

## CASE REPORT

### TENOSYNOVITIS – AN UNUSUAL PRESENTATION OF LEPROSY

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#### HOW TO CITE THIS ARTICLE:

M. K. Padma Prasad, Arishta Bala. "Tenosynovitis – An Unusual Presentation of Leprosy". Journal of Evidence based Medicine and Healthcare; Volume 2, Issue 42, October 19, 2015; Page: 7523-7527, DOI: 10.18410/jebmh/2015/1017

**ABSTRACT:** Leprosy is a unique disease that as it progresses goes into multi system involvement producing deformities. A 31 year old man had come with a recent onset flexion deformity of left middle finger. He was examined and treated by a surgeon and an orthopaedician in an army hospital as a special situation. After the surgeons and orthopaedician managed, he was referred to a dermatologist because of the skin lesion on that finger with swelling of the proximal interphalangeal joint. After examination, a skin biopsy was taken from site of lesion from the finger and result came as borderline tuberculoid leprosy with tenosynovitis and he was put on anti-leprosy treatment. He was completely cured.

**KEYWORDS:** Mycobacterium Leprae, Tenosynovitis, Deformity.

**INTRODUCTION:** Leprosy occupies an outstanding place among skin diseases because of its unusual multisystem involvement and its long duration in the human being. It produces untold miseries unparalleled in human history and results in multiple deformities. It is produced by mycobacterium leprae -an acid fast bacillus. It is the first one to be implicated as a causative agent but the inability to grow this organism in the laboratory has created problems in making a prompt diagnosis. About 20 – 25% of leprosy patients develop deformities and disabilities indicating that they are not inevitable outcomes but can be prevented by the proper diagnosis and timely management.

**CASE REPORT:** A 31 year old man had come to our OPD with a history of swelling and redness of the left middle finger. He is working in the army as a soldier. He gave a history of his gold ring getting tightened on this finger. He had to go to hospital to a surgeon to remove the ring, but the surgeon had to cut the ring to take it out. While doing this procedure he developed a wound on this site which was properly dressed and treated with antibiotics. Wound healed after 2 weeks and the swelling remained at the site. So he was referred to an orthopaedician in the army hospital. The doctor has advised him 2 weeks immobilization of the joint by splinting. After 2 weeks the splint was removed and the orthopaedician noticed redness and scaling of the skin with the swelling persisting. Hence he was referred to our OPD. On examination of the left middle finger- he had an erythematous scaly oval shaped plaque extending to the dorsum and sides of the finger with margins partly ill-defined and partly well defined. (Fig. 1)

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**Fig. 1**

**Fig. 1:** Erythematous scaly oval shaped plaque extending into the dorsum and sides of fingers with swelling.

Proximal interphalangeal joint was swollen with flexion deformity and minimal pain. (Fig. 2)



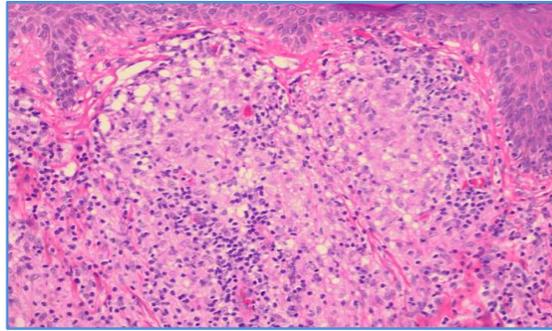
**Fig. 2**

**Fig. 2:** Swelling and flexion deformity of the proximal interphalangeal joint

There was impairment of sensation over the plaque. Examination of the peripheral nerves revealed significant thickening of left ulnar, left radial cutaneous. There was no clawing of other fingers or any hypothenar muscle wasting. Routine blood examination and x-ray examination of the left hand were within normal limits. Skin smear was negative for acid fast bacilli. A skin biopsy was taken and the result came as Hansens disease (borderline tuberculoid).

**MICROSCOPY:** Skin showed epithelioid granuloma containing Langhans giant cells and moderate lymphocytic mantle around the epithelioid cells. Granulomas with peripheral lymphocytes seen along the neurovascular bundle and infiltrate around the sweat glands and erector pili muscle. Nerve erosion and obliteration are seen. Acid- fast bacilli are scanty. They are found in Schwann cells of nerves.<sup>1</sup>

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**Fig. 3**

**DISCUSSION:** Leprosy (Hansens disease) is a chronic disease caused by mycobacterium leprae affecting peripheral nerves, skin and other tissues of the body. Mycobacterium leprae was discovered by Hansen in Norway in 1873<sup>2</sup>. Mycobacterium leprae is an acid fast obligate intracellular bacterium seen as clumps or as compact masses within the macrophages known as globi. Infection can occur through respiratory tract, skin, gastrointestinal tract.<sup>3</sup> The infected droplets gets discharged can be in to the atmosphere in the act of talking, sneezing, coughing. The risk is high where living conditions are poor and overcrowding is present. Incubation period is usually 3-5 years.

Ridley Jopling classification of leprosy<sup>4</sup>

- Tuberculoid tuberculoid
- Borderline tuberculoid
- Borderline borderline<sup>4</sup>
- Borderline lepromatous
- Lepromatous leprosy

The above classification is based on the clinical, pathological and immunological status of the individual.<sup>5</sup>

Borderline leprosy<sup>4</sup> occurs in those whose degree of resistance lies somewhere in spectrum between lepromatous and tuberculoid leprosy. They have following characteristics:

1. Immunological instability and therefore the tendency to move in either direction along the borderline spectrum.
2. Response to treatment and the length of time required for treatment to be continued in order to eradicate the infection.
3. Tendency to lepra reaction and crippling deformities resulting from nerve damage.

Various types of skin lesions in borderline leprosy are:

- Macules: well defined anaesthetic hypopigmented sometimes with a faint coppery sheen.
- Plaques: can be hypopigmented or erythematous or coppery.
- Annular lesions: can be of various sizes and shapes. The ring is erythematous or coppery and consists of raised tissue with well-defined outer and inner edges.

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- Punched- out lesions: characteristic of borderline type and are erythematous plaques with vague outer edges and a punched out central portion. Some degree of anaesthesia is present.
- Bizarre lesions: Appear as raised bands or of geographical lesions.
- Nodules: Occur rarely in borderline tuberculoid. They are scanty, small and asymmetrically distributed.

The lesions are anaesthetic and are asymmetrically distributed. The surface is dry and hair is lost. Nerves are very much involved. Deformities are common due to silent nerve paralysis.<sup>6,7</sup> Visceral involvement is more common in lepromatous leprosy, borderline lepromatous, mid borderline leprosy.

Treatment of leprosy is effective only if we administer the proper drugs (dapson, clofazamine, rifampicin) in the proper dosage and at the earliest after it has been detected.<sup>8,9</sup> Proper follow up of the cases with a cautious eye on the development of deformities is imperative for successful management of the disease. The paucibacillary/multibacillary drug therapy depends on the immunological status and bacillary load.

**CONCLUSION:** Leprosy can affect various systems of our body. It can present with many atypical cutaneous and systemic manifestations. Early diagnosis and management plays a vital role in preventing disabilities and deformities.<sup>10</sup> Atypical presentation of leprosy includes sometimes an area of anaesthesia on the skin with or without a patch, non-healing ulcer, tenosynovitis, asymptomatic nodule. Even otherwise leprosy can infect any person irrespective of age or social status. India is one of the country having largest number of leprosy patients and our attempts of eradication of the disease is still on the way. Hence prompt detection of the usual and unusual presentations will lead to the goal of total eradication of leprosy in future.

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Date of Submission: 25/09/2015.  
Date of Peer Review: 29/09/2015.  
Date of Acceptance: 30/09/2015.  
Date of Publishing: 19/10/2015.