

Unrecognized Sciatic Nerve Schwannoma of the Midthigh as a Cause of Discogenic Sciatica

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ABSTRACT

OBJECTIVE: To describe a sciatic nerve schwannoma presenting with lumbar disc herniation symptoms

PRESENTATION: A 57-year-old male patient was admitted with a two-year history of low back pain and sciatica. Magnetic resonance imaging scans revealed bulgings at the levels of L3-4 and L5-S1, and an encapsulated, solitary lesion 6x4x4 cm in size along the course of the sciatic nerve. A firm palpable mass situated in the right posterior midthigh with an estimated length of 6 cm and a diameter of 4 cm was detected during the physical examination.

METHODS: The patient underwent surgery and an encapsulated solitary tumor was found firmly attached to the sciatic nerve. The tumor was easy to remove without affecting the nerve and it was resected totally.

CONCLUSION: In light of this case, we want to remind that a sciatic nerve schwannoma should be kept in mind as a causative factor in a patient presenting with sciatica, and the physical examination should not be skipped in order to prevent false and delayed diagnoses.

KEY WORDS: Discogenic sciatica, Neurilemmoma, Peripheral nerve, Schwannoma, Sciatic nerve, Thigh

INTRODUCTION

Schwannomas are benign, usually encapsulated nerve sheath tumors that originate from schwann cells(5). Schwannomas may occur anywhere in the course of the peripheral nervous system. Sciatic nerve schwannomas are rare and may present with nonspecific symptomatology that may cause diagnostic difficulties(6,7).

CASE REPORT

We present a 57-year-old male patient with a schwannoma of the sciatic nerve in the midthigh presenting with sciatica mimicking lumbar disc herniation symptoms. The patient was admitted with a two-year history of low back pain and intermittent burning and tingling down his right leg. Motor examination was notable for Grade

3/5 strength of the long extensor of the right great toe. Findings on sensory examination were unremarkable and the deep tendon reflexes were intact. Electromyography showed no abnormality.

Our case presented with symptoms predominantly in his right leg, and mistakenly thought to have lumbar disc herniation in another clinic before his admission to our department. Bulgings at the levels of L3-4 and L5-S1 on his lumbar magnetic resonance imaging (MRI) scans were misinterpreted as the cause of his complaints and surgery for lumbar stenosis was advised. He also had physiotherapy for two months but his symptoms persisted. He was then referred to our department for further investigation.

A firm palpable mass situated in the right posterior midthigh with an estimated length of 6 cm and a diameter

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of 4 cm was detected during the physical examination. It was an obvious mass even with inspection, and the reason of this misdiagnosis seems to be related to the lack of physical examination on his initial admission.

Magnetic resonance imaging scan of the thigh revealed an encapsulated, solitary lesion 6x4x4 cm in size along the course of the sciatic nerve, compatible with a nerve sheath tumor (Figure 1A & 1B). The patient underwent surgery, and an encapsulated solitary tumor was found firmly attached to the sciatic nerve. The tumor was easy to remove without affecting the nerve and it was resected totally (Figure 2). The patient was relieved of symptoms after surgery. Histopathological examination showed features of a schwannoma as the tumor was 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) (Figure 3). Tumor cells formed palisades and Verocay bodies in Antoni A areas.

DISCUSSION

Schwannomas are benign and slowly growing nerve sheath tumors. They may arise from any peripheral nerve containing Schwann cells including distal portions of

cranial nerves(1,4). The symptoms of schwannomas differ upon their location. When occur on sciatic nerve, they can mimic the lumbar disc herniation symptoms. Schwannoma of the sciatic nerve is very rare, occurs in 1% of the patients, with a symptomatology that frequently confused with nerve root deficit caused by lumbar disc herniation(2,7).

The sciatic nerve is the largest peripheral nerve in the human body and is responsible for the motor innervation of the entire lower extremity with the exception of the quadriceps muscles anteriorly, which are innervated by the femoral nerve(3). The term sciatica describes pains that occur in the low back and in the leg along the course of the nerve. The clinical course of sciatica depends on the nature of the underlying disorder. In most patients the pains are caused by a ruptured intervertebral disc(6). The diagnosis of the cause of sciatica may be a problem in neurological and neurosurgical practice, as described in our patient, and sciatic nerve schwannomas presenting with neuralgia may be confused with a case of lumbar disc herniation.

Surgical excision is the proper treatment modality in peripheral nerve schwannomas. They can be totally excised

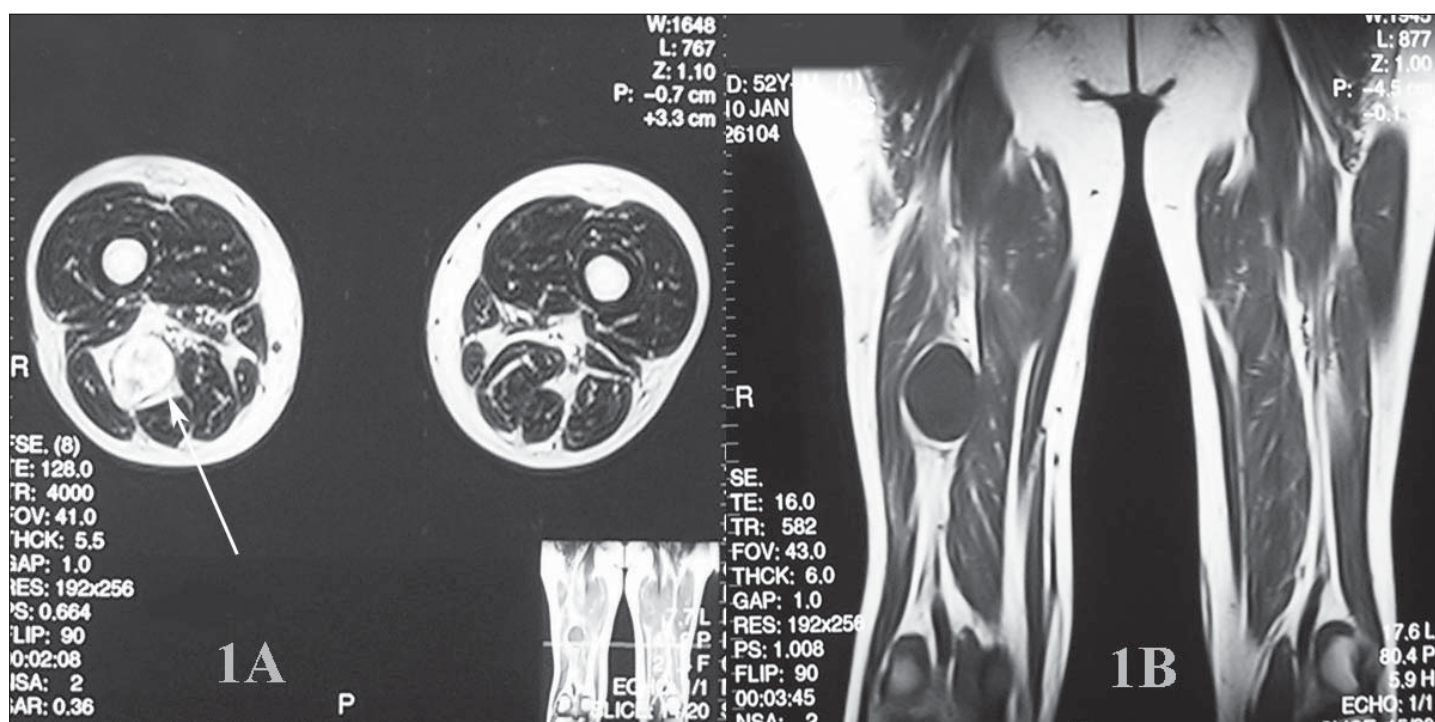


Figure 1: T2 axial and T1 coronal MRI scans of the thigh demonstrate an encapsulated, solitary lesion 6x4x4 cm in size along the course of the sciatic nerve.

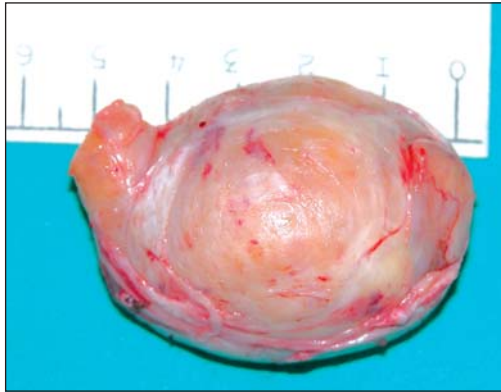


Figure 2: Tumor after total excision.

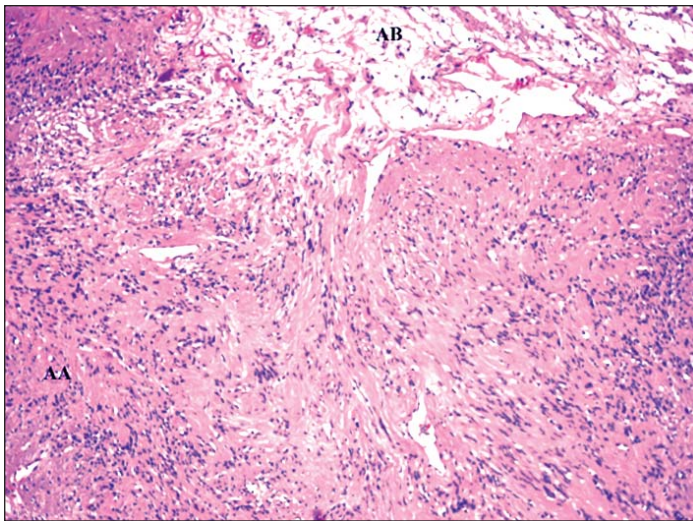


Figure 3: Tumor showed typical biphasic pattern with cellular Antoni A (AA) and less cellular loosely textured Antoni B (AB) areas (H&E \times 10).

under magnification and with microsurgical techniques without any complication. Even small and asymptomatic peripheral nerve schwannomas should be excised in order to prevent their growth to become symptomatic masses although they are slow growing tumors(1). The

tumor was excised with preservation of the sciatic nerve in our case. The postoperative course was uneventful and the patient was completely relieved of his pains.

In conclusion, sciatic nerve schwannoma should be kept in mind as a causative factor in a patient presenting with sciatica in order to prevent false and delayed diagnoses.

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