Mesentery Neurilemmoma: CT, MRI and Angiographic Findings

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Abstract

Mesenteric neurilemmoma is extremely rare. We present a case of a 45-year-old man with mesenteric neurilemmoma, with CT, MRI and angiographic findings. The patient was healthy and had had no symptoms previously. CT and MRI images revealed a 2.2-cm well-defined, soft-tissue mass adjacent to the posterior border of the left lobe of the liver. The tumor mass displayed a heterogeneous low signal on T2-weighted image and peripheral enhancement after gadolinium administration. Angiography showed a hypervascular mass beneath the tail of pancreas, which was supplied by small branches of middle splenic artery. Histopathology revealed a mesentery neurilemmoma composed of spindle tumor cells.

Key words: angiography, computed tomography (CT) scan, magnetic resonance imaging (MRI), mesentery, neurogenic tumor

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Introduction

Neurilemmoma (or schwannoma) is a benign neurogenic tumor arising from the sheath of peripheral nerves. It occurs predominantly in the head and neck, extremities, mediastinum or retroperitoneum. Mesenteric neurilemmoma is extremely rare (1). We present a patient with mesenteric neurilemmoma, with CT, MRI and angiographic findings.

Case Report

A 45-year-old man was said to have an abdominal mass detected incidentally in a health examination by ultrasound, which was then followed up with CT scan (Fig. 1). He was healthy and had had no symptoms previously. CT scan images revealed a well-defined, soft-tissue mass, measuring 2.2×1.7-cm, adjacent to the posterior border of the left lobe of the liver. Six months later, he received a follow-up MRI scan and then followed up with angiography. The tumor mass displayed heterogeneous low signal on T2-weighted image and peripheral enhancement after gadolinium administration (Fig. 2). Angiography showed a hypervascular mass beneath the tail of the pancreas, which was supplied by small branches of the middle splenic artery (Fig. 3). Differential diagnosis might include pancreatic tissue supplied by the pancreatic magna artery, a true lesion from the pancreas, desmoid tumor, mesentery lymphoma, sarcoma and hemangioma. Surgical excision was then performed and histopathology revealed a mesentery neurilemmoma composed of spindle tumor cells (Fig. 4).

Discussion

Neurilemmoma is an encapsulated, slow-growing neoplasm arising from Schwann cells. It can be intracranial, in the spine, or extracranial (1). The most common age of patients is 20 to 50 years. Of all neurilemmoma, 90% are solitary and 10% are multiple. Histologically, the tumor is S-100 protein positive (neurogenic) and has two components: Antoni type A (cellular component) and Antoni type B (myxoid component) (1, 2).

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2579
Figure 1. Dynamic three-phase CT images. (A) Plain image without contrast, (B) contrast-enhanced arterial phase, (C) venous phase, (D) delayed phase images revealed a well-defined, soft-tissue mass (arrow), measuring 2.2×1.7-cm, adjacent to the posterior border of the left lobe of the liver. The tumor mass displayed heterogeneous enhancement after contrast administration.

Figure 2. MRI images. (A) T1-weighted, (B) T2-weighted, (C) gadolinium-enhanced arterial phase T1-weighted, (D) delayed phase images. The tumor mass (arrow) displayed heterogeneous low signal on T2-weighted image and peripheral enhancement after gadolinium administration.
Figure 3.  Angiography showed a hypervascular mass (arrow) beneath the tail of the pancreas, which was supplied by small branches of middle splenic artery.

Figure 4.  Photomicrograph. The tumor was composed of spindle tumor cells with nuclear palisading and focal myxoid change and hemosiderin deposition in stroma on Hematoxylin and Eosin staining (A). The tumor cells were strongly positive for S-100 protein by immunohistochemical analysis (B).

ences, collagenous regions, xanthomatous change and cyst degeneration (2, 3). Loose cellularity with diffuse edematous change may result in minimal contrast enhancement. On MRI, neurilemmoma show low signal intensity on T1-weighted images and heterogeneous signal intensity on T2-weighted images. On T2-weighted images, the hypercellular Antoni A component displays a hypointense signal and the hypocellular Antoni type B component, a hyperintense signal (2, 3). With gadolinium administration, the enhancement portion corresponds to the solid component of the Antoni A. If there is degenerative change of the neurilemma, it often shows poor blood supply, cyst formation, calcifications, hemorrhage, and hyalinization (4).

Although intra-abdominal neurilemmoma is often asymptomatic, it may cause acute abdominal problems such as mechanical bowel obstruction when it gradually grows. Neurilemmoma respond well to local resection, and the recurrence rate is very low.

The authors state that they have no Conflict of Interest (COI).

References