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Case Report

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TIBIAL NERVE SCHWANNOMA: A CASE REPORT AND LITERATURE REVIEW

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ABSTRACT

Tibial nerve schwannomas are rare benign tumor. WE present the case of a 30-year-old male with 6 month left leg pain with a positive Tinel sign. MRI found an oval process that is isointense on T1 and hyperintense on T2. Surgery was performed with histopathology revealing a typical schwannoma of the tibial nerve.

INTRODUCTION

Schwannomas are benign tumors of the peripheral nerves, developed from cells of the Schwann sheath. These are rare tumors with an incidence of 1/100000 that occur on the limbs (thighs, brachial plexus) and peritoneum. Tibial nerve schwannomas represent only 11% of benign lower limb lesions.

CASE REPORT

30-year-old male with no medical history complaining for 6 months of burning pain located on the postero-medial side of the left leg, of moderate intensity. The pain increased at night with a feeling of numbness. Palpation found a positive Tinel sign. The evolution was marked by the appearance of an oval mass of about 6 cm of the left tibia, soft, mobile with respect to the superficial and deep plane, without inflammatory sign, and the presence of needle sensation over plantar aspect of the left foot. MRI found an expansive oval process of the tibial nerve that measured 70x40x30 mm, it was isointense on T1 and hyperintense on T2 imaging, without affecting the vascular pedicle (figure1).

The patient was referred to the operating room or a complete excision of the tumor was performed with nerve sacrifice 1cm above and below the lesion (figure 2-3). The interruption of nerve continuity was controlled, in a second operative time by a graft from the external saphenous nerve. Formal histopathology revealed a typical schwannoma with no evidence of malignancy.

1 year follow up revealed the disappearance of all symptoms with the absence of recurrency of the tumor.

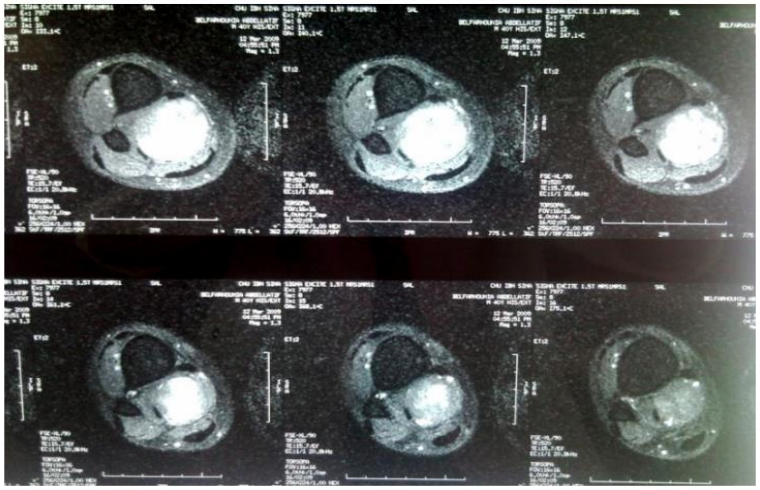

Figure 1: MRI signs of schwannoma.

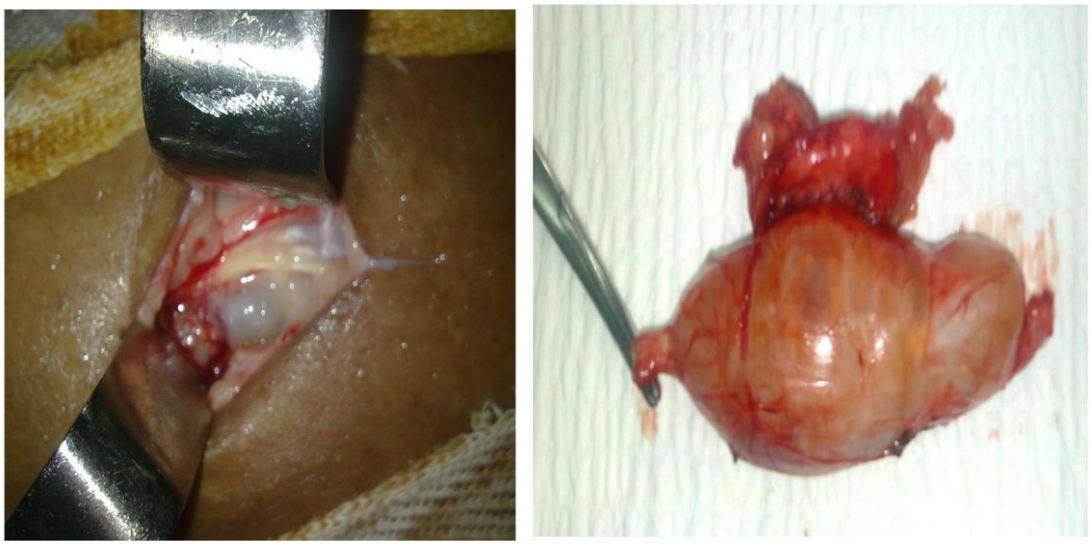

Figure 2-3: Surgical approach and schwannoma excision.

DISCUSSION

Peripheral nerve tumors are rare. They are developed in from the nerve sheath, itself from the neurectoderm and crest neural. These tumors are mostly benign and include two major benign histotypes: Schwannomas (also called neurilemmomas) and neurofibromas with the malignant form (Malignant peripheral nerve sheath tumors MPNST) called malignant schwannomas.[1] Schwannoma represents nearly 70% of peripheral nerve tumors. In the series of 119 tumors of the sheaths of Artico et al., 73 of them were schwannomas (61.3%).

Benign schwannomas are found at any age, but with a prevalence between 30 and 50 years. They affect both sexes without distinction, with a sex-ratio close to 1. They can sit on the entire nervous path of the body and even on the nerve endings. The involvement of the sciatic trunk and its branches is found in 8 to 16%.[2] Malignant schwannomas on the other hand occur between 20 and 50 years, with an average of 32 years. Morbidity is related to the deficit syndrome caused by these tumors by severe compression, malignant transformation or intraneural invasion.

It should be noted the major difficulties of the clinical diagnosis of sciatic nerve schwannoma when the tumor is small, deep and therefore inaccessible to palpation.[3] Because of a slow growth of the tumor, the duration of symptoms before diagnosis is often long, up to more than ten years, pain remains the most constant revealing symptom, revealed by impulse to cough, electric shocks occurring spontaneously, or triggered by contact, or certain movements.

MRI remains the gold standard in schwannoma diagnosis.[4] It appears as an eccentric mass on the nerve or root path, appearing in isosignal T1 and hypersignal T2.[5] MRI is the key difference between a schwannoma and a neurofibroma. This distinction is very important, the invasive neurofibroma does not allow a dissection of the tumor with significant post operative problems.

Surgery remains the treatment of choice for the treatment of schwannomas. The limited nature of the tumor allows in most cases a complete excision.[6] The eccentric lesion with respect to nerve fascicles allows dissection of these tumor and the reduce of the postoperative consequences.

CONCLUSION

This case highlights the importance of thorough examination and early MRI for the diagnosis of rare pathology like schwannoma of tibial nerve.

CONSENT

The patient has given their informed consent for the case to be published.

Competing Interests

The authors declare no competing interest.

Authors 'Contributions

All authors have read and agreed to the final version of this manuscript and have equally contributed to its content and to the management of the manuscript.

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