Solitary fibrous tumor (SFT), a rare neoplasm, occurs preferentially in the pleura, but also in serosal cavities such as the peritoneum, pericardium, and liver. SFT can also develop in non-serosal cavities such as the upper respiratory tract, meninges, oral cavity, orbit, thyroid, and soft tissue. The histogenesis of SFT is controversial, but mesenchymal origin is preferred rather than mesothelial origin.

We herein report a case of solitary fibrous tumor of the liver presenting with hypoglycemia.

**Case Report**

A 75-year-old man was admitted to our ward on account of abdome nal fullness and body weight loss of 6 kg over 6 months. He also had chills and fever, around 37° to 38°C, for 2 months. He was a healthy HBV carrier for years. He had received extracapsular lens extraction with intraocular lens implantation 4 years before. Physical examination revealed mild palor face. He had tenderness over the right upper abdominal quadrant. The liver was palpable at 6 cm below the right costal margin and the upper liver margin was located at the sixth right intercostal space.

Laboratory data showed a white cell count of 8,210/cumm, hemoglobin 11.3 g/dl, fasting blood sugar 40 mg/dl and alkaline phosphatase 145 U/L (normal range 10-95 U/L). Serum albumin and aminotransferase levels were within normal limits. The serum levels for tumor markers (carcinoembryonic antigen, CEA; alpha fetoprotein, AFP) were within normal limits. Ultrasonography revealed a giant ovoid mass in the right lobe of liver. The dynamic computed tomography also depicted a mass occupying the right lobe of liver. The tumor was well-defined and measured about 20 cm.

Liver biopsy showed fibrous tumor. Right lobectomy was performed and the tumor was resected. Pathological examination showed spindle-shaped and fibroblast-like cells within the collagenous stroma. On immunohistochemical stains, these spindle tumor cells showed CD34 positive reactivity. The post-operative course was uneventful and there was no more hypoglycemia. The patient recovered smoothly, regained his body weight, and was alive without evidence of disease recurrence at the last follow-up visit in November 2000.

**Key Words**

CD34; hypoglycemia; liver neoplasm; solitary fibrous tumor
cm in size. On angiography, the tumor showed early arterial enhancement and delayed venous washing out, but no invasion of great vessels (Fig. 1). Sono-guided liver biopsy showed proliferation of spindle cells in a fibrous background. There was little cellular atypia or pleomorphism of these spindle cells. There was neither mitosis nor inflammatory cell infiltration. Under the impression of fibrous tumor, surgical resection was performed. The specimen consisted of S4, S7 and S8 of the liver, measuring up to 21×20×18 cm³ (Fig. 2). The tumor was well circumscribed, firm, lobulated, gray white with whorled and fasciculated, focal myxoid, cystic change and necrosis (Fig. 3). Histology showed a mixture of spindle-shaped fibroblast-like cells arranged in haphazard and storiform pattern with in the collagenous stroma. On immunohistochemical stain for CD34, these spindle tumor cells were strongly positive for immunoreactivity (Fig. 4). Staining for HHF-35, S-100 and cytokeratin were all negative. The pathological diagnosis was solitary fibrous tumor of the liver. The patient was then regularly followed up at our OPD. There was no more chills, fever, and hypoglycemia. He gained body weight gradually.

Fig. 1. The abdominal CT demonstrated a huge mass occupying in right lobe, well-defined, without great vessel invasion, about 20 cm in size.

Fig. 2. The tumor of the liver, consisting of S4, 7 and 8 measuring up to 21×20×18 cm³, was well-circumscribed, firm, lobulated, gray white with whorled and fasciculated, focal myxoid, cystic change and necrosis.

Fig. 3. Spindle cell tumor (arrow) was surrounded by fibrous capsule (curved arrow) beside the liver (open arrow). (hematoxylin eosin stain; original magnification ×40).

Fig. 4. CD34 staining showed the brown-reddish color of spindle cells (arrow) within the faint blue color of collagenous stroma (curved arrow). (CD34 staining; original magnification ×100).
Discussion

Solitary fibrous tumor of the liver is a rare neoplasm. To our knowledge, only 21 cases have been described in the English literature to date. The mean age of the patients was 55 years old and thirteen patients were men. The clinical features in cluded abdominal fullness and mass, body weight loss, vomiting, diarrhea, fatigue, and hypoglycemia. Body weight loss and abdominal mass were the major clinical features. Our patient had chills and fever but was with out obvious infection source. On the histological examination, there were focal myxoid, cystic change and neo-crosis, but no inflammation in the peritoneum. This might imply that his fever was not re lated to tumor in fecal infection. On the other hand, the computed tomography showed some scattered lower attenuation areas, which indicated the presence of tumor necrosis. Since fever sub sided after tumor resection, we pre sume that tumor necrosis or tumor infection source. On the histological examination, the patient had chills and fever but was without obvious infection source.

There is little information on possible correlation between tumors and hypoglycemia. The hypoglycemia was identified pre-operatively and resolved after surgery in our patient. The hypoglycemia was also identified in four patients, including ours, who had hypoglycemia. The hypoglycemia was induced by tumor necrosis or tumor infection. The hypoglycemia was induced by tumor necrosis or tumor infection. The hypoglycemia was induced by tumor necrosis or tumor infection. The hypoglycemia was induced by tumor necrosis or tumor infection. The hypoglycemia was induced by tumor necrosis or tumor infection. The hypoglycemia was induced by tumor necrosis or tumor infection. The hypoglycemia was induced by tumor necrosis or tumor infection. The hypoglycemia was induced by tumor necrosis or tumor infection. The hypoglycemia was induced by tumor necrosis or tumor infection. The hypoglycemia was induced by tumor necrosis or tumor infection. The hypoglycemia was induced by tumor necrosis or tumor infection. The hypoglycemia was induced by tumor necrosis or tumor infection. The hypoglycemia was induced by tumor necrosis or tumor infection.

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