venerol Leprol. 2001;67:66-8.
11. Yang Y, Koh D, Khoo L, Nyunt SZ, Ng V, Goh CL. The psoriasis disability index in Chinese patients: Contribution of clinical and psychological variables. Int J Dermatol. 2005;44:925-9.
12. Werner B. Skin biopsy and its histopathologic analysis: Why? What for? How? Part I. an Bras Dermatol. 2009;84(4):391-5.

Cite this article as: Agrawal S, Mishra KB, Gupta CM. Histopathological spectrum of non-infectious erythematous, papulo-squamous lesions: at a tertiary care institute. Int J Res Med Sci 2018;6:2072-5.