[症例報告]Adenocarcinoma of the sigmoid colon with total situs inversus

Adenocarcinoma of the sigmoid colon with total situs inversus

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ABSTRACT

We report a case of sigmoid colon cancer associated total situs inversus in a 78-year-old man. The patient was palliatively treated with a simple sigmoidectmy for sigmoid colon cancer because of massive hepatic metastasis. The resected sigmoid colon showed a localized and ulcerative carcinoma and was histologically, of a moderately-differentiated adenocarcinoma. The patient died of cancer 6 months after the operation. Detailed preoperative evaluation of the patient with total situs inversus and cancer of the abdominal organ is essential in making decisions. When operating on such patients, the ideal position of the surgeon is always on the side of the body that contains the diseased organ for adequate access and orientation. *Ryukyu Med. J., 17(2)101~103, 1997*

Key words: situs inversus, sigmoid colon cancer, preoperative evaluation

INTRODUCTION

Total situs inversus is a rare congenital condition[1-4]. Although this anomaly is unrelated to a malignant entity, malignant neoplasms occasionally occur in patients with total situs inversus[5-9].

We recently encountered a case of sigmoid colon cancer in a patient with total situs inversus. This report describes our surgical experience of this rare case.

CASE REPORT

A 78-year-old male was referred to the Ryukyu University Hospital with a diagnosis of sigmoid colon cancer on October 17, 1994. Four months before his admission, he noted abdominal distention, and then, developed diarrehea with occasional constipation and dark blood in his stools. At a local hospital, barium enema clearly demonstrated a typical "apple core" filling defect in the sigmoid colon. Consequently, he was admitted to our hospital for surgical treatment. His past medical history revealed that he had total situs inversus by chest x-ray and abdominal computed tomography (CT).

On admission, physical examination showed a moderately nourished man. The liver was palpable 5 cm below the left costal margin and a sausage-like mass was palpable in the right lower abdomen.

On admission the laboratory data were as follows: hemoglobin; 11.8g/dl, white blood cell count; 9,800/mm^3, serum GOT; 78 IU/L, serum GPT; 45 IU/L, Alkaline phosphatase; 1,233 IU/L and Lactose dehydrogenase; 3,312 IU/L. Serum bilirubin and albumin were within normal limits. As to tumor markers, CEA was 11.1ng/dl and CA19-9, 830.5U/dl. Chest x-ray film demonstrated the presence of total situs inversus with the heart on the right and the liver on the left (Fig. 1). CT of the chest and abdomen confirmed the dignosis of total situs inversus and

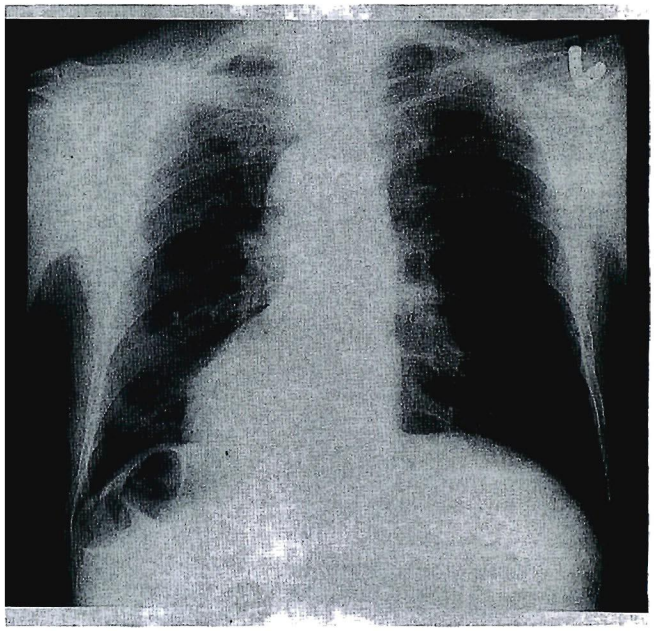

Fig. 1 Chest x-ray revealing total situs inversus. Dextrocardia is present, fundus of the stomach is on right and liver on left.

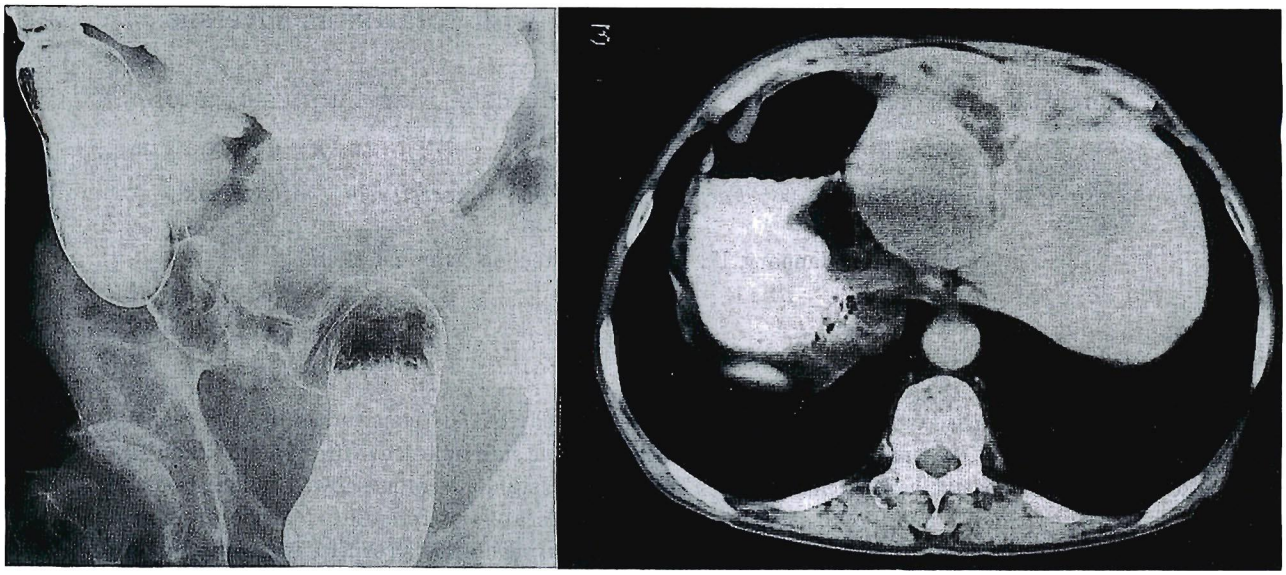

Fig. 2 Barium enema study demonstrating an irregular stricture of the sigmoid colon on the right. (left) CT scan of the abdomen showing the liver with massive metastasis on the left and the stomach on the right. (right)

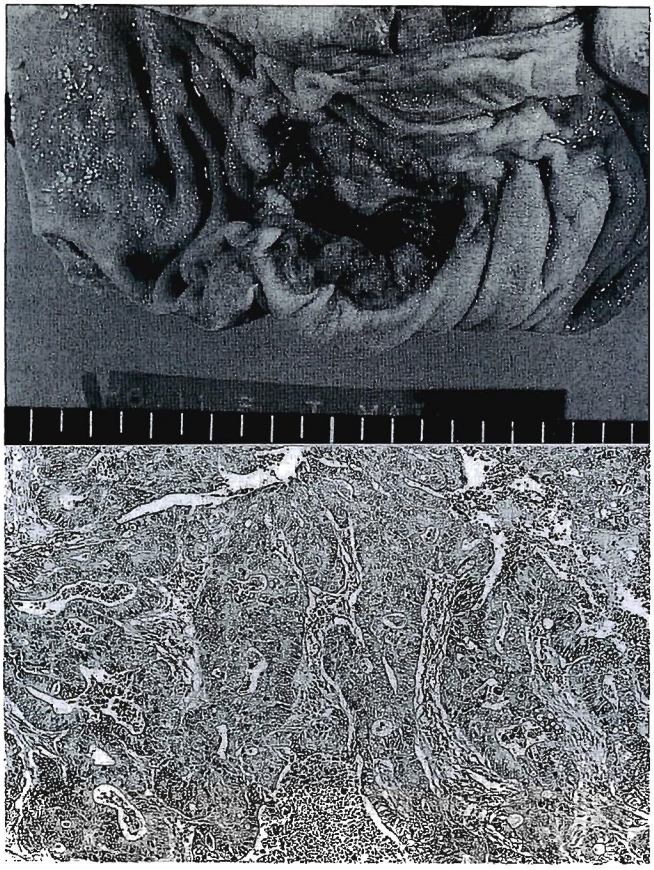

Fig. 3 The resected sigmoid colon showing a localized, ulcerative tumor 4 cm in diameter. (top)
Histlogy of the tumor showing a moderately differentiated adenocarcinoma (bottom) (HE×50).

demonstrated the evidence of hepatic metastasis. Barium enema study revealed an irregular narrowing 4.5cm long of the sigmoid colon (Fig. 2).

The patient underwent a simple sigmoidectomy without radical nodal dissection because of massive hepatic metastasis. At laparotomy, mirror image disposition of abdominal viscera was confirmed.

The resected sigmoid colon showed a localized, ulcerative tumor with an involvement of the mesocolon. Histologically, the tumor was of moderatly-differrentiated adenocarcinoma (Fig. 3).

The patient died of cancer, 6 months after the operation.

DISCUSSION

Total situs inversus is a mirror image transposion of the abdominal and thoracic viscera. In several large surveys, the incidence of total situs inversus is approximately 1 in 8,000 to 1 in 20,000 patients in Europe and America[1,2], and 1 in 1500 to 1 in 4,000 patients in Japan[3,4]. However, the true incidence of total situs inversus is probably higher since some individuals with total situs inversus are completely asymptomatic and don't seek medical attention.

Some but not all cases of total situs inversus appear to be due to an autosomal recessive gene with incomplete penetrance[2]. Both the complete and incomplete forms of situs inversus are frequently associated with other congenital anomalies (cardiac malformations, bronchiectasis, and so on)[10,11]. They are rarely associated with malignant neoplasms involving the stomach, lung, ovary, colon, liver, gallbladder and kidney[5-9,12,13]. In 1984, Kikuchi *et al.* counted 28 cases of carcinoma of the stomach associated with total situs inversus reported in

the Japanese literature[5]. However, there have been few documentations on cancer of the colon occurring in a patient with total situs inversus. To our knowledge, this is the third such case in the English literature[12,13].

We believe that the concurrent evidence of situs inversus with colon cancer in our patient was an incidental phenomenon. A patient with total situs inversus should have identically functioning organ systems as patients with situs solitus, and therefore, clinical and pathological characteristics of lesions should be the same as in a comparable normal patient. In our patient, the total situs inversus seems to have been silent for 78 years and had the cancer not manifested itself, he most likely would have lived a normal, healthy life.

From the surgical point of the view, detailed preoperative anatomic evaluation of the patient is essential since situs inversus is frequently accompanied by other intraabdominal anomalies[11]. Diagnostic modalities such as CT, ultrasonography (US), and angiography will help identify the strategy to follow in the operating room. In addition, knowing whether organs or lymphnode are cancerous will certainly assist the surgeon in making decisions. In our patient, there were no other intraabdominal anomalies, hence, we could decide on the operative procedure.

When operating on a patient with total situs inversus, taking mirror image anatomical transposition into consideration, the surgeons should reposition themselves to afford adequate access and orientation. The ideal position is always on the side of the body that contains the diseased organ. In fact we experienced no anatomical problems when performing cholecystectomy for gallstones in two cases, radical gastrectomy for carcinoma of the stomach in one case and resection of the sigmoid colon in this case with total situs inversus. We believe that this ideal repositioning should compensate for any operative confusion.

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