

Prevalence of Deformities in Leprosy in Tertiary Care Center

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Abstract

Introduction: Deformities are the common complications of leprosy. This study enables us to find out the common types of deformities in tertiary care center so that an effective rehabilitation can be achieved.

Aim: To find the prevalence of deformities and types of deformities in newly diagnosed patients with leprosy in our hospital.

Materials and Methods: A prospective observational study was conducted in Hansen's department at our tertiary care hospital. About 165 newly diagnosed patients were interviewed, and clinical examination was done between August 2015 and September 2015. Data were collected and analyzed.

Results: Out of 165 patients 50 patients had observable deformities (30%). Out of 50 patients, 30 (70%) were males, and 20 (30%) were females. Hand deformities were most common and next common were feet deformities. Multibacillary patients were more affected than paucibacillary patients.

Conclusion: Early diagnosis and treatment will prevent deformities. All health-care professionals have to be trained to identify leprosy. Rehabilitation facilities have to be strengthened to take care of these patients.

Key words: Deformity leprosy, Multi bacillary disease, Multi drug therapy

INTRODUCTION

Leprosy is a chronic granulomatous disease caused by *Mycobacterium leprae*. This disease mainly affects the skin, nervous system, bones, mucosa, upper respiratory tract, and eyes.¹ This disease is classified into five types according to immunological status. They are tuberculoid, borderline tuberculoid, borderline, borderline lepromatous, and Lepromatous leprosy.² Cardinal features of Leprosy are hypopigmented skin lesions, loss of sensation and positive smear. The presence and number of bacilli determine the type of disease.³ Different spectrum of the disease accounts for the different types of deformities.⁴ Multibacillary patients

had more deformities compared to paucibacillary patients.^{5,6} Deformity is the visible alteration in the form, shape or appearance of the body due to impairment produced by the disease. In leprosy, deformity may be so insidious and painless and obvious only in late stages. Some patients experience severe reactions and develop deformities.⁷

Aim

To find the prevalence of deformities and types of deformities in newly diagnosed patients with leprosy in our hospital.

MATERIALS AND METHODS

This study was a prospective observational study which included 165 patients attending Hansen's Department at Madras Medical College. Among them, 50 patients who were newly diagnosed as leprosy and were not on antileprosy drugs were examined clinically, and detailed history was recorded. Sociodemographic factors were also computed and deformity graded. WHO disability grading was used to assess the patients.

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RESULTS

Out of 165 new leprosy patients, 50 patients were found to have deformities and disability and deformity index is 30.3%. Out of these 50 patients, 35 (70%) were males, and 15 (30%) were females. Thus, deformities were more common in males than females with a male:Female ratio as 7:3. Medical care was not available in 33 cases with deformities at their own places. The most commonly affected age group was 41-50 years with 15 (30%) of patients followed by 20-30 years age group with 11 (22%) patients. Deformities were more in the lower socioeconomic group (42%) followed by upper socioeconomic group (28%). Manual laborers (24%) were the most common occupation with deformities followed by farmers (14%). Deformities were highest in disease with duration 2-5 years followed by >5 years (Figure 1). The deformities were common in lepromatous leprosy patients with a total of 15 (30%) followed by borderline lepromatous with a total of 13 (26%) (Figure 2).

Deformities were common in multibacillary patients with a total of 42 (86%) than paucibacillary patients 8 (24%) patients. Deformities were more commonly found in the hands with total of 39 patients followed by feet then both hands and feet. It was followed by face and eyes. In the case of hand deformities, sensory loss was found to be common with a total of 20 patients followed by numbness and weakness of hands in 11 and 9 patients, respectively. In the case of foot deformities, numbness (paraesthesia) was found to be common with a total of 11 patients followed by glove and stocking type of anesthesia in 9 patients. Anesthetic type of deformities was found to be common with a total of 44 (88%) cases followed by specific deformities with 18 (36%) cases. (Figure 3) Least deformity was paralytic deformity with a total of 16 (32%) cases. Grade 1 (WHO) deformities were more common with a total of 23 (46%) cases followed by grade 2 in 20 cases (40%).

DISCUSSION

Deformities in leprosy are the most striking manifestation. It may range from mild degree such as sensory loss over the hands to a very severe degree such as complete claw hand and resorption of fingers. Grade 1 deformities are most common followed by Grade 2 deformities.⁸ In our study, sensory loss (40%) was the most common anesthetic deformity, and weakness (18%) was the most common paralytic deformity in the case of hands. Numbness (22%) was the most common anesthetic deformity, and foot drop (8%) was the most common paralytic deformity in the case of foot. Those patients with Grade 2 deformities must have

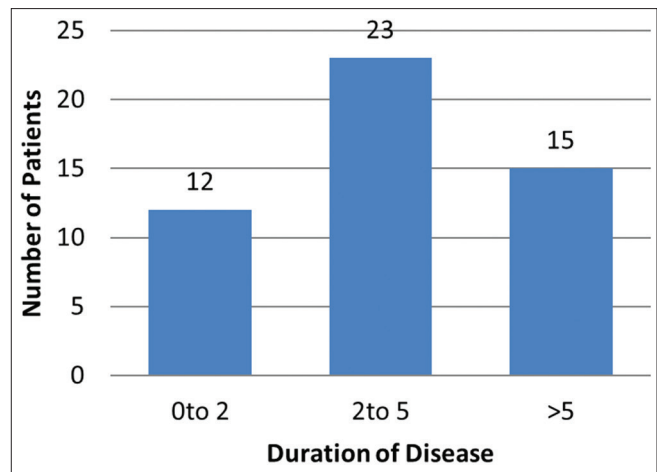


Figure 1: Distribution of duration of disease

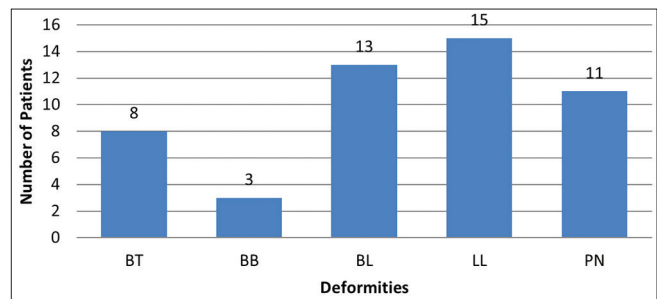


Figure 2: Distribution of deformities

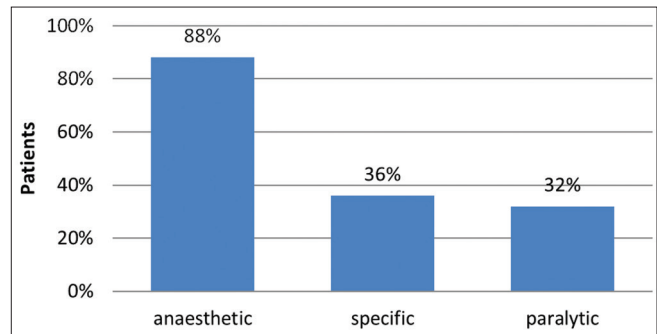


Figure 3: Distribution of type of deformities

passed through the stage of Grade 1 deformity.⁸ Therefore, it is essential to do a thorough peripheral nerve examination in a case of leprosy. Assessment of sensory and motor nerve functions along with nerve palpation for thickening, tenderness, and reactions is mandatory. Furthermore, patients should be properly referred to specialists whenever required. Multibacillary leprosy cases were having higher deformities than paucibacillary patients. It is similar to the results of a study conducted by Chhabra *et al.*⁹ Hence, early diagnosis, proper multibacillary-multidrug therapy, health education to patients and community, rehabilitation help in preventing the patients from the biomedical and psychosocial consequences of leprosy. This enables them to repossess their roles and functions in the society.

CONCLUSION

The deformities were the most distressing features for our patients. Health education plays an important role in prevention and the progression of deformities. Early diagnosis and proper treatment prevent patients from the brunt of disabilities due to leprosy. Hence, searching for Grade 1 deformity should be done by all our health care workers.

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