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STUDY OF HISTOPATHOLOGICAL SPECTRUM OF SKIN LESIONS AT TERTIARY CARE CENTER.

Pathology

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ABSTRACT

Introduction: Skin lesions are commonly encounter worldwide but it's pattern varies geographically. So precise diagnosis of skin lesions is important. Histopathological examination plays a significant role and the gold standard in providing accurate diagnosis for variety of skin lesions. The aim of the study is to find out the prevalence of different skin lesions and to evaluate their frequency. **Materials and Methods:** A Total of 155 skin biopsies were studied at our department over a period of 1.5 year. Biopsies were processed for histopathological examination using Hematoxylin and eosin stain and special stain wherever needed. **Observations and Results:** Out of 155 cases, 97 were males and 58 were females and most common age group observed was 31 to 40 years. Lesions were categorized as neoplastic and non-neoplastic. Among which non-neoplastic lesions were 76.8% and neoplastic lesions were 23.2%. Among this Leprosy was the most common histopathological diagnosis (21.3%) followed by Psoriasis (11.6%). **Conclusions:** Histopathological study of skin biopsies helps to make an early and accurate diagnosis in almost all of skin lesions. Leprosy was most commonly observed infective skin lesion in our study. Therefore, community should be educated to prevent airborne droplet transmission to reduce prevalence of leprosy.

KEYWORDS

Skin biopsies, Non-neoplastic, Leprosy.

INTRODUCTION

The skin is vitally an important organ, most visible and accessible & has a complicated structure and serves many functions.[1] Skin diseases are very much prevalent in the developing countries. There are at least 2000 different skin diseases in the field of dermatology which affect all age groups.[2] Occasionally, skin diseases may be alone manifestation of systemic disease. Skin diseases are also influenced by various factors such as environment, economy, literacy, racial and social customs.[3] Skin diseases are known to cause a varied range of symptoms such as pain, itching and discomfort which exhibit profound impact both physically and psychologically ultimately leading to significant developments in patient's health related to quality of his/her life.[4] Skin is affected by wide range of diseases comprising of inflammatory disorders to highly malignant neoplasms.[5] Skin biopsy is an essential diagnostic technique in the management of patients with skin diseases.[6] Each clinical presentation is common to different histopathological pictures and thus definitely require histopathology for their confirmation.[7]

Aim and Objectives

- To study the spectrum of skin lesions histopathologically.
- To study the frequency of different skin lesions based on histopathological findings.
- To correlate clinicopathologically the different skin lesions.

MATERIAL AND METHOD

It is a retrospective and observational study done in the department of pathology at Vilasrao Deshmukh government medical college, Latur, Maharashtra. A total of 155 skin biopsies were studied over a period of 1.5 years i.e. from January 2022 to June 2023. All skin biopsies received were included irrespective of age, sex and clinical diagnosis. All biopsies were routinely processed and stained with haematoxylin and eosin. Special stains were applied wherever necessary to confirm diagnosis.

Observations

Out of 155 cases, 97 cases (62.6%) were male and 58 cases (37.4%) were female. The male:female ratio was 1.7:1.

Maximum biopsies were received in the age group of 31 to 40 years (27.7%). [Table 1]

The most frequent site is back (19.4%) followed by forearm (16.1%) and then arm (12.9%). Vulva, buttock and axilla were the less frequent sites for skin diseases.

We classified the skin lesions histopathologically in to two main groups, which include non-neoplastic and neoplastic lesions. Non-neoplastic lesions (76.8%) were predominated over neoplastic lesions (23.2%).

In the non-neoplastic lesions, leprosy (21.3%) was the commonest lesion, in which lepromatous leprosy was the most common subtype noted. Second most common lesion was psoriasis (11.6%), which was followed by lichen planus (09.7%). The least common non-neoplastic lesions include lichen sclerosus et atrophicus, scleroderma, molluscum contagiosum, keratosis pilaris, granulomatous rosacea.[Table 2]

In the neoplastic lesions, we categorised the lesions in benign and malignant, of which benign cases were (21.3%) more than malignant cases (01.9%).

In the benign cases, most common lesion was epidermal cyst (03.9%) followed by fibroepithelial polyp (03.2%) and the least common lesions were bowen's disease and actinic keratosis. Out of malignant cases, basal cell carcinoma was more than squamous cell carcinoma.[Table 3]

Table 1: Age Wise Distribution Of Skin Lesions In The Present Study.

Age group (years)	No. of cases	Percentage (%)
1-10	03	01.9
11-20	11	07.1
21-30	38	24.5
31-40	43	27.7
41-50	18	11.6
51-60	17	11.0
61-70	15	09.7
71-80	10	06.5
Total	155	100

Table 2: Distribution Of Non-neoplastic Skin Lesions Based On The Histopathology In The Present Study. (n=119)

Lesions	No. of cases	Percentage(%)
Leprosy	33	21.3
Psoriasis	18	11.6
Lichen planus	15	09.7
Dermatitis	10	06.5
Non-specific inflammatory	10	06.5
Wart	5	03.2
Vasculitis	4	02.6

Pemphigus vulgaris	3	01.9
Lupus vulgaris	3	01.9
Drug eruption	3	01.9
Lupus erythromatous	2	01.3
Polymorphous light eruption	2	01.3
Lichen sclerosus et atrophicus	1	0.6
Granulomatous rosacea	1	0.6
Keratosis pilaris	1	0.6
Lichen simplex chronicus	1	0.6
Icthyosis vulgaris	1	0.6
Calcinosis cutis	1	0.6
Erythema nodosum	1	0.6
Erythema multiforme	1	0.6
Hideradenitis suppurativa	1	0.6
Scleroderma	1	0.6
Molluscum contagiosum	1	0.6

Table 3: Distribution Of Neoplastic Skin Lesions Based On Histopathology In The Present Study. (n=36)

Lesions	No. of cases	Percentage(%)
Epidermal cyst	6	03.9
Fibroepithelial polyp	5	03.2
Neurofibroma	3	01.9
Hemangioma	3	01.9
Intradermal nevus	2	01.3
Nevus sebaceous	2	01.3
Junctional nevus	2	01.3
Fibro lipoma	2	01.3
Becker's nevus	1	0.6
Trichoepithelioma	1	0.6
Dermatofibroma	1	0.6
Steatocystoma	1	0.6
Seborrheic keratosis	1	0.6
Spindle cell lesion	1	0.6
Bowen's disease	1	0.6
Actinic keratosis	1	0.6
Basal cell carcinoma	2	01.3
Squamous cell carcinoma	1	0.6

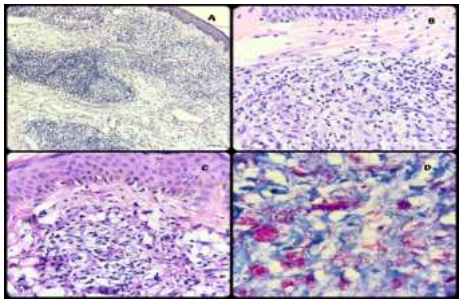

Fig 1:
A: Tuberculoid leprosy: multiple granulomas. [H&E:10X]
B: Tuberculoid leprosy granuloma: epitheloid cells & lymphocytes. [H&E:40X]
C: Lepromatous leprosy: plenty of Virchow's cells below epidermis. [H&E:40X]
D: Lepromatous leprosy: Plenty of AFB positive bacilli/globi. [Fite-farraco stain:100x].

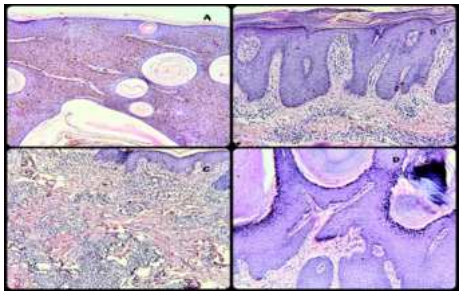

Fig 2:
A: Seborrheic keratosis: hyperkeratosis with horn pseudocysts formation. [H&E:10X]
B: Psoriasis: regular rete ridges, hyperkeratosis & munro's micro abscess. [H&E:10X]
C: Erythema nodosum leprosum: plenty of histiocytes and polymorphs below epidermis. [H&E:4X]
D: Lichen simplex chronicus: orthokeratosis, acanthosis, irregular arrangement of rete ridges. [H&E:10x].

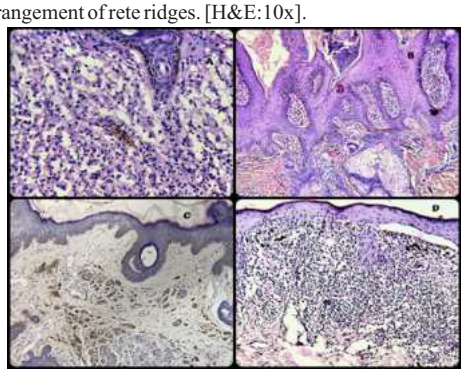

Fig 3:
A: ENL: polymorphs admixed with virchows cells. [H&E:10X]
B: Nevus sebaceous: acanthosis, papillomatosis, basal pigmentation with increased sebaceous glands. [H&E:10X]
C: Intra dermal nevus: small nests of melanocytes in dermis. [H&E:4X]
D: Polymorphous light eruption: perivascular lympho-histiocytic infiltrate in dermis. [H&E:4X]

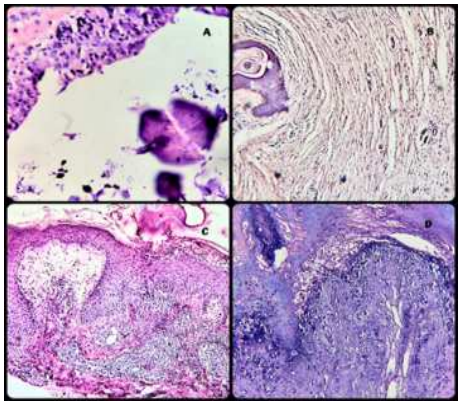

Fig 4:
A: Calcinosis cutis: calcification in dermis and subcutis. [H&E:10X]
B: Fibroepithelial polyp: hyperplastic epidermis with loose fibro-collagenous stroma. [H&E:4X]
C: Erythema multiforme: subepidermal bullae with severe dermal inflammatory infiltrate. [H&E:10X]
D: Wart: hyperkeratosis, papillomatosis & koilocytosis. [H&E:4X]

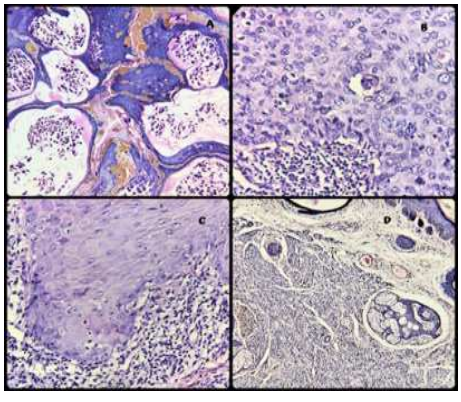

Fig 5:
A: Molluscum contagiosum: hyperplastic epithelium with intracytoplasmic eosinophilic inclusion bodies. [H&E:10X]
B: Bowen's disease: atypical cells, nuclear atypia, nuclear hyperchromasia. [H&E:40X]
C: Lichen planus: hyperkeratosis, acanthosis, Civatte bodies & lympho-histiocytic infiltrates in dermis. [H&E:40X]
D: Intradermal nevus: nests of melanocytes in upper dermis. [H&E:4X]

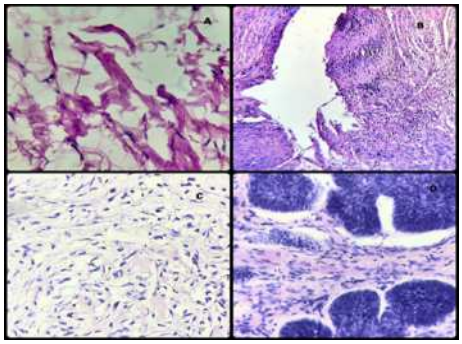

Fig 6:

A: Fibro-lipoma: fibrous band with lobules of mature fat. [H&E:40X]
B: Benign spindle cell lesion(Schwannoma): hypercellular Antoni A & Antoni B areas. [H&E:10X]
C: Dermatofibroma: storiform pattern of spindled fibroblasts. [H&E:40X]
D: Basal cell carcinoma: large basaloid lobules with peripheral nuclear palisading & cleft formation between tumor lobules and stroma. [H&E:40X]

DISCUSSION

The most common age group in present study was 31 to 40 years (Table 1). This is similar to the study done by Gupta P et al.[8]. This was discordant with the studies of Bezbaruah R et al.[9] where most common age group was 21 to 30 years.

In present study male cases predominant over female which is similar to the study done by Agarwal D et al.[3] and Chandrakanta et al.[10]

In present study, back was the common site involved. which was discordant with the study of Thapa R et al.[11] where most common site involved was face.

In present study, 76.8% cases are non-neoplastic skin lesion which is much higher in comparison to neoplastic skin lesion (23.2%). This is similar to the study done by Goswami P et al.[12], where non-neoplastic lesions were 87.1%. However, in study of Bezbaruah R et al.[9] neoplastic lesions observed as a major skin lesion entity in comparison to non-neoplastic lesion.

Leprosy (21.3%) was the commonest non-neoplastic lesion in present study (Table 2), similar to the study of Bansal N [13] and Kumar V et al.[14] with 30.6% cases of leprosy and Bezbaruah R et al.[9] found non-specific inflammatory lesions as the most common non-neoplastic lesion.

Most common benign neoplastic lesion in present study was epidermal cyst (Table 3) which in concordant with the study of Bezbaruah R et al.[9] where epidermal cyst was most common benign neoplastic lesion. This was discordant with the study of Kaur R et al.[15] where most common benign neoplastic lesion was wart.

CONCLUSION

A huge diversity in skin lesions were diagnosed histopathologically in our present study so an early and proper treatment was possible. Majority of lesions were found in middle age (31-40 year) with male being affected more commonly than female. Non-neoplastic lesions were the most common finding with leprosy being the most common lesion and can be easily and properly diagnosed by skin biopsy, so timely treatment can be possible. Among the neoplastic lesions, the most common benign tumour was epidermal cyst and basal cell carcinoma the malignant one.

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