

**Clinico-Epidemiological Profile of Histoid Leprosy: A Prospective Study****Girishkumar R. Ambade\*, Anand Jagdish Asia\*\***

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**Abstracts:** Introduction: Described for the first time by Wade in 1960, considered by some as a variant of Lepromatous Leprosy and accepted by others as a distinct entity, Histoid leprosy is characterized by cutaneous and subcutaneous nodules and plaques present over apparently normal skin. The presence of spindle shaped cells on histopathology, the absence of globi inspite of having high bacillary index and rarity of type II reactions despite being on lepromatous pole of Ridley Jopling classification makes this variety a unique entity. Increase in the number of such cases prompted us to study the Clinico-epidemiological profile of patients diagnosed as Histoid leprosy in our out-patient Department. Aim: To study Clinico-epidemiological profile of patients diagnosed as having Histoid Leprosy between the period of April 2015 to march 2017 in the Department of Dermatology Venereology and leprosy. Method: A prospective study of newly diagnosed patients with Histoid Leprosy on the basis of clinical, bacteriological and histopathological features was conducted during a period of 2 years. The demographic and other parameters were analysed from prescribed case record forms. Results: 420 new cases of leprosy were registered in the Department during the period of 2 years. Histoid Leprosy was seen in 20 patients (4.7%). Mean age of 37.8 years along with male preponderance (M: F-3:1) was observed. Approximately 90% of patients did not receive any anti Hansens treatment in the past. De novo Histoid lesions appeared in 75% of patients. Three (15%) patients developed type II lepra reaction (ENL) and two of them had deformity during their first visit. Conclusion: The absence of typical patches of leprosy, pain or itching delays the consultation by the patient thereby posing high risk of transmission to others members of the family. Absence of knowledge in leprosy workers and Medical officers regarding this variant having high bacillary load enhances the risk of missing the detection of Histoid variant. High incidence of Histoid leprosy in our tertiary centre emphasizes the need of house to house survey on regular basis. [G Ambade Natl J Integ Res Med, 2018; 9(1):16-19]

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**Introduction:** In 2016 WHO launched the Global Leprosy Strategy 2016–2020: Accelerating towards a leprosy-free world, which aims to reinvigorate efforts to control leprosy and avert disabilities, especially among children still affected by the disease in endemic countries. The number of new cases reported globally in 2015 was 211 973 (2.9 new cases per 100 000 people). Although India declared elimination of leprosy as a Public health problem in December 2005 indicating that at a national level there were less than 1 per 10,000 cases on treatment, 58.85% of new leprosy cases in the world are still in India.<sup>1</sup> The number of new cases indicates the degree of continued transmission of infection. Pockets of high endemicity still remain in some areas in India witnessing intense transmission. The detection of lepromatous leprosy in large numbers is worrisome which could impede the aim of eradication of this infectious and ravaging disease. One such highly bacilliferous type of leprosy termed as histoid leprosy is still noticed in the institutions and poses similar high risk of transmission of leprosy in the society. The absence of anaesthetic patches and deformities yet being highly infectious sets this type of leprosy apart

from other types of leprosy thereby posing high risk of transmission to others members of the family.

Histoid leprosy is a rare but well defined entity with specific clinical, bacteriological and histopathological features. The term “Histoid Leprosy” was originally coined by Wade as a histological concept of bacillary rich leproma composed of spindle shaped cells without globus formation<sup>1</sup>. Its exact etiopathogenesis is not well understood as it may arise de novo or may develop after an inadequate or irregular treatment with Dapsone monotherapy or MDT, resistance to dapsone and or mutant organisms’ bacilli<sup>2</sup>. It is occasionally seen in unstable borderline and intermediate type of leprosy too. The incidence has been reported to vary from 2.79 to 3.60% among total leprosy patients<sup>6-8</sup>.

Although many case reports have been reported in the literature there is a paucity of research articles on this disease. Considering the rarity and variable clinical presentation the present study was conducted to analyse clinico-epidemiology of Histoid leprosy in patients attending our clinic.

**Methods:** A prospective study of the patients diagnosed as Histoid leprosy on the basis of clinical, bacteriological and histopathological features who attended the leprosy clinic at Department of Dermatology, Venereology & Leprosy, Government Medical College, during April 2015 to March 2017 was conducted. Ethical committee was obtained as per protocol.

All cases of leprosy were diagnosed according to the classification proposed by Ridley and Jopling. Demographic profile, duration of lesions, number of thickened nerves, presence of lepra reactions, any deformity and the treatment taken by the patients were noted. Special emphasis was given regarding treatment history with Dapsone monotherapy and regularity of treatment in cases of histoid leprosy. The family members were called and examined for the patches. Bacteriological index (BI), morphological index (MI) and subsequently histopathological findings were noted. The data was pooled and analysed for the above parameters.

**Result:** A total of 420 new patients leprosy were registered in Leprosy clinic from April 2015 to March 2017. The percentages of cases observed are as shown below.

**Table 1: Number of cases of clinical type of leprosy**

	TT	BTH	BBH	BLH	LL	Pure Neuritic	Histoid
No of cases	28	230	12	30	80	20	20
%	6.7%	55%	2.9%	7%	19%	4.7%	4.7%

Twenty cases were diagnosed as having Histoid leprosy, resulting in a prevalence of 4.7% among leprosy cases. Male to female ratio was 3:1, 15 (75%) being males and 5 (25%) being females. The youngest patient was of age 20 years, oldest patient in the study was of 55 years and the mean age was 37.8 years.

**Table 2: Age and sex ratio**

No	Age In Years	Males	Females	Total
1	1-10	0	0	0
2	11-20	0	02	02
3	21-30	03	0	03
4	31-40	06	02	08
5	41-50	02	01	03

6	51-60	04	0	04
Total	1-60	15	05	20

**Fig 1: Nodules on trunk**



**Fig 2: Nodule and a papule on scrotum**



All the patients presented with shiny cutaneous and subcutaneous nodules over apparently normal skin. Eight patients (40%) had shiny papules amidst the nodules. Two of the patients had ulceration of nodules, and one had perforation of nasal septum. None of the patient had mucosal involvement. Buttocks, extremities and trunk were involved in almost all the cases. Facial lesions were seen in 6 cases. The numbers of lesions on the body are shown in the table 3.

**Table 3: Number of Lesions in Cases of Histoid Leprosy**

	<20	20-40	40-60	> 60
Number of Patients	06	06	02	06
Percentage	30%	30%	10%	30%

It was seen that 15 (75%) patients developed clinical lesions without receiving any treatment in the past in the form of Dapsone or Multidrug therapy. 5 Patients who developed lesions of histoid were already on MB treatment for leprosy (4 LL and 01 BL) for an average of 5 months. Out of 04 cases of Lepromatous leprosy

one patient had taken Dapsone monotherapy 18-20 years ago. Two or more peripheral nerves were involved in almost all patients, most common being the ulnar nerve. One of the patients had claw hand deformity and none of them had neuritis. Three patients (15%) had type II lepra reaction (ENL) during the course of their disease. Two (10%) patients were found to be having positive history of leprosy in family members.

A slit skin smear from earlobes, eyebrows showed abundant, long, and solid acid-fast staining bacilli in most of the fields in all the patients. The BI of the slit skin smear varied from 2+ to 6+ (means BI-3.35). The MI varied from 20% to 80% (mean MI-30%). Skin biopsy for histopathology from Histoid nodule was performed in all the cases and histopathology features was suggestive of Histoid leprosy in all of them.

All patients were started on two years of MB-MDT with Tab Ofloxacin 400 mg 1 OD for first month followed by ROM (Tab Rifampicin 600 mg, Tab Ofloxacin 400 mg & Tab Minocycline 200 mg) once a month. All the patients are on regular treatment and therapeutic response against clinical features, BI and MI will be assessed at the end of the treatment. Also, they will be followed up for relapse after release from treatment (RFT).

**Discussion:** The incidence of Histoid leprosy in India has been reported to vary from 2.79 to 3.60 % among total leprosy patients with a male preponderance, the average age at diagnosis being between 21 to 40 years<sup>1</sup>. In the present study, the incidence of Histoid leprosy among total cases of leprosy was observed to be 4.7 % which is higher than the incidences noted by Sehgal, Kaur and others.

Significant male preponderance (3:1) was noted but it was lower than observations by Kaur et al (5.7:1) and Sehgal (8.2:1)<sup>6,7</sup>. Increased participation in outdoor work and less hesitation in availing medical services by females could be the causes of increase in detection of Histoid leprosy in females as a result increasing the overall incidence of Histoid leprosy in our study.

Kalla et al<sup>9</sup> reported the youngest patient of 8 years whereas Vibhu Mendiratta et al<sup>8</sup> found Histoid leprosy in a 14 years of old patient. The youngest patient in our study was of 20 years of age. Leprosy in children forms an important link in the natural

evolution of epidemic profile of the disease. Moreover children being more susceptible to Hansens disease than adults with similar exposure the absence of this highly bacilliferous type of disease in children in our study is a good sign suggesting decreased transmission of the disease in children. However the fact that children develop BL and LL type of leprosy less frequently cannot be overlooked.

Majority (55%) of the patients were in age group of 21 to 40 years as observed by other authors. Almost all patients presented with firm, non-tender, shiny nodules over apparently normal appearing skin with few papules amidst them. Most commonly involved site were back and extremities followed by face. On contrary, Vibhu Mendiratta et al<sup>8</sup> reported face as the commonest site of involvement whereas Kaur et al<sup>7</sup> observed buttocks as the most common site of involvement. Mucosal involvements have been described by some authors but none of our patients had mucosal lesions.

Histoid leprosy occurs more commonly in lepromatous patients who relapse after the dapsone monotherapy, incomplete and irregular MDT, occasionally in unstable borderline and intermediate type of leprosy too. De novo occurrences of Histoid leprosy has been reported as rare. In our study 15 (75%) patients presented with de novo Histoid leprosy, 4 (20%) patients had previously manifested with LL and one had Border line leprosy. Only one patient had taken Dapsone monotherapy 18-20 years ago. This finding suggests that Histoid leprosy could be a distinct form of leprosy as suggested by many authors and should not always be considered as variant of LL.

Three patients (15%) patients developed type II lepra reaction (ENL) during the course of their disease. Kaur et al<sup>7</sup> and Vibhu Mendiratta et al<sup>8</sup> reported episodes of ENL in 40% and 27% of patients respectively. In the earlier literature reactions have been reported to be infrequent in patients with Histoid cases. The observations in our study as well as as by Kaur et al<sup>7</sup> and Vibhu Mendiratta et al<sup>8</sup> does not corroborate with this observation.

**Conclusion:** Histoid leprosy could serve as a reservoir of leprosy and a source of infection in the community. Although reported to be more common in patients having received monotherapy or irregular MB

treatment or defaulters the increased incidence of de novo variety in our patients is worrisome suggesting the possibility of spread of resistant mutant strain in sizeable number of patients. Enhancement of contact surveys with an aim of early detection including Histoid leprosy may prevent spread of infection and help in eradication of leprosy.

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