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STUDY ON MORPHOLOGICAL SPECTRUM OF SKIN BIOPSY IN PATIENTS OF LEPROSY

Pathology

Dr. Manish Kumar Jain* PG Resident, Department of pathology, Jhalawar Medical College, Jhalawar, Rajasthan, India. *Corresponding Author

Dr. Rishi Diwan Professor, Department of Pathology, Jhalawar Medical College, Jhalawar, Rajasthan, India.

Dr. Richa Sharma Professor, Department of Pathology, Jhalawar Medical College, Jhalawar, Rajasthan, India.

ABSTRACT

Introduction: Biopsy of skin is an important investigation which is usually needed for the diagnosis of leprosy histopathologically and is highly important for getting a correct bacillary index, histopathological classification and treatment response at follow up and activity of disease. **Objective:** To study morphological spectrum of skin biopsies in leprosy patient **Materials And Methods:** It is cross sectional study, in which 45 histopathological diagnosed cases of leprosy were assessed. Specimens were received in 10% formalin and after adequate fixation and staining with hematoxylin and eosin and Modified Ziehl Neelsen stain then microscopic examination done. **Results:** Out of 45 patients, 24.4 % patients were aged 31-40 years of age and 6.6 % were <20 years of age. 68.9 % patients were males and 31.1 % were females, showing male predominance. 37.7 % patients were diagnosed with lepromatous leprosy and 6.6 % were diagnosed with borderline tuberculoid leprosy with Erythema nodosum leprosum. 33.3 % patients were with bacillary index 6+ (lepromatous leprosy), followed by 26.6 % with bacillary index 5+ (borderline lepromatous leprosy) and 4.4 % with bacillary index 1+ (tuberculoid leprosy).

KEYWORDS

Leprosy, Mycobacterium leprae, Bacillary index

INTRODUCTION

Leprosy is recognized as a granulomatous disease caused by Mycobacterium leprae in which skin is mainly affected[1]. The pathogenesis of leprosy is complex and its clinicopathological manifestations are the result of host-parasite interactions [2].Although the prevalence is declining, the disease continues to be the major cause of many public health problems Acc, to WHO there were 1,27,558 newleprosy cases detected globally in 2020.This includes 8,629 children below 15 years. The new case detection rate among child population was recorded at 4.4 per million child population[3,4].

MATERIALS AND METHODS

It is cross sectional study for study January 2021to July 2022 in which 45 histopathological diagnosed cases of leprosy were assessed. Specimens were received in 10% formalin and after adequate fixation and staining with hematoxylin and eosin and Modified Ziehl Neelsen stain then microscopic examination done.

Inclusion Criteria

Clinically diagnosed cases of leprosy were included in the study.

Exclusion Criteria

Inadequate biopsies, inconclusive reports, and poorly preserved biopsies were excluded from the study.

METHODOLOGY

Ethical approval was taken from the institutional ethical committee for conducting the study Samples were obtained from Patients who attended the OPD in Dermatology Department and were clinically diagnosed to have leprosy.Skin biopsies sample were received in the department of PathologyThese specimens were received in 10% formalin. After adequate fixation specimen were processed. All bits were taken for microscopic examination after staining with hematoxylin and eosin and Modified Ziehl Neelsen stain methods[5,6,7].

OBSERVATION AND RESULTS

The total of 45 patients reporting to Department of Pathology was enrolled for the study. The study was carried out after obtaining approval from the Institutional Research Ethical Committee. An informed and written consent was obtained.

The present study include 45 cases. Out of 45 patient, 31 were males and 14 were female.Most of cases belong to 31-40 year of age group.The most common site was determined to be back (37%), followed by the forearm (31%), and the leg (13%). Other sites involved were the face, neck, trunk, foot and buttocks among others.In Histopathological diagnosis ,Lepromatous Leprosy was maximally diagnosed 37.7%. Acc to bacterial index classification, 33.3% were diagnosed 6+.

Table No.1 Distribution Of Study Subjects According To Age Groups.

Age distribution	N	%
<20 year	3	6.66%
21-30 year	8	17.77%
30-40 year	11	24.44%
40-50 year	9	20%
50-60 year	7	15.55%
>60 year	7	15.55%

Table No.2 Distribution Of Cases Acc. To Bacillary Index.

Bacillary index	N	%
0	7	15.50%
1+	2	4.44%
2+	4	8.88%
3+	3	6.66%
4+	2	4.44%
5+	12	26.66%
6+	15	33.30%

DISCUSSION

The present study was conducted to determine incidence, clinical presentation and histopathological spectrum in leprosy. The present study was conducted in the Department of Pathology, Jhalawar

Medical College, Jhalawar, Rajasthan, India. The present study was conducted from January 2021 to July 2022. The total of 45 patients reporting to Department of Pathology was enrolled for the study. The study was carried out after obtaining approval from the Institutional Research Ethical Committee. An informed and written consent was obtained.

In the present study, we used Ridley-Jopling classification.[8,9]to categorise the leprosy histopathologically in all patients. We also included histoid and indeterminate types of leprosy, similar to study by Patel K et al.[10]and Naik SM et al.[11]

In the present study, maximum 24.4 % patients were aged 31-40yrs of age and minimum 6.6 % were <20yrs of age. The result of our study is similar to study by Anusha KS et al.[12]

In our study, maximum 37.7 % patients were diagnosed with lepromatous leprosy and minimum 6.6 % was diagnosed with borderline Leprosy with ENL. In accordance with our study, Yadav N et al.[13]

Maximum 33.3 % patients were with bacillary index 6+, followed by 26.6 % with bacillary index 5+ and minimum 4.4 % with bacillary index 1+. Results of our study were similar to studies by Naik SM et al.[14,15]

CONCLUSION

The range of leprosy manifestations is very wide and there is a great variation between different types of leprosy; hence both clinical and histopathological factors and bacteriological indicators are more useful than any single parameter in achieving a definitive diagnosis and classification of the disease.

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