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Case Report

Compression of the Ulnar Nerve by Schwannoma at the Distal Third of the Forearm about a Case

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Abstract

Benign schwannoma are the most common peripheral nerve tumors. They occur with predilection in the adult of 20 to 50 years and are exceptionally responsible for a nervous compression. We report the case of a 46-year-old woman presenting with schwannoma of the right forearm responsible for ulnar nerve compression and whose management consisted of surgical enucleation with a satisfactory result at the last follow-up. Through our observation and a review of the literature, we propose to review the clinical, radiological and therapeutic features of this type of tumor.

Keywords: Schwannoma; Ulnar nerve; Nerve tumors; Excision surgery

Introduction

Primary tumors of the peripheral nerves account for 1% to 2% of soft tissue tumors. Schwannoma is a tumor that develops at the expense of Schwann cells. This is the most common tumor of the peripheral nerves. He sits more readily in the extended areas of the limbs. It is an encapsulated lesion rarely responsible for a neurological deficit due to its slow increase in volume, which is exceptionally responsible for a mass effect.

Case Presentation

A patient aged 46 consults for a painless mass of the anterior aspect of the right forearm evolving for 3 years. The palpation shows a subcutaneous mass, of firm, regular consistency, mobile under the skin, whose pressure is responsible for paresthesia in the ulnar territory (positive Tinel sign). The rest of the clinical examination is without abnormality (Figure 1). The MRI shows a mass of soft tissues of the forearm of 45 mm in diameter, well limited, homogeneous, in iso-signal T1 compared to the neighboring muscles. On T2-weighted coupes coronales and sagittal sections after injection of gadolinium, this mass presents a "target" image with a hyperintense peripheral halo and a hypo-intense center. It is closely related to the ulnar artery in its lower part. The diagnosis of neurogenic tumor developed at the expense of the ulnar nerve is mentioned. The patient benefits from complete excision surgery (Figures 2 and 3). Anatomopathological and immunohistochemical examination concludes that there is a schwannoma tumor without signs of malignancy.

Figure 1: The rest of the clinical examination is without abnormality.

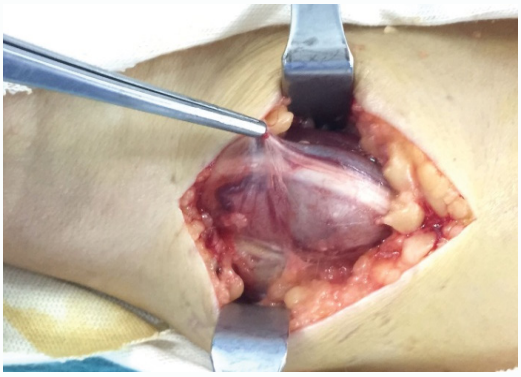

Figure 2: The diagnosis of neurogenic tumor developed at the expense of the ulnar nerve is mentioned.

Discussion

Benign schwannomas, formerly known as neuroma, are the most common nerve tumors [1]. They develop at the expense of Schwann cells, forming a macroscopically smooth, rounded, yellowish and encapsulated proliferation [1]. Although schwannomas are considered rare tumors, they are still the most common tumors of the primary nerve sheaths of the hand and wrist. They account for about 5% of all benign soft tissue neoplasm [2].

The malignant transformation is exceptional or even discussed, it would occur mainly in the context of a disease Recklinghausen [3].

The schwannoma is observed at any age, most often between 30 and 40 years old. It sits on the path of the main nervous trunks of the upper limb [4]. The peripheral nerve most frequently affected

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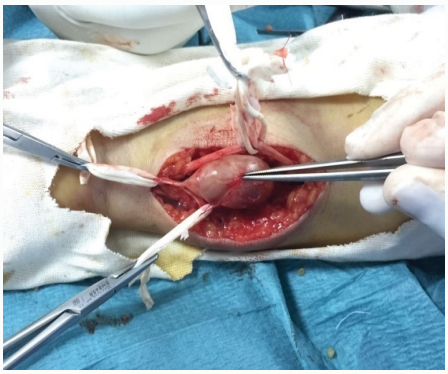

Figure 3: The patient benefits from complete excision surgery.

by schwannoma is the median nerve [5]. The growth of the tumor is slow and the clinical diagnosis often late. It may remain asymptomatic for a long time or may be manifested by spontaneous root-type pain, paraesthesia or numbness of the limb. It is necessary to know how to evoke the diagnosis of benign schwannoma in front of a pain or paresthesia of a superior member without obvious clinical anomaly. On the palpation, it is about a lonely mass of firm, nonpulsatile and mobile consistency. This palpation may cause paresthesia in the affected nerve (Tinel's sign), which is of great help for diagnosis [3].

MRI is considered the most important radiological imaging technique for diagnosing nerve sheath tumors, but differentiation between schwannomas and neurofibroma remains difficult [4]. Confirmation of diagnosis remains histological. The differential diagnosis is that of other neurogenic tumors: neurofibroma, neurofibrosarcoma and schwannosarcoma [1].

The treatment of choice is surgical excision, since it is an easily extirpable tumor. After complete excision, there is no recurrence. There may be a slight alteration of nerve function after resection of the tumor due to dissection and nerve retraction, but it returns to normal after a few months. The malignant degeneration of a schwannoma is controversial because a lack of knowledge of the initial malignancy is possible [1]. In our case, the excision was complete, with no local recurrence at the last follow-up at 18 months.

Conclusion

Schwannomas are in good condition isolated benign tumors. Magnetic resonance imaging can guide the diagnosis but it is histology that confirms it. The ideal treatment of these tumors consists of a surgical enucleation with careful dissection of the neighboring nerve bundles. Evolution is generally favorable.

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