CASE REPORT

Schwannoma and nerve abscess of leprosy: differential diagnosis

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Introduction

Schwannomas or neurilemomas are the most frequent nerve sheath tumours and could be mistaken for a nerve abscess of leprosy as presented in this case report. These tumours may affect any nerve in the body mainly in the flexor surfaces of limb and nerve trunks, often at origin of spinal or cranial nerves.1 They usually grow slowly and appear as painless swellings for several years before being diagnosed.

CASE REPORT

A 40 year-old man was treated in a basic health unit in the peripheral region of Rio de Janeiro city with MB-MDT 12 months for borderline leprosy in 2006. He was referred to the University Hospital to elucidate a suspicion of post-RFT nerve abscess in his left ulnar nerve.

He noticed a painful lump on palpation of the medial side of the left elbow and intermittent paresthesia 1 year after leprosy treatment. He was started on treatment for Lepra Reaction with prednisolone 40 mg/day and carbamazepine 200 mg/day for the paresthesias, without clinical improvement. On examination there was an absence of skin lesions and a painful nodular lesion of 5 cm on the medial side of the left elbow, without inflammatory signs (Figure 1).

Absence of muscle wasting, weakness or claw and preserved skin sensation in the left hand gave rise to doubts regarding leprosy etiology and a diagnosis of painful peripheral nerve tumour was suggested. Ultrasound examination showed a hypoechoic nodule located in...
the medial insertion of the triceps above left epicondyle, of 2.38 x 0.95 cm mobile, with heterogeneous texture which was removed. Histological examination of the tumour biopsy (Hematoxylin–Eosin stained section) showed a benign schwannoma (Figure 2).

Discussion

When diagnosing Pure Neural Leprosy (PNL) based on nerve abscess caused by leprosy, the differential diagnosis of Neurilemmomas derived from Schwann cells and neurofibroma should be kept in mind, especially if there is no significant loss of function in the distribution of the nerve. These constitute the two most common benign peripheral nerve sheath tumours. Some atypical types of schwannoma have been described (ancient, psammomatous, melanotic, cellular, benign epithelioid, neuroblastoma-like, plexiform).\textsuperscript{1} All ages are affected with a peak between 30 to 60 years, and they have no predilection for race or sex. They arise within the nerve sheath and are surrounded by a true capsule consisting of epineurium. The treatment of choice is extracapsular or intracapsular removal under magnification.\textsuperscript{2} Histologically they are described as Antoni type A (highly cellular, tightly compact spindle-shaped cells which pallisade and produce Verocay bodies) and Antoni type B (less cellular and more randomly arranged spindle cells in a loose, myxomatous stroma). In large or deep tumours degenerative changes like cysts, calcification, hemorrhage and hyalinization are described.\textsuperscript{1}

Recurrence is rare and has been seen in different areas of the nerves of the same extremity, but not in operated sites. Because these tumours are slow-growing, soft in
consistency, mobile in nature, and sometimes painless, they are sometimes misdiagnosed as lipoma, fibroma, ganglion, or xanthoma.2 The pure neuritic form of leprosy manifests as involvement of the nerve trunk and less frequently as a painful lump – or nerve abscess. If it occurs in the absence of skin lesions it could create a diagnostic problem. As seen in this case a soft tissue swelling in the ulnar nerve without any obvious neurologic manifestation in the respective hand was mistaken for a nerve abscess due to leprosy whereas it was actually a soft tissue tumour.3 Acid-fast bacilli (AFB) in slit smears could be negative and the electrophysiological exam is only suggestive, and is not available in many endemic areas. The gold standard for PNL diagnosis is the histopathological examination of a peripheral nerve, but bacteria are not always seen and histological findings may be non-specific. Polymerase chain reaction (PCR) and detection of antibodies against PGL-I in patients with peripheral neuropathy could also be useful but are not available in the field.4,5 hence simple but careful sensory testing assessing heat, cold, tactile and pinprick sensation is very useful in these cases. If these tests are doubtful, patients should be referred for specialist opinion in order to avoid overdiagnosis/misdiagnosis of PNL.

Ultrasound examination is an inexpensive, non-invasive quick and repeatable technique that can be used as an imaging modality for primary assessment of nerve tumour.1 The utilization of Fine Needle Aspiration Cytology3 and Magnetic resonance imaging (MRI) can be used to differentiate soft-tissue tumours. Despite being expensive, MRI is accurate in locating the tumour, defining its origin, and showing the neurovascular structures.2

Leprosy reaction presenting as neuritis or nerve abscess occurs mainly during the first months of treatment of leprosy, but can also occur before or even after treatment. Reactions are the main cause of nerve damage and disability caused by leprosy.6 Though common in
these patients, we must be mindful of other differential diagnoses as in the case presented, who were cured after being submitted for surgical excision.

The purpose of this report is to emphasize the complexity of PNL diagnosis in the field and the importance of neurological assessment in the differential diagnosis of pure neural leprosy, neuritis and neural tumours.

References