

Case Report

A Case of Retroperitoneal Schwannoma Difficult to Diagnose Preoperatively

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SUMMARY

We report a case of retroperitoneal schwannoma misdiagnosed as a liver tumor in the caudate lobe. Preoperative diagnoses should be made with great care in cases of retroperitoneal tumors contacted to the liver since it is difficult to differentiate from intrahepatic tumors.

Key Words : retroperitoneal tumor, schwannoma, liver tumor

INTRODUCTION

It is difficult to differentiate extrahepatic tumors surrounded by the liver from the intrahepatic ones^{1,2}. Hepatic angiographic computed tomography (CT) has been recognized to be of great value for determining the localization of tumor although diagnosis with great care is essentially needed³. We report a case of retroperitoneal schwannoma misdiagnosed as a liver tumor in the caudate lobe preoperatively.

CASE REPORT

A 37-year-old woman was referred to our institution for an abdominal tumor located in or adjacent to the Spiegel lobe of the liver, detected by computed tomography (CT) (Fig. 1a). No abnormality was recognized in the laboratory data including tumor markers and hepatitis serology tests. Ultrasonography demonstrated a heterogeneous round tumor at a size of 4 cm in diameter surrounded by aorta, porta hepatis, and lateral segment of the liver (Fig. 1b). Magnetic reso-

nance T2-weighted images using Resovist[®] showed a high-intensity tumor with heterogeneous content at left at the left side of the porta hepatis, suspecting adenoma or hypovascular hepatocellular carcinoma (Fig. 1c). According to the tumor location in other shown in radiographic images, tributaries from the left hepatic artery were suspected as the feeding arteries to the tumor by hepatic arteriography although the tumor staining was unclear (Fig. 2a). However, an early phase of proper hepatic angiographic CT clearly demonstrated the tumor as an avascular one (Fig. 2b) although a little central enhancement was recognized at a late phase of the same angiographic CT (Fig. 2c). Preoperatively, the tumor was diagnosed as a hypovascular liver tumor in the caudate lobe. Laparotomy revealed that the tumor was extrahepatic and retroperitoneal under the lesser omentum, sitting on the aorta and IVC. It was surrounded by the hepatic artery and oppressed the caudate lobe of the liver to the right side. The tumor was simply excised from the retroperitoneal tissue. Cut section of the specimen revealed an encapsulated solid tumor measuring 4 × 3 cm exhibited foci of cystic and hyoid change. Microscopically, the tumor exhibited randomly arranged bundles of spindle-shaped cells, some of which showed nuclear palisading (Fig. 2d), and foci of stromal myxoid change and dilated blood vessels. Immunohistochemical staining of

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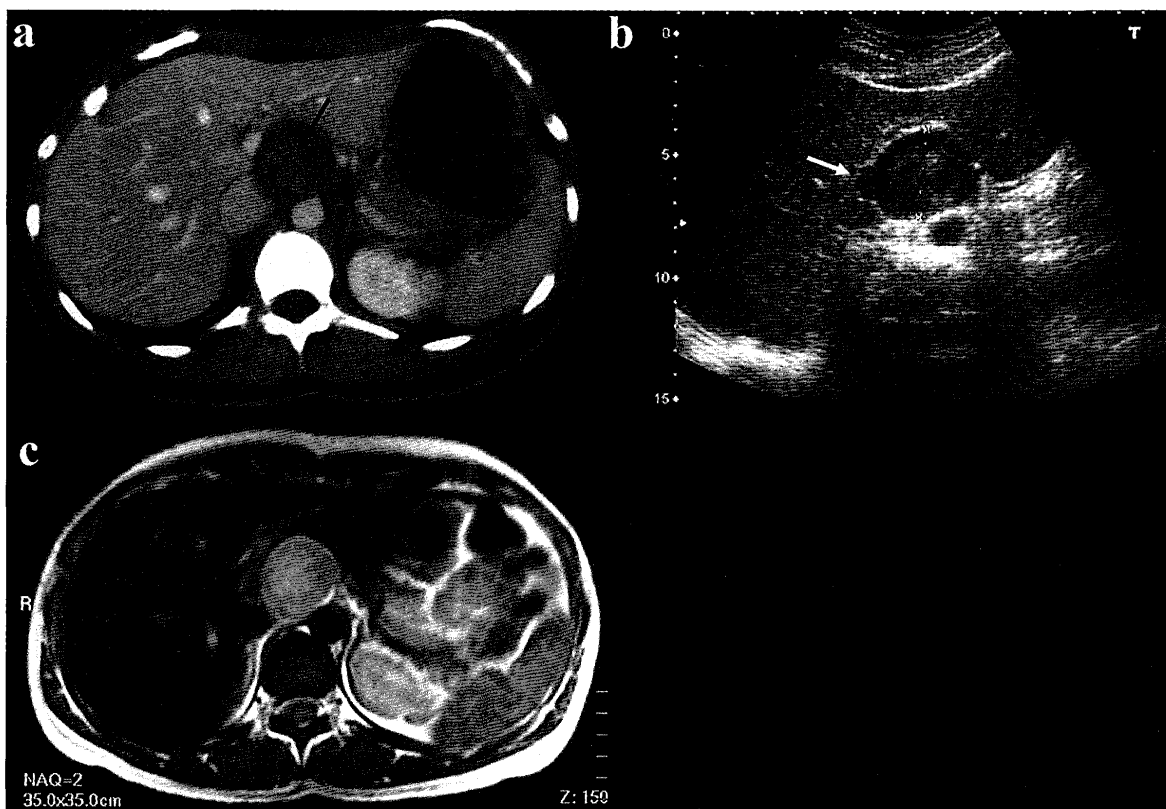


Fig. 1 Enhanced computed tomography showing an abdominal tumor located in or adjacent to the Spiegel lobe of the liver. Arrow indicates a little central enhancement which is characteristic in benign schwannoma. (a). Ultrasonography demonstrating a heterogeneous round tumor at a size of 4 cm in diameter surrounded by aorta, porta hepatis (arrow), and lateral segment of the liver (b). Magnetic resonance T2-weighted images using Resovist[®] showing a high-intensity tumor with heterogeneous content at left side of the porta hepatis (c).

tumor cells revealed global positivity to S-100 protein. Histologically, the tumor was diagnosed as a benign retroperitoneal schwannoma. The patient was uneventfully discharged.

DISCUSSION

Generally, benign schwannomas are frequently found in the head and neck region with 1% in the retroperitoneal, while the malignant ones are most frequent in the extremities with 1.3% in the retroperitoneum. Retroperitoneal schwannomas which account for 0.5-1.2% of all retroperitoneal tumors, are usually benign and malignant transformation is rare, representing less than 2% of all primitive sarcoma of this region⁴. Since the retroperitoneal schwannoma has a rare incidence among retroperitoneal tumors, it is difficult to make the accurate diagnosis preoperatively. Retrospectively, delayed central enhancement observed at enhanced

CT (Fig. 1a) and angiographic CT (Fig. 2c) has been reported to be characteristic in benign schwannomas⁵. However it is clinically important to distinguish an extrahepatic tumor from an intrahepatic one preoperatively because resection of liver parenchyma is necessary in a case of intrahepatic tumor while it is not essentially needed in an extrahepatic case. Angiography is a well-known imaging modality which can determine the specific organ where the tumor originates although it is not very useful in a case of hypovascular tumor. Selective hepatic angiographic CT is reported to be very useful to ascertain whether the tumor is really supplied by the hepatic artery, moreover, whether the tumor is of liver origin with hypovascular or extrahepatic origin³. Preoperative misdiagnosis of the present case was basically led by misjudgment of the images provided by hepatic angiography and hepatic angiographic CT. Preoperative diagnosis of hypovascu-

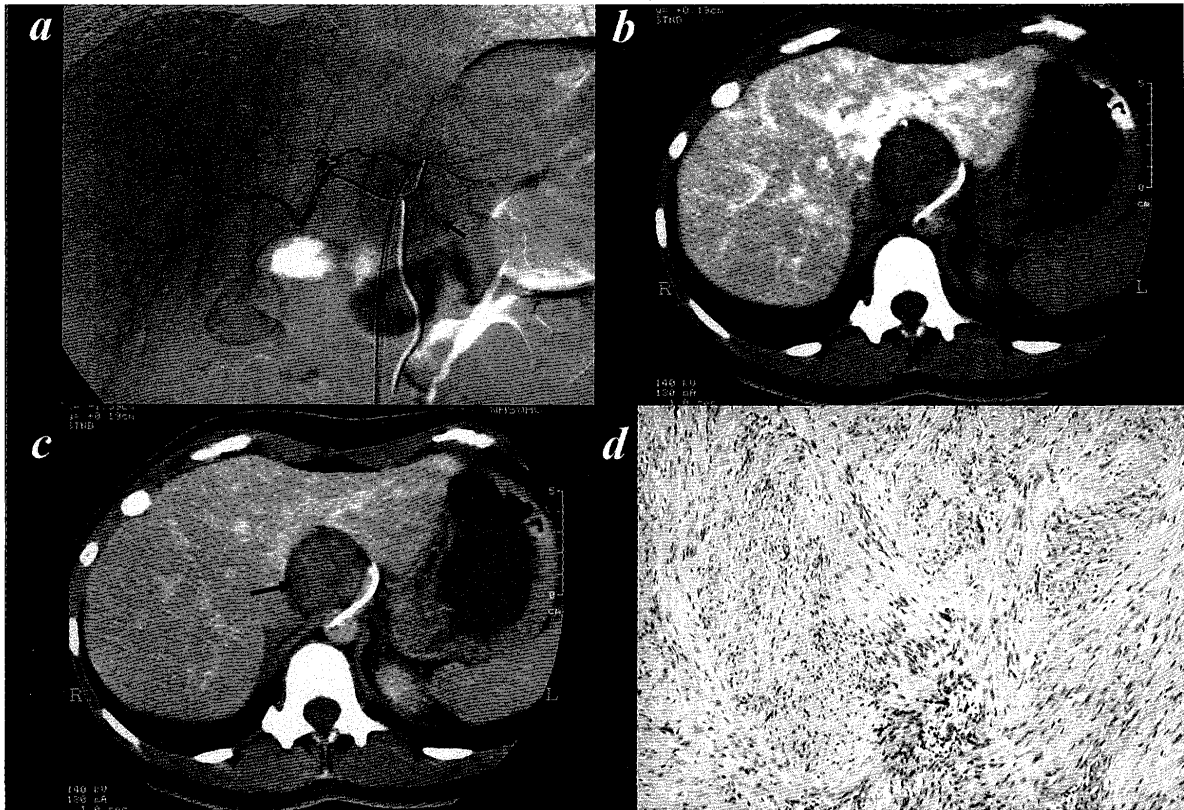


Fig. 2 Hepatic angiography showing tributaries from the left hepatic artery just as feeding arteries to the tumor (arrow) (a). Early phase of proper hepatic angiographic CT demonstrating the tumor as an avascular one with a clear border to liver parenchyma (b). Late phase of hepatic angiographic CT showing a little central enhancement in the tumor (arrow) (c). Micrograph of the resected tumor showing randomly arranged bundles of spindle-shaped cells. (HE \times 100) (d).

lar liver tumor suggested that the tumor might be a scirrhous-type hepatocellular carcinoma or combined hepatocellular–cholangiocellular carcinoma if it was a case of hepatocellular carcinoma¹⁾. Retrospectively, hepatic angiography did not demonstrate a clear staining of the tumor in the area supplied by the left hepatic artery (Fig. 2a), furthermore, the angiographic CT showed a clear border between enhanced liver parenchyma and unenhanced tumor (Fig. 2b). Moreover, discrepancy of respiratory movements between the liver and the tumor on ultrasonography may be of diagnostic value if it is noticed¹⁾. Regrettably, it was not recognized in the present case. Treatment of benign schwannomas is simple excision. Recurrent disease is extremely rare even after partial resection⁵⁾. For malignant cases, complete surgical resection without microscopic residuum is likely to offer the best chances for long-term survival⁶⁾.

It is concluded that careful judgment of the images

provided by the modalities including angiography, angiographic CT, and ultrasonography may lead to the accurate determination of tumor location in cases of retroperitoneal tumors contacted to the liver.

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