



## Pure Neuritic Leprosy Presenting as Ulnar Nerve Abscess

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### Abstract:

Isolated nerve abscess is an uncommon manifestation of infection, caused by *Mycobacterium leprae*. We report a case of neuritic leprosy which presented as ulnar nerve abscess, posing a diagnostic confusion. Patient presented with a non-inflammatory ovoid swelling accompanied by sensory and motor deficit on medial aspect of middle third of arm. Swelling was found to be attached to ulnar nerve and was excised. Biopsy and special staining for leprosy was positive. Since leprosy remains a potentially curable disease, an awareness of its atypical manifestations is essential.

**Key words:** Pure Neuritic Leprosy, Ulnar Nerve, Abscess

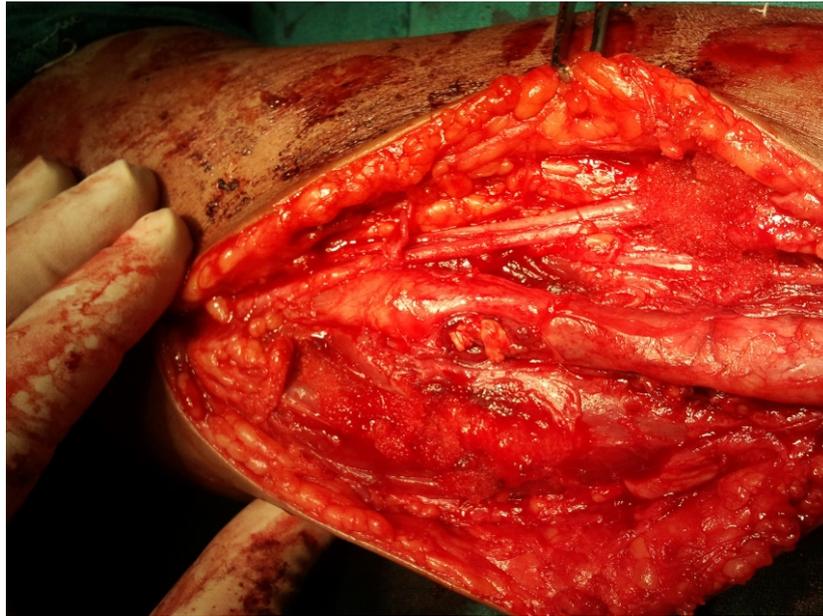
### Introduction

Pure neuritic leprosy (PNL), an uncommon presentation of leprosy usually presents as peripheral neuropathy without cutaneous involvement. Often the nerves are thickened and it is difficult to prove leprosy in such cases without nerve biopsy. Rarely, PNL presents as a cystic mass in the form of nerve abscess. Here, we present a case of PNL presenting as ulnar nerve abscess in a 25 year old male patient.

### Case Report

A 25 year old male presented with a cystic soft tissue mass on medial aspect of middle third of left arm. The ovoid non-tender swelling measuring 6 x 5 cm was mobile in horizontal plane but had restricted mobility in vertical axis. The swelling was nonpulsatile with no evidence of inflammation. Patient had signs of sensory and motor deficit of ulnar nerve in forearm and hand. Examination of peripheral nerves revealed thickening of ulnar nerve proximal to elbow joint. There was no evidence of involvement of other peripheral nerves. Careful examination of skin over face, limbs and trunk did not reveal any abnormality. Six random skin smears were found to be negative for AFB.

MRI diagnosis of swelling was ulnar nerve schwannoma. Fine needle aspiration of the swelling yielded pus which was sterile on culture and smear was negative for acid fast bacilli. In view of neurologic deficit and provisional diagnosis of ulnar nerve abscess decompression of ulnar nerve was done. During surgery, pus filled cystic swelling was found along with thickened ulnar nerve both proximal and distal to swelling [Fig.1]. Excision of abscess wall along with neurolysis of thickened ulnar nerve was carried out. Histopathology revealed extensive caseation along with epithelioid and Langhans cell granulomas and was consistent with tuberculoid pure neuritic leprosy and nerve abscess. Modified Ziehl Neelsen and Fites staining revealed acid fast bacilli suggestive of *Mycobacterium leprae*.



**Figure 2: Intraoperative photograph showing thickened ulnar nerve with abscess.**

## Discussion

Leprosy neuropathy presenting without dermatological lesions is known as the neuritic form of leprosy [1]. The patients with this neurotic form of disease display only signs and symptoms of nerve enlargement, nerve pain, sensory impairment, paraesthesia and muscle weakness, without any skin manifestations. This poses difficulty in diagnosing leprosy, particularly in absence of nerve biopsy which is not readily available. Though many cases of pure neuritic leprosy have been described in literature since first report by Jopling [2] in 1965, pure neuritic leprosy presenting as cold abscess of peripheral nerve is rare and is found in paucibacillary spectrum of disease [3].

In pure neuritic leprosy it is not always possible to prove leprosy in absence of biopsy which is not always practical and may even cause harm to the patient [4]. Many authors have shown that fine needle aspiration cytology from involved nerve can be helpful in establishing the diagnosis of pure neuritic leprosy [5-9]. In our case, we could conclusively prove leprosy because of excision biopsy of abscess wall. Many a times, *Mycobacterium leprae* cannot be demonstrated in fine needle aspiration specimen, as leprosy is of pauci-bacillary type. In such cases, other causes of caseation and granulomas like tuberculosis, parasitic or fungal infections need to be ruled out. Most pure neuritic leprosy cases can be treated conservatively however, surgery is advisable in large abscesses, [10]. Left untreated these abscesses may rupture through a sinus and secondary infection may cause further complications [11]. To prevent formation of large abscesses and complications in early stages rest, anti-inflammatory agents and steroids are advocated in addition to anti-leprosy treatment [11].

In conclusion, patients tend to ignore symptoms of peripheral nerve damage and pure neuritic leprosy is likely to misdiagnose by clinicians. Familiarity with this uncommon manifestation of pure neuritic leprosy will enable clinicians to achieve an early diagnosis of this disabling and preventable disease.

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