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Research Article

Pathological study of non-neoplastic skin lesions by punch biopsy

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ABSTRACT

Background: Accurate diagnosis of skin disorders is of utmost importance as treatment is varied for different skin disorders presenting with the similar clinical lesions. Thus biopsy becomes inevitable in various skin disorders to confirm diagnosis and initiate treatment. The present study was to analyse the age and sex distribution of dermatological disorders presenting to Bhaskar Medical College & Hospital (tertiary care centre), Telangana and assess their histo-pathological profile. The objective was to analyse the histo-pathological profile of skin disorders presenting to the Dermatology department of the hospital, determine the age and sex distribution of various skin diseases and to classify the most common disorders into their subtypes and thus assess the most common subtypes prevalent in the surrounding community.
Methods: This was a prospective study carried out at the department of Pathology and department of Dermatology, Bhaskar Medical College & Hospital for a period of three years. Necessary clinical details were obtained in a proforma, punch biopsy taken and sent to the histopathology section for final report. Formalin fixed, paraffin embedded sections were prepared & slides were routinely stained with H & E and special stains applied wherever necessary. Data obtained was tabulated and analysed.
Results: Total number of cases analysed were 92. The age group of 21-30 years constituted 31.5% of the total cases. There was a male predominance. Hyperpigmented patch/plaque was the most common clinical lesion (36.9%). Lichenoid lesions was the most common histopathological diagnosis reported (26%) followed by Hansen's disease(23.9%). Lichen planus was the most common histopathological subtype of lichenoid lesion s(58.3%).

Keywords: Diagnosis, Dermatological, Histopathology

INTRODUCTION

The pattern of skin diseases varies from one country to another country and across different parts in the same country. Studies from developing countries conducted over a period of years in the past have reported high prevalence of skin disorders, the spectrum of which has been highly variable.[1] Though the spectrum of histopathology of skin disorders is varied, clinical presentation is restricted to only a few changes such as hyperpigmentation, hypopigmentation, macules, papules, nodules and a few others.[2] Each clinical presentation is common to different histopathological pictures and thus definitely require histopathology for their confirmation. Separation of each of these becomes important because the treatment and prognosis tends to be disease specific.[3] The aim of the present study was to classify the various skin disorders prevalent in the surrounding community and determine their demographic distribution.

METHODS

This is a prospective study conducted at the departments of Pathology and Dermatology, Bhaskar Medical College & Hospital, for a period of three years from May 2012 to April 2015. Relevant clinical details were obtained from each patient in the form of a proforma. Patients whose

data was incomplete, patients unwilling for a punch biopsy were excluded from the study. A punch biopsy was obtained in each case and was received at the department of Pathology for histopathological examination. The punch biopsy was given thin sections wherever appropriate and processed as per standard protocol. Formalin fixed and paraffin embedded sections were stained routinely with H & E technique. Special stains and special techniques were applied wherever necessary. Final histopathological diagnosis was given in each case correlating with the clinical findings. The results obtained were tabulated and analysed.

RESULTS

Total number of cases included in the study were 92 out of which 31.5% of the patients were in the age group of 21 to 30 years. There was a younger age predominance – 73% of the patients were under the age of 40 years. There was a clear-cut male predominance with male: female ratio of 3:2. Hyperpigmented patch/plaque was the most common clinical lesion constituting 36.9% of all the cases followed by hypopigmented patch (31.5%). Lichenoid lesions was the most common histopathological diagnosis reported (26%) followed by Hansen's disease (23.9%) followed by Psoriasis (11.9%). All the other disorders reported constituted each of about 5 or less than 5% of the total cases. Among the lichenoid lesions, Lichen planus was the most common diagnosis reported (58.3%) followed by Lichen amyloidosis (16.6%). Among the cases of Hansen's disease, Tuberculoid, lepromatous and Indeterminate types were 22% each while borderline forms together(both tuberculoid and lepromatous) were 32.6%. Psoriasis vulgaris was the most common diagnosis reported among the psoriasis cases (72.7% of psoriasis cases). Pityriasis rosea were 7.6% of the total cases, 5.4 % of cases were vasculitis. There were 3 cases each of steatocystoma, seborrheic dermatitis and polymorphous light eruption and 2 cases each of morphea, drug reaction, discoid lupus erythematosus, eczema and calcinosis cutis.

Table 1: Age distribution of the patients (n = 92).

Age group	Number of patients	Percentage
0-10	1	1.08
11-20	23	25
21-30	29	31.5
31-40	16	17.3
41-50	13	14.1
51-60	6	6.5
61-70	4	4.3

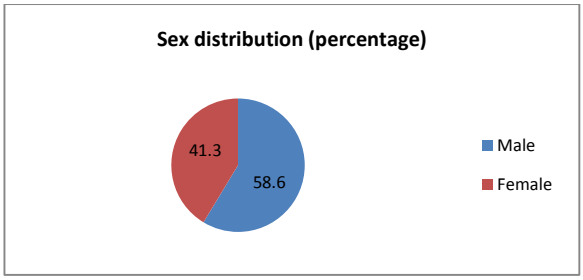

Figure 1: Sex distribution (n = 92).

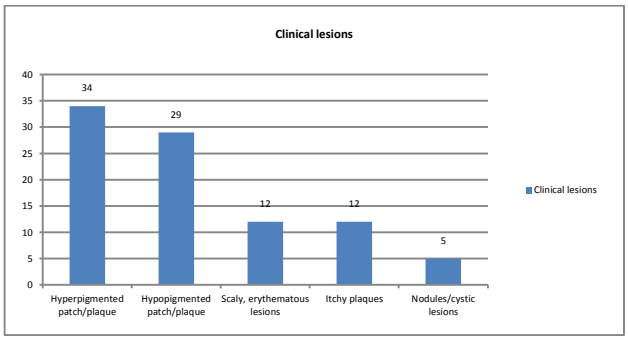

Figure 2: Clinical lesions (n = 92).

Table 2: Histopathological diagnosis (n = 92).

Histopathological diagnosis	Number of cases	Percentage of cases
Lichenoid lesions	24	26
Hansen's disease	22	23.9
Psoriasis	11	11.95
Pityriasis rosea	7	7.6
Prurigo nodularis	4	4.3
Vasculitis	5	5.4
Steatocystoma	3	3.2
Seborrheic dermatitis	3	3.2
Polymorphous light eruption	3	3.2
Morphea	2	2.17
Drug reaction	2	2.17
Discoid lupus erythematosus	2	2.17
Eczema	2	2.17
Calcinosis cutis	2	2.17

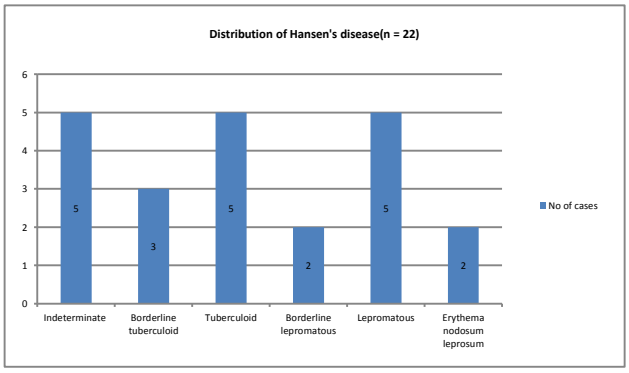

Figure 3: Hansen's disease spectrum.

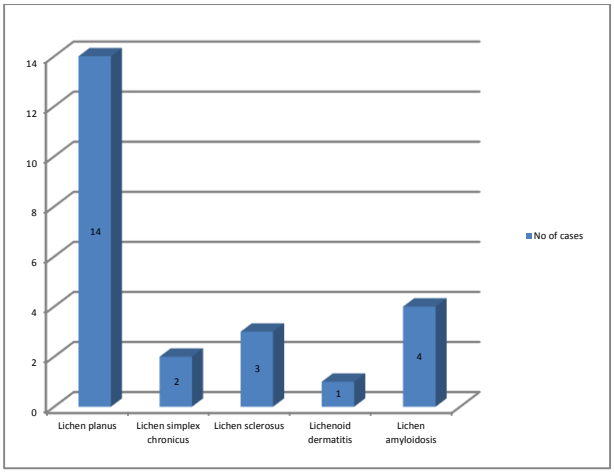

Figure 4: Distribution of Lichenoid lesions (n = 24).

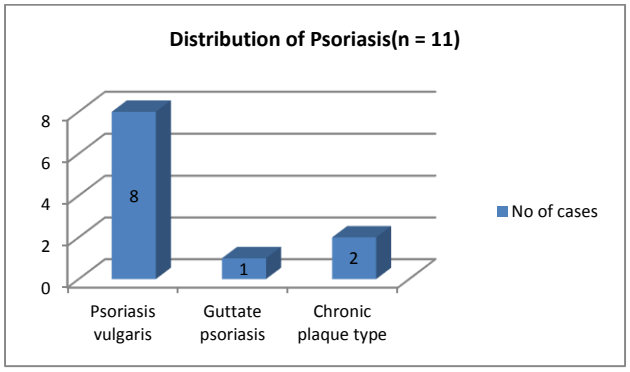

Figure 5: Distribution of Psoriasis (n = 11).

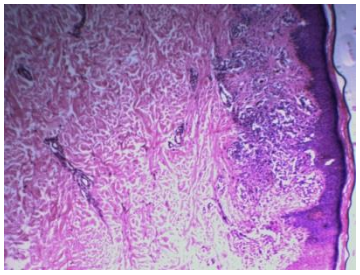

Figure 6a: Microphotograph of Lichen planus showing saw-tooth appearance of rete ridges and a band like lymphoid aggregate at the dermo-epidermal junction(H & E – 100X).

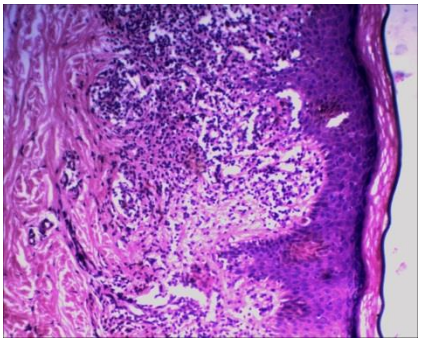

Figure 6b: Microphotograph of Lichen planus showing lymphoid aggregates and foci of basal layer degeneration (H & E – 400X).

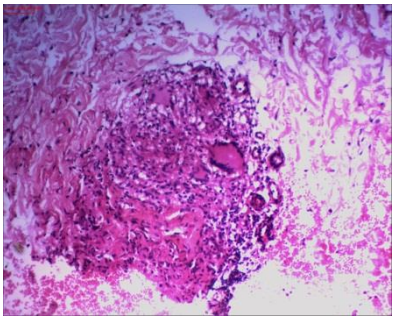

Figure 7a: Microphotograph of tuberculoid Hansen's disease showing well formed granuloma composed of epithelioid cells and a giant cell is also seen(H & E – 100X).

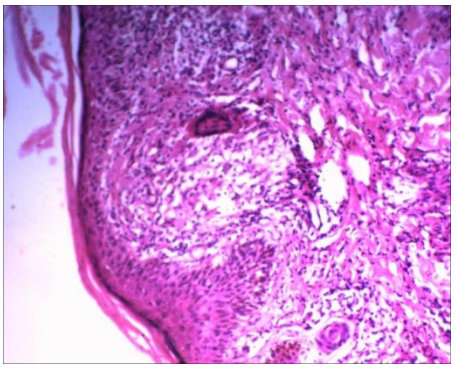

Figure 7b: Microphotograph of lepromatous Hansen's disease with sheets of foamy macrophages in the superficial dermis and also around blood vessels (H & E – 100X).

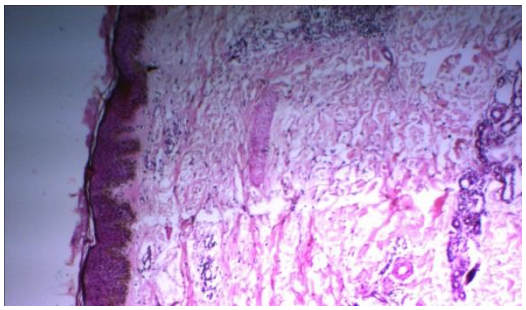

Figure 8: Microphotograph of Morphea showing increased collagen in the form of bands in the papillary dermis(H & E – 100X).

DISCUSSION

The present study was a prospective study conducted at the departments of Pathology and Dermatology, Bhaskar Medical College & Hospital, Telangana. Total number of cases analysed were 92. In the study by Rajasekhar et al,[4] a total of 80 patients were analysed. In the study by Singh et al.[5] a total of 112 cases were analysed. In the present study, 31.5% of the patients were in the age group of 21 to 30 years. In the study by Yonus et al.[6] 25% of the patients were in the age group of 21 to 30 years. In the study by Rajasekhar et al, 23.75% of the patients were in the age group of 31 to 40 years. Hyperpigmented patch was the

most common clinical lesion described in the present study (36.9%). Lichenoid lesions was the most common histopathological diagnosis reported in the present study (26%) followed by Hansen's disease (23.9%). In the study by Bharambhe et al.[7] lichenoid lesions were commonest (46.57%) followed by psoriasis (19.88%). In the study by Singh et al, 27.9% of the cases were diagnosed as non-specific dermatoses followed by granulomatous lesions (23.5%). In the study by Rajasekhar et al. the commonest histopathological diagnosis was Psoriasis (42.5%) followed by Lichen planus.

In the present study, among the lichenoid lesions, Lichen planus was the most common histopathological subtype reported (58.3%). Among cases of Hansen's disease, Indeterminate, tuberculoid and lepromatous types constituted more than 65% of the total cases of Hansen's disease. Among the cases diagnosed as Psoriasis, Psoriasis vulgaris was the most common histopathological diagnosis reported (72.7%). The findings of the present study correlated with that of the findings by Bharambhe et al. where also among Lichenoid lesions, lichen planus was the most common reported diagnosis and among cases of Psoriasis, psoriasis vulgaris was the most common subtype reported. Miscellaneous cases reported in the present study were 2 cases of calcinosis cutis, 2 cases of eczema and 2 cases of drug reaction.

CONCLUSION

There was a younger age predominance regarding the patient presentation. Lichenoid lesions were the most common skin disorders reported followed by Hansen's disease. Lichen planus was the most common subtype of lichenoid lesions. Hansen's disease is still the second most common skin disorder in the present study.

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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. Werner B. Skin biopsy and its histopathologic analysis: Why? What for? How? Part I. An Bras Dermatol. 2009;84(4):391-5.
3. Elder DE, Murphy GF, Elinitsas R, Johnson BL, Xu X. Introduction To Dermatopathologic Diagnosis. Lever's Histopathology of the Skin. 10th ed. New Delhi: Wolters Kluwer; 2009:1-4.
4. Reddy R, Krishna N. Histopathological spectrum of non-infectious erythematous, papulo-squamous lesions. Asian Pac J Health Sci. 2014;1(4S):28–34.
5. R. Singh, K. Bharathi, R. Bhat, C. Udaya Shankar. The Histopathological Profile Of Non-Neoplastic Dermatological Disorders With Special Reference To Granulomatous Lesions – Study At A Tertiary Care Centre In Pondicherry. Internet Scientific Publications/ Internet Journal of Pathology. Vol 13(3).
6. Younas M, Haque A. Spectrum of histopathological features in non-infectious erythematous and papulosquamous diseases. Int J Pathol. 2004;2(1):24–30.
7. D'Costa G, Bharambhe BM. Spectrum of Non-Infectious Erythematous, Papular and Squamous lesions of the skin. Indian J Dermatol. 2010;55: 225-8.

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