Double Cancer of the Liver and Stomach with Situs Inversus Totalis
—A Case Report—

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ABSTRACT: A case of a 66 year old woman with situs inversus totalis who developed hepatocellular carcinoma (HCC) as well as stomach cancer, is reported herein. The patient was successfully treated with a left hepatic lobectomy for the HCC and a B-I gastrectomy for the stomach cancer. Careful anatomical mapping made it possible to perform a combined resection of the liver and stomach in the presence of this congenital anomaly.

KEY WORDS: situs inversus totalis, hepatocellular carcinoma, stomach cancer, double cancer

INTRODUCTION

Complete situs inversus is a rare congenital condition with an incidence of only about 1 in 8000.1 Although this anomaly is not considered to be a premalignant entity, several malignant neoplasmas have been sporadically reported in association with situs inversus.1-a2

We recently encountered a case of double cancer originating from the liver and stomach for which extensive hepatectomy combined with gastric resection was performed. We report herein our surgical experience of this rare case.

CASE REPORT

A 66 year old woman was admitted to our institute on December 15, 1987, with a 3 week history of left upper quadrant pain. X-ray and ultrasonic examinations taken at a local hospital disclosed a huge lesion in a liver which was located on the left side of the body. She was therefore referred to us for further evaluation and treatment. Physical examination on admission revealed a moderately nourished female. The liver was palpable 6 cm below the left costal margin and there was neither ascites nor jaundice. The results of her blood studies were as follows: hemoglobin: 12.8 g/dl, white blood cell count: 5,200/mm³, platelet count: 28 × 10⁴/mm³, and prothrombin time: 109 per cent. Serum alanine and asparate aminotransferases were 80 IU/L and 121 IU/L, respectively. Alkaline phosphatase was slightly elevated at 340 IU/L, the normal range being less than 240 IU/L. Serum bilirubin and total protein were within normal limits. Although the carcinoembryonic antigen (CEA) was within the normal range, alpha fetoprotein (AFP) had risen remarkably up to 4,000 ng/ml. Hepatitis B surface antigen was positive. Subsequent radiologic studies confirmed a diagnosis of complete situs inversus and CT scan demonstrated a large mass with a well-defined margin in the left hepatic lobe, or what would have been the right lobe of the liver in general cases (Fig. 1). Radiouclide imaging with Tc-99m phytate revealed a large defect in the compatible area.
of the left-sided liver. Selective arteriography showed a huge hypervascular tumor supplied by the left hepatic artery arising from the superior mesenteric artery (Fig. 2). In the venous phase, the left main trunk of the portal vein was completely occluded. These findings were consistent with a diagnosis of hepatocellular carcinoma (HCC). In addition, routine gastrofiberscopy demonstrated a small depressed lesion in the body of the stomach, the biopsy of which gave a histological diagnosis of signet ring cell carcinoma.

On January 11, 1988, the patient underwent a left hepatic lobectomy for HCC combined with a B-I gastrectomy for stomach cancer. The surgery was uncomplicated with a blood loss of 1,100 ml and an operation time of less than 6 hours. Transposition of the abdominal viscerae was confirmed during the operation but this anatomic anomaly did not hinder the surgical procedures. The resected liver tumor was well-capsulated, soft, and measured $12 \times 12 \times 14$ cm (Fig. 3A). Microscopically, the tumor was diagnosed as hepatocellular carcinoma (Edmondson III), not accompanied by hepatic cirrhosis (Fig. 3B). Histological examination of the stomach specimen revealed early signet ring cell gastric carcinoma, as shown in Fig. 4.

Her postoperative course was uneventful except for a bile leakage for which she underwent reoperation without any problems on day 1. The remnant liver regenerated satisfactorily and she was discharged on the 45th postoperative day. Her AFP de-