

## Case Report

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# Clinico-social case report of lepromatous leprosy in a rural area of Central India

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### Abstract

Leprosy is a well-known disease (Hansen's Disease) since the days of Sushruta and Charkas and is caused by Mycobacterium leprae. In Vedic reference, it is mentioned as "Kusht Rog" [1]. It is one of the important causes of permanent physical deformity and the social stigma attached to it grossly increases the level of stress [2]. M. leprae usually affects the skin and the peripheral nerves but has a wide range of clinical manifestations and spread from person to person, primarily as a droplet nasal infection, with a long incubation period running into several years varying from 6 months to 30 years, an average of 3 to 5 years or more, the peak age at onset is young adulthood, usually 20-30 years. It is widely prevalent in India. After the introduction of MDT, the country achieved elimination status. We report the Clinico-social case of a 61-year-old Male with Lepromatous Leprosy (LL) in India.

**Keywords:** Leprosy; Lepromatous leprosy; M. leprae.

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### Introduction

Leprosy (Hansen's Disease) is a chronic infectious disease caused by M. leprae [3]. It has been described as a disease that destroys not only the body but the soul: it is a disease that slowly turns a person into a thing [4]. The disease and its associated deformities are responsible for social stigma and discrimination against patients and their families in many societies [5].

M. leprae affects mainly the peripheral nerves. It also affects the skin, muscles, eyes, bones, testes, and internal organs and spread from person to person, primarily as a droplet nasal infection, with a long incubation period running into several years varying from 6 months to 30 years, an average of 3 to 5 years or more, the peak age at onset is young adulthood, usually 20-30 years [5]. The classical presentation Lepromatous leprosy is widely and symmetrically distributed skin macules, erythematous papules, nodules, diffuse skin infiltration; affecting the face, ears, trunk, and extremities; thickened peripheral nerves are more frequently identified.

Though lepra bacilli were discovered in 1873, potentially effective therapies came into being only in the 1920s [6]. The drug "Chaulmoogra" oil was used for leprosy treatment until "Dapsone" was discovered with antileprosy effects during the 1940s. The introduction of Sulphones (Dapsone) in the treatment of leprosy initiated a new era in leprosy control.

Leprosy is widely prevalent in India. After the introduction of MDT in the country, the recorded leprosy caseload has come down from 57.6 cases per 10,000 population in 1981 to less than one case per 10,000 population at the national level in December 2005, and the country achieved the goal of leprosy elimination at the national level. India is still among the "Global Priority Countries" [7-9].

### Case presentation

We report a Clinico-social case of a 65-year-old Male, driver by occupation, who completed 7th Standard education. The patient stated that he presented with progressive crops of new non-tender nodules on the face and all four extremities over a

4-year period at the age of 10 years. He had more than ten nodules in each limb, with some reaching 0.5-1.0 cm in diameter. He had no history of patches, unusual sensations in his hands or feet, such as numbness, tingling, or a burning feeling; any other associated illness (Jaundice, cough, swelling of the feet); any deformity; any other person in the family or close contacts having a similar disease or had the disease and was treated.

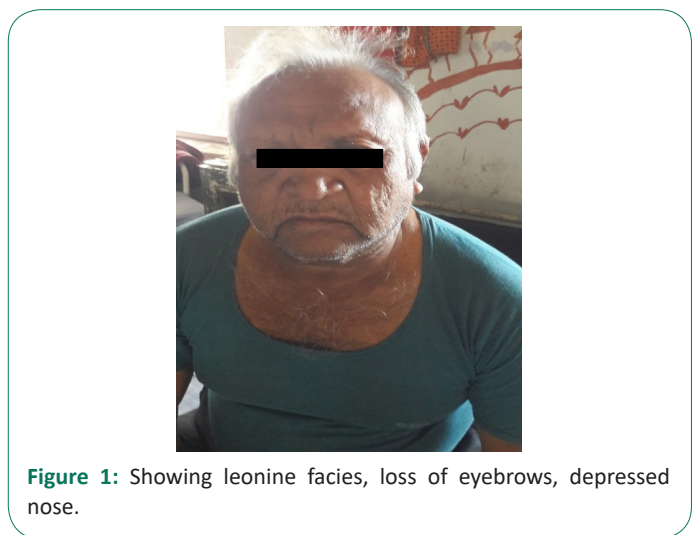
The "Slit and Scrape" method was used to take smears from at least two sites (one active skin lesion from the forehead and one earlobe). Smears stained by the Ziehl-Neelsen technique for identification of the organism under the microscope. He diagnosed on the basis of the Ridley and Jopling classification of Leprosy at the age of 12 years in 1969, started the treatment with Sulfones (Dapsone), and skin nodules were disappeared after 2 years. He took Dapsone tablets till 1989 then stopped. He was apparently all right for 18 years then he had a history of trauma to his Right foot by Tractor which started the hyper-pigmented skin lesions and numbness over his feet beginning physical deformity. He had been admitted to the Leprosy care long-stay unit during the summer of 2007 in order to provide family respite [10].

He stated that 5 to 6 cases of Lepromatous Leprosy suffered in his locality with similar presentation. His family has a total of five members belonging to the Class III Socioeconomic (Modified BG Prasad classification). Leprous family environment, in which the patient's wife suffered from lepromatous leprosy, of similar presentation with completed recovery.

General Physical Examination revealed that the patient is moderately built, nourished, cooperative, and well-oriented with time, place, and person. The Patient's height was 166 cm; Weight was 70 kg; Pulse was 80; Blood Pressure was 118/68 mm of Hg. There was no pallor, cyanosis, or Lymphadenopathy.

The most positive significant findings were confined to Facial, Hand, and Feet Examination; Leonine Facies, Loss of eyebrows, loss of eyelashes, ear thickening, and depression of the nose; Left-sided claw hand, Absorption of digits; Absorption of toes, Plantar ulcer, Absence of Inversion of the foot (Figures 1,2,3,4).

A sensory Examination of nerves was done (fine touch), and loss of sensation over both foot present.



**Table 1:** Examination of nerve.

Nerve	Site	Findings
Left Ulnar	Groove behind the medial epicondyle (Forearm is kept flexed)	<ul style="list-style-type: none"> <li>Thickening and Tenderness present</li> <li>Wasting of small muscles of hand</li> <li>Loss of sensation in ulnar part of hand</li> <li>Contraction (clawing) of 4<sup>th</sup> finger (Left Hand)</li> <li>Weakness in 2nd and 3rd finger</li> </ul>
Lateral popliteal	A finger is hooked behind the neck of the fibula	<ul style="list-style-type: none"> <li>Loss of sensation in the foot</li> </ul>
Great auricular	The Head is turned to the opposite side. Nerve stretches across The posterior edge of sternomastoid	Normal
Facial	Stylomastoid foramen, Zygomatic process	Normal
Trigeminal	Corresponding foramen	Normal
Median	Antecubital fossa proximal to the carpal tunnel at the wrist	Normal
Radial	The radial groove of the humerus posterior to the deltoid insertion Near the radius at the wrist	Normal
Posterior tibial	Between medial malleolus and heel	<ul style="list-style-type: none"> <li>Plantar anesthesia</li> <li>Clawing of toes</li> </ul>
Superficial peroneal	Near the neck of fibula	Clawing of toes
Supraorbital	Running a finger across the forehead	Normal

**Table 2:** Examination of muscle strength.

Muscle tested	S (Normal)	W (Weak)	P (Paralyzed)
Hand		Weak	
Foot		Weak	
Eye	Normal		





**Figure 3:** Showing absorption of digits (Lt Hand).



**Figure 4:** Showing skin lesion, absorption of toes.

## Discussion

Leprosy is one of the oldest diseases known to mankind which is caused by *Mycobacterium leprae*, which affects peripheral nerves, upper respiratory tracts, and eyes. The Socio-clinical case of Lepromatous Leprosy represents the onset of the disease at an early age, a Long Incubation period, and treatment (Dapsone) taken for a long time. Leprosy also often presented with deformities of the involved skin area such as thickening or hyperpigmented lesions as in our case. The exact method by which this patient's disease was contracted is unknown.

Investigating the contacts of leprosy patients is an essential strategy because it allows for early diagnosis, breaking the transmission chain, and preventing deformities and disabilities. This investigation is a rigorous clinical evaluation of patients who live or have lived with cases diagnosed with leprosy. Children and the elderly are considered groups that need special attention. It is noteworthy that contact tracing should be done. A rigorous initial assessment and subsequent regular monitoring are recommended, which had not been done [11].

It is reinforced that lepromatous leprosy in children and teenagers will not always appear with the signs we know and, despite being described as rare in this age group by the literature, it has been manifesting with relative frequency [12].

Nodular lesions of leprosy can assume importance in the differential diagnosis in non-endemic or low-endemic areas where clinicians are not familiar with the varied clinical presentation of the disease. Moreover, lepromatous leprosy can, rarely, present as a solitary nodule [13].

Leprosy and human rights should be the right to life, the dignity of the person, equality before the law, and freedom from inhuman or degrading treatment. These have been incorporat-

ed into constitutional rights by many nations. The main human rights issues for leprosy-affected persons are the dignity of the person and equal access to adequate treatment. The effectiveness of multidrug therapy in curing leprosy and intense advocacy activities in recent years have brought positive changes in public attitudes toward persons affected by leprosy in many communities. However, the stigma associated with leprosy has not disappeared completely in many countries. In some countries, the impact of discrimination is particularly severe among female leprosy patients. Any legal or statutory measures that are likely to compromise the rights of an individual affected by leprosy to employment, in his/her own country or elsewhere, should be abolished.

While it is impossible to deny the medical aspect of the disease, the strong emphasis given to it has reduced its origin and effects on the individual body. Little attention has been paid to the social, cultural, economic, psychological, and spiritual structures and discourses that may accompany the 'experience' of the disease. It, therefore, becomes urgent to relocate leprosy as an object of study, which requires more fundamental and equal collaboration between social and medical sciences [14].

Surveillance measures including contact tracing are also important, considering that residential transmission is the strongest known risk factor for leprosy. This could improve the utilization profile of the cases detected among contacts who constitute a significantly large group, considering that the proportion of patients who have known leprosy contacts may be as high as 45% [15].

Periodic examination of other family members and Surveillance: Once a year for five years after treatment should be done periodically. Early detection of cases by—Contact tracing, mass survey, examination of school children, and slum population is necessary. Efforts to remove the social stigma through IEC, creating awareness regarding scientific knowledge of leprosy through IEC Providing services through Primary Health Care.

## Conclusion

A 65-year-old Male, representing hyperpigmented skin lesions with numbness over both feet, absorption of toes, clawing of 4th finger, Leonine facies, and depression of nose denotes a case of Lepromatous Leprosy with a history of the treatment of Dapsone (mono-therapy) and belonging to the Class III Socio-economic (Modified BG Prasad classification).

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