

## HISTOPATHOLOGICAL STUDY OF DERMATOLOGICAL LESIONS – A RETROSPECTIVE APPROACH

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### ABSTRACT

**Background:** Dermatological disorders are common in all countries but the spectrum varies greatly. While skin diseases are very common among the populations in many developing countries, they have not been regarded as a significant problem, which could benefit from public health measures.

**Aims & Objective:** To analyze the role of histopathology in making the diagnosis of skin lesion.

**Materials and Methods:** In the period of 2009 to 2014, we retrospectively analyzed data of 112 patients. Patient's data were retrieved from the archives of the Department of Pathology, M.G.M. Medical College, Indore.

**Results:** A total of 112 patients were included in the study, 63 cases (56%) were males and 49 cases (44%) were females. In males, the commonest lesions were granulomatous lesions (n=30, 26.80, %) followed by nonspecific dermatoses. In females, the commonest lesions were nonspecific dermatoses (n= 15, 13.6%) & granulomatous lesions (n=18, 16.4%).

**Conclusion:** Skin diseases were more common in males than females. Granulomatous lesions were common in males than females.

**Key Words:** Dermatological Lesion; Histological Study; Retrospective Analysis

### Introduction

Dermatologic disorders are common in all countries but the spectrum varies greatly. While skin diseases are very common in many developing countries, they have not been regarded as a significant problem, which could benefit from public health measures.<sup>[1]</sup> This attitude is due to the assumption that skin diseases are a benign, not life-threatening minor nuisance, and that they do not merit measures, which may appear out of proportion to their low priority.<sup>[1]</sup>

Only few statistical studies are carried out in Indian sub continent really stating the diseases that requires histological examination to aid in clinical diagnosis. Majority of skin lesions are diagnosed on the basis of clinical presentation & history. The histological diagnosis in turn is used by clinicians to aid in the management of patients & most appropriate clinical interventions.

Not all the skin lesions require skin biopsy but some of them require it for proper diagnosis & identification of etiological agent. However, skin problems are generally among the most common diseases seen in primary care settings in tropical areas, and in some regions where transmissible diseases are endemic, they become the dominant presentation.<sup>[2]</sup>

For instance, the World Health Organization's 2001 report on the global burden of disease indicated that skin

diseases were associated with mortality rates of 20,000 in Sub-Saharan Africa in 2001. This burden was comparable to mortality rates attributed to meningitis, hepatitis B, obstructed labor, and rheumatic heart disease in the same region.<sup>[2]</sup>

With growing awareness & improvement in medical facilities, spectrum of diseases has been highly variable. Clinical diagnosis of different entities is often difficult, as most of the appendageal tumors present as asymptomatic papules or nodules. Anatomical location, number and distribution of lesions provide important clue but histopathology is invaluable in confirmation of the diagnosis.<sup>[2-7]</sup>

Extensive herpes zoster, seborrheic dermatitis, and oral candidiasis may act as indicators and their recognition is of particular importance for the early diagnosis of HIV infection and prevention of further opportunistic infections.<sup>[3]</sup> As seen many-a- times, skin presentations are manifestation of some systemic disorders as seen in cases of HIV & SLE.

We also accessed the load of leprosy on society, as it is a communicable disease with variety of manifestations - from social stigma to deformity of limbs. We retrospectively studied the spectrum of various dermatological lesions in different age groups & sexes during last 5 years & 5months.

This study was a statistical analysis of patients requiring histological examination in the diagnosis of various dermatological conditions i.e. skin as well as appendages, to analyze the role of histopathology in making the diagnosis of skin lesion. There was an attempt to find the etiology, if possible, & study morphology of lesions on skin biopsies.

## Materials and Methods

Retrospective analysis from archives of Department of Pathology, M.G.M. Medical College, Indore, from 2009 to May 2014 was done. The diagnoses in all cases were made on routine histological examination on Hematoxylin & eosin stained tissue sections. Relative frequency of various lesions, distribution of age & sex were analyzed.

*Inclusion Criteria:* All biopsies that showed definite signs of any specific pathology were included.

*Exclusion Criteria:* All skin biopsies that didn't showed definite signs of any specific pathology or inadequate were excluded. Oral mucosa biopsies were excluded.

Patients' history such as age, sex and other relevant clinical details such as site of lesion & character were noted/ provided by dermatologist. All tissue specimens were subjected to gross examination & all dimensions were taken from archives.

## Results

A total of 112 patients were included in the study, out of which, 63 cases (56%) were males and 49 cases (44%) were females. In males, the commonest lesions were granulomatous lesions (n=30, 26.80, %) followed by nonspecific dermatoses. In females the commonest lesions were nonspecific dermatoses (n= 15, 13.6%) & granulomatous lesions (n=18, 16.4%). The sex distribution of various lesions reflected that DLE was commoner in females, whereas warts & psoriasis were common in males. Infective lesions were more common in males (n=35) in comparison to females (n=20).

Keratoacanthoma seen in 2 patients and both were males. All the patients of scleroderma were males, whereas that of morphea were female. Warts & molluscum contagiosum showed slight male predisposition (n=3+2=5). All the nevus showed slight female predisposition. Angiokeratoma ectasia of blood vessel were seen in 2 patients and both were male.

**Table-1: Sex distribution of patients with skin lesions (n = 112)**

Skin Lesion	Male	Female
DLE	1	3
Epidermolysis bullosa	1	0
Pityriasis rosea	0	1
Seborrheic keratosis	1	0
Keratoacanthoma	2	0
Scleroderma	1	0
Morphea	0	2
Psoriasis	3	2
Pityriasis lichenoid chronic	1	1
Lichen sclerosis et atrophicus	0	1
Lichen simplex chronicus	1	0
Lichen planus	4	3
Phemphigus vulgaris	1	0
Phemphigus foliaceus	0	1
Vitiligo	0	1
Warts	3	1
Molluscum contagiosum	2	1
Scrofuloderma	0	1
Leprosy	30	17
Nevus	0	0
Epitheloid nevus	0	1
Compound nevus	1	1
Intradermal nevus	1	1
Melanocytic nevus	0	1
Cellular blue nevus	0	1
Polymorphus light eruption	0	1
Angiokeratoma	2	0
Hidradenoma papilliferum	0	1
Trichoepithelioma	1	1
Trichofolliculoma	1	1
Eccrine dermal cylindroma	0	1
Pilomatrixoma	1	0
Dermatofibroma	0	1
Bowen's disease	0	1
Verrucous lesion	1	0
Basal cell carcinoma	1	2
Malignant melanoma	3	0

Benign appendageal/ adenexal tumor (Hidradenoma papilliferum, Trichoepithelioma, Trichofolliculoma, Eccrine dermal cylindroma & Pilomatrixoma) showed predilection for females, according to Abanti sinha et al (2011)<sup>[7]</sup> females (65.21%) outnumbered males (34.78%) in their study population. Nearly the same picture was seen in our study. Nevi were also commonly seen in females.

Lone case of premalignant condition (carcinoma in situ) Bowen's disease was in female. Basal cell carcinoma was seen in both sexes. Malignant melanoma was seen in males.

Maximum no. of leprosy cases were seen in 31-40 years of age group followed by age group 21-30 years, which implies that diagnosis should be by mandatory skin biopsy in young adult leprosy.

Majority of the cases in non-lepromatous condition showed predilection for age group in 11-12 yrs & the same was seen in 21-30 years. Both age groups had 26

cases in all. Skin lesions were common to 11-30 years of age group – overall, 43 cases were seen in this age group. Tumors of appendages/ adenexa were also common in 11-20 years of age group.

**Table-2: Age wise distribution of patients with skin lesions**

Skin Lesion	Age Group (Years)							
	0-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80
DLE	0	0	1	0	2	0	1	0
Epidermolysis bullosa	1	0	0	0	0	0	0	0
Pityriasis rosea	1	0	0	0	0	0	0	0
Seborrheic keratosis	0	0	0	0	0	0	1	0
Keratoacanthoma	0	0	0	0	0	0	0	2
Sceloderma	1	0	0	0	0	0	0	0
Morphea	0	1	1	0	0	0	0	0
Psoriasis	0	1	1	2	1	0	0	0
Pityriasis lichenoid chronic	0	1	0	1	0	0	0	0
Lichen sclerosis et atrophicus	0	1	0	0	0	0	0	0
Lichen simplex chronicus	0	0	1	0	0	0	0	0
Lichen planus	0	1	2	0	1	1	0	2
Phemphigus foliaceus	0	0	0	0	0	0	1	0
Phemphigus vulgaris	0	0	0	0	0	1	0	0
Vitiligo	0	1	0	0	0	0	0	0
Warts	0	1	2	0	0	1	0	0
Molluscum contagiosum	0	0	2	0	1	0	0	0
Scrofuloderma	0	0	1	0	0	0	0	0
Leprosy	0	0	0	0	0	0	0	0
Nevus	0	0	0	0	0	0	0	0
Epitheloid nevus	0	0	0	0	0	1	0	0
Compound nevus	0	1	1	0	0	0	0	0
Intradermal nevus	0	0	0	1	0	1	0	0
Melanocytic nevus	0	1	0	0	0	0	0	0
Cellular blue nevus	0	0	0	1	0	0	0	0
Polymorphus light eruption	0	0	0	0	1	0	0	0
Angiokeratoma	0	2	0	0	0	0	0	0
Hidradenoma papilliferum	0	0	0	0	0	0	0	1
Trichoepithelioma	0	0	1	1	0	0	0	0
Trichofolliculoma	0	1	0	1	0	0	0	0
Eccrine dermal cylindroma	0	0	0	0	1	0	0	0
Pilomatrixoma	0	0	1	0	0	0	0	0
Dermatofibroma	0	1	0	0	0	0	0	0
Bowen's disease	0	0	0	1	0	0	0	0
verrucous lesion	0	0	0	0	0	1	0	0
Basal cell carcinoma	0	0	0	0	1	0	2	0
Malignant melanoma	0	0	0	0	0	0	2	1

**Table-3: Age wise distribution of patients with Leprosy**

Type of Leprosy	Age Group (Years)							
	0-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80
Tuberculoid	2	1	6	7	0	2	3	0
Borderline tuberculoid	0	1	0	1	1	0	0	0
Lepromatous	0	5	5	5	2	2	2	0
Borderline lepromatous	0	0	0	0	0	1	0	0

## Discussion

A total of 112 patients were included in the study, 63 cases (56%) were males and 49 cases (44%) were females.

According to Mohd Yunus et al (2004)<sup>[5]</sup>, papulosquamous diseases were seen more in males in comparison to females. Nailesh G. Patel et al (2010)<sup>[6]</sup>

found 6% cases of psoriasis on clinical examination. Our study found 4.5% proven cases of psoriasis on histology. According to Mohd Yunus et al (2004)<sup>[5]</sup>, psoriasis is a common papulosquamous disorder of unknown etiology showing a wide variation in severity and distribution of skin lesions and it was seen in 4.5% cases.

Molluscum contagiosum & warts were commonly seen in age group which have predilection for activities or circumstances that involve skin-to-skin contact (e.g., play, sports such as wrestling, sexual activity, etc.), and thus, have been associated with increased risk for infection.<sup>[12]</sup>

According to Mohd Yunus et al (2004)<sup>[5]</sup>, lichen planus may affect all the ages and incidence is equal in both sexes but distinctly rare in children – the same was seen in our study.

In our study, leprosy was seen more in males than females (ratio of 1:0.56) – the same was seen in study by Moorthy et al (2001).<sup>[11]</sup> Tuberculoid leprosy & lepromatous leprosy were seen in equal proportion in both cases. Majority of cases that required biopsy for confirmation, were of leprosy and it was done in 47 cases (42%).

Basal cell carcinoma, a malignant lesion, was seen in >40 years but more in 61-70 years age group. Bowen's disease, a pre-malignant condition, was also seen in 31-40 years age group.

## Conclusion

Skin diseases were more common in males than females. There is a change in spectrum of skin diseases seen previously – maybe because of environmental issues such as global warming or depletion of ozone layer or use of chemicals. Leprosy still remains a single entity in India for which skin biopsy are required. Much more study is needed to be conducted on a wider scale, i.e., state or all India level, to study changes in spectrum & presentation of dermatological lesions.

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