Sciatic nerve schwannoma: a case report

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ABSTRACT

We report on a 46-year-old woman with a sciatic nerve schwannoma. Magnetic resonance imaging revealed a well-defined, lobulated, intensely enhancing mass posterior to the left hip joint along the left sciatic nerve suggestive of neurogenic tumour. The Tinel sign was positive on the posterior aspect of the left thigh. The tumour was excised without neural damage. Postoperatively, the patient showed no signs of any neurological deficit, and recovery was uneventful.

Key words: neurilemmoma; sciatica

INTRODUCTION

Sciatica is characterised by pain along the back, buttock, thigh, leg, and foot caused by irritation or compression of one of the 5 spinal nerve roots or nerve trunks. Other symptoms include tingling, numbness, and neurodeficit along its course. Lumbar disc herniation is the most common cause of sciatica. Only 1% of sciatica is caused by a schwannoma of the sciatic nerve. Its symptom of nerve root deficit is often confused with that caused by lumbar disc herniation.

CASE REPORT

In July 2011, a 46-year-old woman presented with a 4-year history of pain and tingling in the left hip and leg. The pain was dull, aching, radiating along the left leg, and had no specific aggravating or relieving factors. The patient had no neurogenic claudication or motor or sensory deficit. The sacroiliac joint and hip joint movement was normal.

Magnetic resonance imaging (MRI) revealed small disc bulges on the lumbosacral region, and a diagnosis of lumbar disc herniation was made. The patient did not respond to 6 months of medical treatment and physiotherapy. The Tinel sign was positive on the posterior aspect of the left thigh. MRI revealed a well-defined intensely enhancing mass lesion of 2.5x2 cm posterior to the left hip joint...
along the left sciatic nerve suggestive of a neurogenic tumour (Fig. 1).

The left sciatic nerve was exposed through a posterior median approach. A longitudinal incision along the length of the mass was made on the epineurium of the nerve. The mass was separated from the main nerve using a blunt artery forceps. A plane was created between the mass and the perineurium by passing a suction catheter tube number 6 around the main nerve trunk on either side. This helped isolate the mass and retract the main nerve trunk without causing neural tissue damage. Blunt dissection prevented any neural damage (neuropraxia). The mass was enucleated en masse without any damage to the parent nerve (Fig. 2). The rent in the epineurium was sutured with a 4.0 non-absorbable suture. Postoperatively, the patient showed no signs of any neurological deficit. On day 2, the drain was removed, and the patient could walk in full weight bearing. On day 14, the suture was removed.

Histopathological examination revealed a schwannoma composed of spindle-shaped cells arranged in compact fascicular tissue (Antoni A areas) and smaller cells with ovoid nuclei loosely spaced in a clear watery matrix (Antoni B areas) [Fig. 3]. At 3 years, the patient had no recurrence and could perform all activities of daily living comfortably.

**DISCUSSION**

Peripheral nerve tumours are rare. Schwannomas are derived from Schwann cells of neuroectoderm. Schwann cells serve to form the myelin sheath that insulates the nerves and facilitates the transmission of an impulse. Schwannomas generally affect the main trunk of the nerve, particularly in the upper limbs. The posterior tibial nerve at the tarsal sinus usually involves the nerves of lower limbs. Schwannomas are benign encapsulated slow-growing nerve sheath tumours.
tumours that commonly present as solitary lesions in those aged 20 to 50 years.1 The incidence of sciatic schwannomas is 0.6 per 100 000 people.4

The differential diagnosis of sciatica includes lumbar disc herniation, spinal tumours, spinal epidural abscess/haematoma, facet syndrome, lumbar instability, sacroileitis, sciatic neuritis, pelvic tumours, piriformis syndrome, coxarthrosis, and peripheral nerve sheath tumours.5 Schwannomas involving the sciatic nerve can be asymptomatic or can present with pain, paresthesias, or neurological deficit.

Our patient had largely radicular symptoms suggestive of long-standing sciatica, but MRI showed only disc bulges, which do not clinically correlate. The symptom that led to the diagnosis was the Tinel sign produced by tapping the posterior thigh. Schwannomas are eccentrically located on the nerve, iso-intense on T1-weighted images and hyper-intense on T2-weighted images, and well-circumscribed by a hypo-intense peripheral rim suggesting the presence of a capsule. MRI enables differentiation between schwannomas and neurofibromas. Schwannomas are characterised by a rounded aspect, peripheral hyperintensity, and more or less homogenous hypointense centre on T2-weighted images. Neurofibromas are usually heterogeneous or rarely homogeneous on both T1- and T2-weighted images.1,6 Neurofibroma deeply affect the nerve and thus require complete resection, whereas schwannomas can be resected without loss of nerve continuity.7,8

Schwannomas can be excised en mass, as they arise within the nerve sheath and are surrounded by a true capsule comprised of epineurium, enabling a complete enucleation without damage to the parent nerve.5 Schwannomas have a good prognosis and a low incidence of recurrence or malignant transformation, unlike neurofibromatosis.2 Nonetheless, expertise in peripheral nerve surgery is necessary to reduce the risk of neurological deficit.9

DISCLOSURE

No conflicts of interest were declared by the authors.

REFERENCES