



## Original Research Article

## Histopathological study of non-neoplastic skin lesions-A retrospective approach

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## ABSTRACT

**Introduction:** Skin disorders are common all over the globe but its pattern varies geographically and in different states of the same country. The precise diagnosis of skin lesions is importance as treatment differs significantly. Histopathology remains a gold standard diagnostic tool, as most of these disorders present with very similar clinical pictures. Moradabad is a district in Northern India prevalent for all granulomatous inflammatory lesions of any organ.

**Aims and Objective:** To study the histopathological diagnosis of skin lesion, to determine the distribution according to age and sex, to find out the most common skin lesion in this geographical area and further subclassification of the commonest disorder.

**Materials and Methods:** We conducted a retrospective study in Department of Pathology at Teerthanker Mahaveer Medical college and research centre Moradabad for a period of 2 years. Clinical findings were retrieved, histopathological examination of skin punch biopsies were done with H and E as well as special stains as required. Data obtained, tabulated and analysed.

**Result:** A total number of 100 patients were taken in this study, 60(60%) were male and 40(40%) were females. Early age group predominance was found with 35(35%) cases in 21 to 30 years of age group. Leprosy 60(60%) was found to be the common est lesion. Hansen's disease was mostly contributed by tuberculoid indeterminate and lepromatous leprosy.

**Conclusion:** Males were predominated over females in skin lesions. Younger age group patients were leading among all. Hansen's disease was the commonest skin lesion.

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## 1. Introduction

Skin diseases are common all over the globe but its pattern varies geographically and in different states of the same country. Most studies done in Asain subcontinent shows the high prevalence of skin disorders with highly variable spectrum.<sup>1</sup> Despite being very common in developing countries skin disease are not counted as a significant problem because of the attitude that these are benign and not life threatening and paid low priority.<sup>2</sup>

Most of the skin diseases are diagnosed by clinical presentation and history in Indian subcontinent. Clinical features varies from macules, papules, nodules, hyperpig-

mentation, hypopigmentation and a few others.<sup>3</sup> Cases having similar clinical features presents with different histopathological observations, so it becomes utmost important to confirm clinical presentation of skin disease by histopathological examination because treatment and prognosis depend on specific disease.<sup>4</sup>

In present days there is growing awareness towards skin diseases even in our geographical area and with improvement in medical facilities, histopathological examination of clinical diagnosis of skin lesions provides a valueable inputs in confirmation of the diagnosis.<sup>5-7</sup> Early diagnosis of skin presentation of some systemic disorders as HIV and SLE by histopathological examination of H and E as well as special stained slides can prevent from further opportunistic infections and complications.<sup>8</sup>

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This study was conducted with the aim of analyzing the role of histopathology in diagnosing skin lesions, morphological and etiological classification if possible, as well as to evaluate their demographic distribution in the community.

## 2. Materials and Methods

We conducted a retrospective study in Department of Pathology, Teethanker Mahaveer Medical College and Research Center, Moradabad from November 2016 to November 2018. From the records of department relevant clinical details were obtained. The diagnosis of all the patients were made on 10% formalin fixed and paraffin embedded skin punch biopsies and stained with H and E. Special stains were applied as and where required. Final diagnosis made on histopathology were correlated with the clinical features given by dermatologist. The result found were evaluated according to types of lesions, frequency of lesions, demographic distribution. Patients whose data were in complete and with inadequate samples were not included in the study.

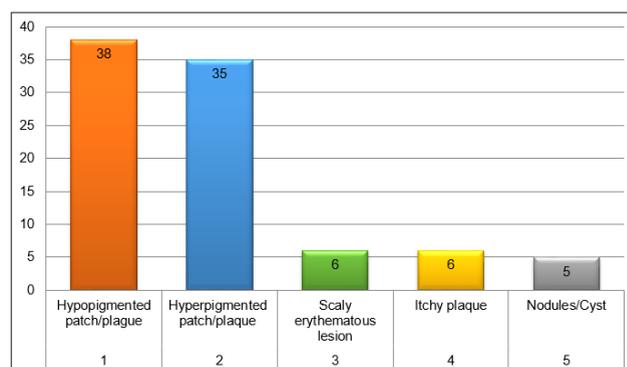
## 3. Results

Total number of cases included in the present study were 100, out of which 60 cases (60%) were males and 40 cases (40%) were females with male: female ratio 3:2 showing male predominance. Granulomatous lesion was the commonest finding among all cases. 21 to 30 years age group was the commonest with 35 cases (35%). 68 cases (68%) were less than 40 years of age showing younger age predominance. On clinical findings hypopigmented patch/plaques were most common 38 cases (38%) followed by hyperpigmented patch/plaques, 35 (35%).

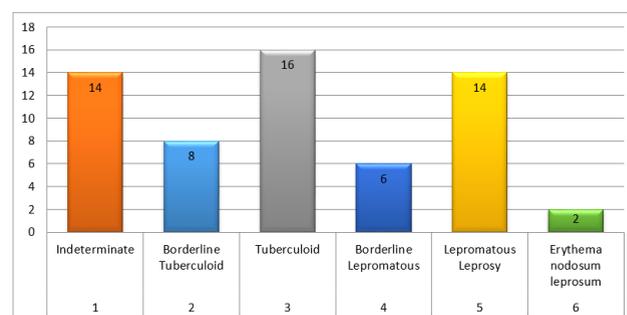
Hansen's disease was the commonest histopathological finding in 60 cases (60%) followed by pemphigus vulgaris 10 cases (10%) followed by chronic eczematous dermatitis 7 cases (7%). All other disorders constituted 2 or even less than 2% of the total cases. In subtyping of Hansen's disease tuberculoid was found to be 26.66% and indeterminate and lepromatous type were 23.33% each and borderline forms including tuberculoid and lepromatous were 13.33% and 11.665% respectively. Most of the Hansen's disease cases were diagnosed in 21 to 30 years of age group followed by age group 31-40 years which implies the importance of skin biopsy in young adults suspicious for leprosy.

## 4. Discussion

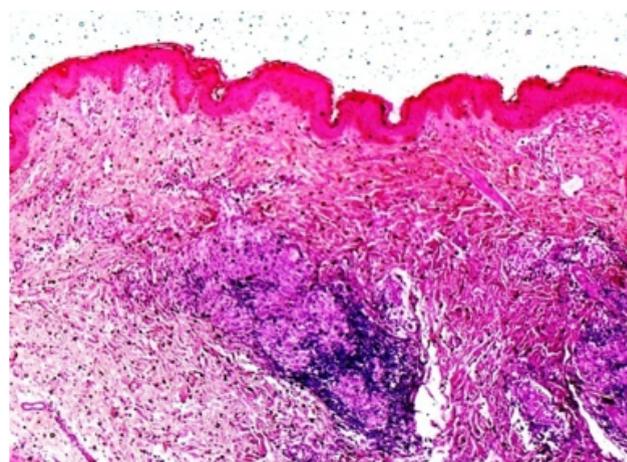
In this study total 100 cases were analyzed retrospectively at the department of pathology at Teerthanker Mahaveer Medical college and Research center Moradabad. A total number of 112 cases were analyzed by Singh et al in their study,<sup>9</sup> 80 patients were studied by R. Reddy et al.<sup>10</sup> In the study by Veldhurthy et al<sup>11</sup> a total number of 97 cases were



**Fig. 1:** Distribution of clinical findings (n=100) X axis:- clinical findings, Y axis:-No. of case



**Fig. 2:** Distribution of Hansen's Disease (n=60) X axis:- Distribution of Hansen's Disease, Y axis:-No. of case



**Fig. 3:** Photomicrograph showing tuberculoid leprosy

**Table 1:** Distribution of patients according to age (N=100)

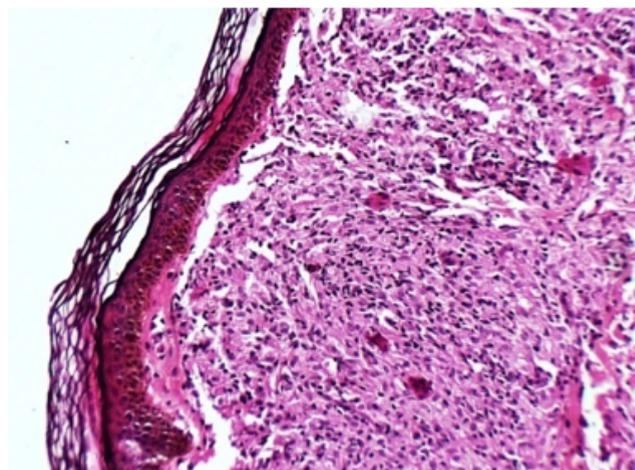
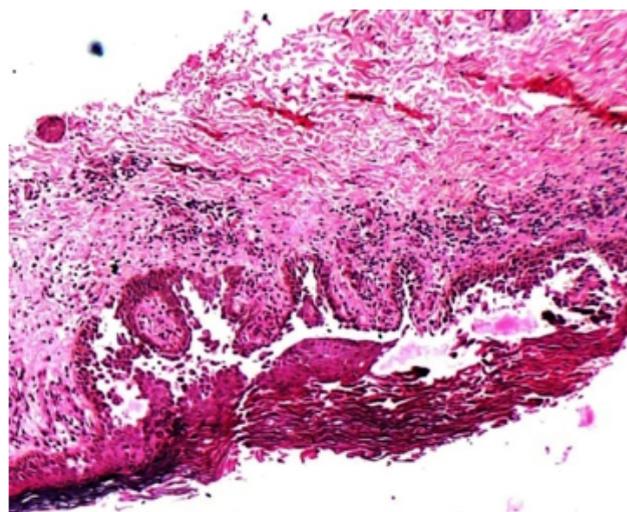
Age Group	Number of patients	Percentage
0 - 10	1	1
11 -20	10	10
21 – 30	35	35
31 – 40	22	22
41 – 50	18	18
51 – 60	7	7
61 - 70	5	5
71 – 80	1	1
81 - 90	1	1

**Table 2:** Distribution of Histopathological findings (N=100)

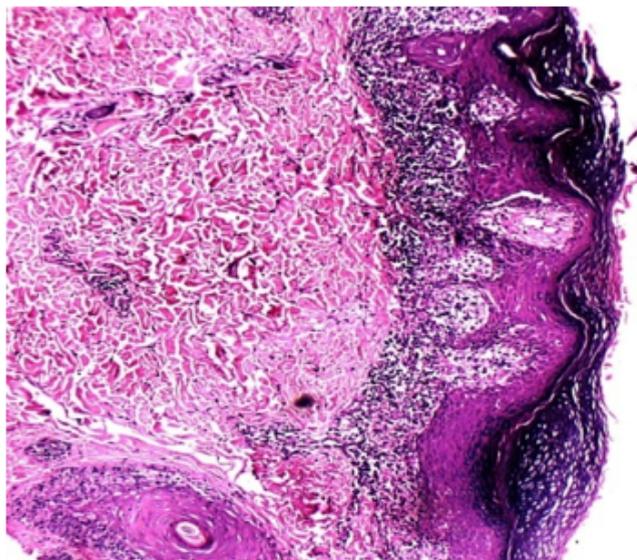
Histopathological findings	Number of cases	Percentage of cases
Hansen's disease	60	60
Pemphigus Vulgaris	10	10
Chronic Eczematous dermatitis	7	7
Tuberculosa Verrucosa Cutis	2	2
Psoriasis Vulgaris	2	2
Lichen Planus	2	2
Bullosa Pemphigoid	2	2
Type II Lepra Reaction (ENL)	2	2
Chronic Perivascular dermatitis	1	1
Superficial Perivascular dermatitis	1	1
Acute Spongiotic dermatitis	1	1
Eczematous dermatitis	1	1
Lymphangioma circumscription	1	1
Nipple Eczema	1	1
Acquired Digital Fibrokeratoma	1	1
Scrofuloderma	1	1
Alopecia	1	1
Mucinoso(follicular)		
Papulonecrotic Tuberculid	1	1
Pilar Leiomyoma	1	1
Drug Induced Erythroderma	1	1
Erythema Multiformi	1	1

studied and in a study by Mehar et al<sup>12</sup> total number of 112 cases were analysed.

In a study done by Singh et al 54.5% were males and 45.5% were females, study by Veldhurthy et al concluded that there was a male predominance with male: female ratio of 3:2, study by Mehar et al 56% were male and 44% cases were female, study by Younas et al<sup>6</sup> shows that out of 38 cases, 25 were males and 13 females. In the present study it was found that 60% were males and 40% females, the finding of the present study of male predominance in skin disease is comparable with other studies.

**Fig. 4:** Photomicrograph showing lepromatous leprosy**Fig. 5:** Photomicrograph showing pemphigus vulgaris

In this study 35% of the cases were in the age group of 21-30 years, which is comparable with the study conducted by Younas et al<sup>6</sup> and Veldhurthy et al.<sup>11</sup> Hansen's disease was the commonest histopathological diagnosis reported in the present study(60%). Singh et al concluded in their study that non specific dermatoses as the commonest skin lesion followed by granulomatous lesions. Veldhurthy et al concluded lichenoid lesions as the commonest histopathological findings (25%) followed by Hansen's disease (23.9%). In a study conducted by Mehar et al granulomatous lesions were found to be the most common lesion followed by Non specific dermatoses. In most of the studies Granulomatous lesion were found to be commonest which is comparable with the present study.



**Fig. 6:** Photomicrograph showing lichen planus

In our study tuberculoid leprosy was the commonest subtype of Hansen's disease followed by indeterminate and lepromatous leprosy, all constituted 73% of the total cases of Hansen's disease. In the study conducted by Veldhurthy et al indeterminate, tuberculoid and lepromatous type were found to be in equal number constituting more than 65% of total cases of Hansen's disease. In present study Hansen's disease was found to be more common in male as compare to females which shows correlation with the study done by Mehar et al,<sup>12</sup> Moorthy et al.<sup>13</sup>

## 5. Conclusion

Skin lesions were commoner in males than in females. Younger age group showed predominance. Hansen's disease was the commonest skin lesion. Tuberculoid, indeterminate and lepromatous leprosy were the major subtypes of the Hansen's disease. Histopathological examination of skin punch biopsies by H&E with special stains remains gold standard in the diagnosis of Hansen's disease which signifies the role of histopathology in the management and prognosis of skin lesions.

## 6. Source of funding

None.

## 7. Conflict of interest

None.

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