Case report

Intrahepatic sarcomatous cholangiocarcinoma

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Abstract: A 77-year-old man, diagnosed with a liver tumor, was referred to our hospital. Abdominal ultrasonography demonstrated a low echoic mass in the liver S2 region, and abdominal CT confirmed the presence of a round low-density mass 7 cm in diameter. Enhanced angio-computed tomography (CT) showed a ring-like form with a pale periphery. In the delayed phase of angio-CT, the inside of the mass was enhanced, showing septal stricture. Abdominal magnetic resonance imaging (MRI) revealed a heterogenous low intensity area in T1-weighted images, with a clear high intensity border becoming apparent in T2-weighted images. Stretching of the hepatic artery was evident on the arterial phase of angiography, while an avascular area was apparent in the lateral segment of the liver in the portal phase. Lateral segmentectomy was performed. The size of the tumor was 6 x 6 x 5 cm. On macroscopic cross section, it was white and clearly demarcated from the surrounding tissue. Microscopic observation of H&E-stained specimens did not show any glandular formation. The tumor consisted of an irregular fascicular arrangement of spindle-shaped and round cells with poor intercellular adhesion. While there was no region containing differentiated epithelial components, silver impregnation staining revealed structures resembling regenerating bile ducts. The tumor cells were positive for wide-keratin, and for vimentin staining. Tumor cells were carcinoembryonic antigen (CEA)-positive and alpha-feto protein (AFP)-negative. From the above findings, the tumor was judged to have originated from epithelium rather than from mesenchymal elements. The final diagnosis was intrahepatic cholangiocarcinoma with secondary sarcomatous transformation, rather than hepatocellular carcinoma.

Key words: sarcomatous change, intrahepatic cholangiocarcinoma, immunohistochemistry, CEA-positive

Introduction

Cases of sarcomatous morphological change in malignant liver tumors of various histopathological forms have been reported, most of them being cases with coexisting elements of hepatocellular carcinomas, or cholangiocarcinomas, or both. Cases with all tumor cells showing a sarcomatous morphology have only rarely been reported. In the present study, we report a case diagnosed as an intrahepatic sarcomatous cholangiocarcinoma on the basis of the results of silver impregnation staining and immunohistological investigation.

Case report

A 77-year-old man was found to have a liver tumor at another hospital, and an intrahepatic cholangiocarcinoma or metastatic tumor was suspected from the computed tomography (CT) and angiography findings. The patient was referred to our hospital on August 18, 1993, and admitted on that day. Neither anemia nor jaundice was present. The abdomen was flat and soft. The liver tumor and the spleen could not be palpated. Slight tenderness at the epigastrium was evident, but no other physical signs, including palmar erythema and arachnoid hemangioma, were found. Hematological examination revealed a slight decrease in platelet count, and biochemical examination showed slight elevation of transaminases, biliary enzymes, and colloid
Blood coagulation activity was normal. Hepatitis B surface (HBs) antigen and antibody were negative and the tumor markers AFP, CEA, and carbohydrate antigen (CA)19-9 were within the normal ranges (Table 1). Abdominal ultrasonography demonstrated a low echoic mass with a slightly obscure boundary and relatively uniform content in the liver S2 region (Fig. 1). Abdominal CT showed a round low-density mass, 7 cm in diameter, mainly in the same S2 region, the periphery of which was slightly enhanced to form a ring-like shape on angio-CT. In the delayed phase of angio-CT, the inside of the mass was enhanced, showing septal stricture (Fig. 2). Abdominal magnetic resonance imaging (MRI) revealed a low intensity area of heterogenous content in T1-weighted images. Similar T2-weighted images were obtained, but with a clearer high intensity border (Fig. 3). Abdominal angiography showed a stretching of the hepatic artery in the arterial phase, while in the portal phase, it showed an avascular area corresponding to the lateral segment of the liver (Fig. 4). According to the above-mentioned findings, a diagnosis of cholangiocarcinoma of the left lateral lobe was made, and lateral segmentectomy was performed on October 1. The tumor was classified as T2, LSt, H1, nodule type, Eg, Fc(-), Fc-inf(--), S0, N(--), Vp0, B0, P0, TW(--), Z0, stage II; according to the General Rules for Clinical and Pathological Study of Primary Liver Cancer of the Liver Cancer Study Group of Japan.11

The postoperative course was uneventful and in September, 1994, the patient is being followed as an outpatient without any sign of recurrence.

Histochemical and immunohistochemical study of the resected specimen

The resected specimen was fixed in 10% formalin and then cut into 0.5-cm slices for detailed gross examination.

Table 1. Laboratory data on admission

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