

A 10-Year Unsuspected Lumbar Schwannoma

A Case Report

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ABSTRACT

One case of unsuspected schwannoma is reported in a 69-year old man with chronic lumbosacral pain. The tumour had been mistaken for a lumbar lipoma for a decade. The definitive diagnosis was established after surgery based on the characteristic histopathological findings. The purpose of this report is to alert primary care physicians to peripheral sheath nerve tumours, in addition to highlight the role of pain and image features in the suspicion of tumours with long-term evolution.

Keywords: Diagnosis; lipoma; peripheral nerve tumour; schwannoma

Un Schwannoma Lumbar Insospechado Por 10 Años: Reporte De Un Caso

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RESUMEN

Se relata un caso de schwannoma insospechado en un hombre con dolor lumbosacral crónico. El tumour había estado equivocado por el lipoma lumbar durante una década. El diagnóstico definitivo puede establecerse después de la cirugía, con base en los resultados histopatológicos característicos. El propósito de este informe es dar énfasis al conocimiento de médicos del cuidado primario sobre los tumoures de la vaina de nervios periféricos, y resaltar el papel del dolor e de las imágenes en la sospecha de estos tumoures que evolucionan con equívocos diagnósticos a largo plazo.

Palabras-clave: Diagnóstico; lipoma; schwannoma; tumour de nervio periférico.

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INTRODUCTION

Schwannoma or neurilemmoma may occur isolated or with neurofibromatosis type 2. Common sites are head and neck, extremities, mediastinum, retroperitoneum, lumbar region, the acoustic nerve and the dura mater (1–4). Most cases appear with nonspecific findings and the main features are local mass and pain (5, 6). Grossly, schwannoma is a firm grayish tumour, rarely more than 10 cm in diameter, which may contain cystic or xanthomatous degenerations. During its development, the tumour displaces the nerve of origin and the axons often remain out of the mass body (3). Ultrasonography is one method of choice for the initial evaluation of

this soft-tissue tumour (3). Computed tomography studies reveal hypodense and circumscribed masses with heterogeneous features due to different cell densities and degenerations. The magnetic resonance imaging T1 and T2-weighted show signals of low or intermediate intensity corresponding to variable cellularity; while areas with signal of high intensity may indicate cystic degenerations (4, 7). The treatment is surgical and recurrences are uncommon (5, 6, 8). Although of low frequency, malignant changes have been described in schwannomas (8). The purpose of this report is to emphasize the need for greater awareness of longstanding undetected benign peripheral nerve sheath tumours. In addition, Tinel's sign and images from eco-Doppler assessment are important clues suggestive of this condition.

Case Report

A 69-year old man, presented with a decade history of a subcutaneous nodule followed by localized pain in the right

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lumbar region. At first, the slowly growing painless nodule was interpreted by the patient's primary care physician either as a benign cyst or a small lipoma. He reported that the painful episodes appeared several years later, usually evoked by local pressure, and showed a gradually progressive intensity, which recently reached 4/10 in the analogue scale. Frequently, the sensation was "electric shock-like". A firm subcutaneous nodule was palpated fixed to underlying structures, with 3 cm in diameter, and without associated skin changes. Because Tinel's sign was found positive, nerve compression by lipoma was the main initial hypothesis. The ultrasonography showed a solitary solid nodule of precise limits, with no calcifications (Fig. 1) and its vascularization

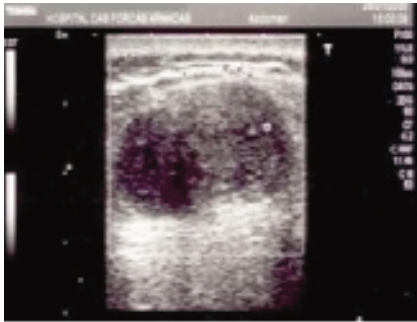


Fig. 1: The lumbar nodule (34 x 24 x 19 mm) shown by ultrasonography imaging.

was registered as monomorphic wave forms by echo-Doppler (Fig. 2). The excised tumour appeared round, firm and

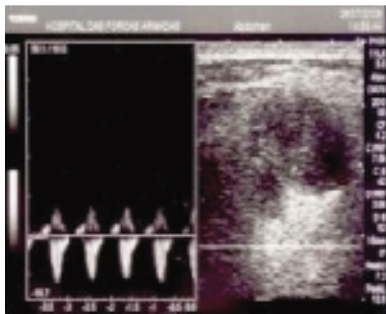


Fig. 2: Monomorphic waveforms obtained from central tumour vascularization.

grayish, with a diameter of 3.5 cm. Histopathological and immunohistochemistry data established the diagnosis of a benign neurilemmoma. The tightly organized Antoni A pattern was seen with highly cellular zones and Verocay bodies (Figs. 3, 4), in addition to the loosely arranged Antoni B cell pattern (Fig. 3). The cells from the Antoni A areas were immunoreactive for S-100 protein. Post-surgery evolution was uneventful and the patient was discharged home with no pain.

DISCUSSION

The diagnosis of a schwannoma is challenging, depends upon the grade of suspicion and is based on clinical and neuro-

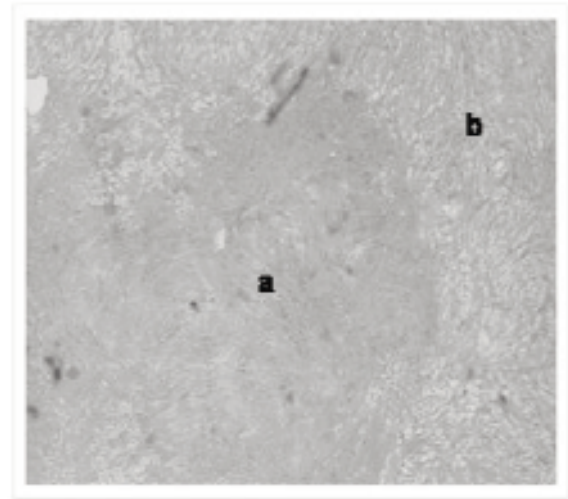


Fig. 3: Microscopic features of Antoni A (a) and Antoni B (b) patterns are seen. HE X 10.

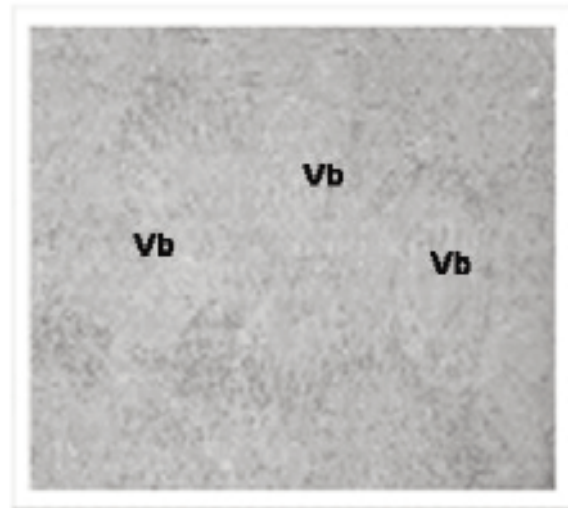


Fig. 4: Areas of Verocay bodies (Vb) are seen surrounded by nuclei in palisades. HE X 40.

imaging data (2, 4, 7). Neurofibroma constitutes the main differential diagnosis of subcutaneous schwannomas (5). This tumour is described associated with both neurofibromatosis type 1 and herniated discs, or may mimic psychogenic pain, aneurysm in the extremity, lung tumour, synovial cyst, radiculopathy and lipoma (4, 6, 8). Conditions to be ruled out include: haemangioma, haemangioblastoma, lymphangioma, fibrolipoma, desmoid tumour, chondroma, haemangiopericytoma, sarcoma, metastases, traumatic neuroma, perineurioma, granular cell tumour, ganglion cysts or malignant tumours of peripheral nerve sheath (2, 3, 5, 8). As aetiologic mistakes are common, the diagnosis of a schwannoma may be delayed (1, 2, 5, 8).

In the present case, the previous diagnosis of lumbar pain caused by peripheral nerve compression due to a benign fatty tumour is a rare phenomenon as found by Flores and

Carneiro (9). In fact, a real compression effect of the lipoma on the nerve was found only in a small number of cases.

Nawabi and Sinisi (6) studied 25 patients with schwannomas and described an average delay in diagnosis of four years, ranging from 2 months to 30 years. Similarly, in the present report, the diagnosis was established after a decade. Ancient schwannoma is a tumour variant whose main characteristics are its large size, Tinel's sign and a long mean interval (near 8 years) between the onset of symptoms and surgery (7). Therefore, the hypothesis of a variant tumour constituted a major concern in the present case. However, neither ultrasonographic nor histopathologic studies disclosed tumour degenerative changes and diffuse hypocellular areas, which are hallmarks of the ancient schwannomas. Moreover, in accordance with Isobe *et al* (7), variant schwannomas have been exclusively described in the lower limbs or retroperitoneum. Although neuroimaging from computed tomography and magnetic resonance are useful in establishing the diagnosis of this tumour, they were not available. However, the ultrasonographic study showed characteristics of the subcutaneous solid nodule considered suggestive of a benign tumour as described by Gruber *et al* (3). Although the schwann cells may give origin to malignant neoplasms as well, this condition has been rare (10). Furthermore, the histopathologic findings disclosed the Antoni A and Antoni B classical patterns in addition to cells immunoreactive for S-100 protein (4). Therefore, the diagnosis of a typical benign subcutaneous schwannoma could be established. Schwannomas are peri-pheral nerve neoplasms that should be considered as aetiologic possibility

in patients presenting with solitary soft-tissue tumours, and must be well evaluated.

The diagnosis of soft-tissue schwannoma depends entirely on the physician awareness. Pain characteristics and image features raise the diagnostic suspicion, while histopathologic features are the mainstay for the definitive diagnosis of the tumour.

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