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Synchronous occurrence of hepatocellular carcinoma and intrahepatic cholangiocarcinoma in both lobes of the liver

LIVER

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ABSTRACT

Occurrence of synchronous double primary liver cancer is a very rare condition. A 48-year-old man underwent lateral sectorectomy and tumor resection from segment (S) 7 and S5 for 3 separate liver tumors. Pathological examination revealed intrahepatic cholangiocarcinoma (ICC) in the lateral sector and hepatocellular carcinoma (HCC) in S7 and S5. This report presents the second case in the literature describing the resection of synchronous double cancers of HCC and ICC localized in both lobes of the liver. We also reviewed the clinical and pathological aspects of this coincidental situation.

Keywords: Double cancer, intrahepatic cholangiocarcinoma, hepatocellular carcinoma, hepatectomy

Case Report

INTRODUCTION

Coexistence of hepatocellular carcinoma (HCC) and cholangiocarcinoma (CC) in the same tumor is reported between 1%-6% (1). However, occurrence of both liver cancers separately in the liver is a very rare condition (2,3). The incidence of double hepatic cancer was reported as 0.25% (4). We present a case with a rare combination of HCC and ICC.

CASE PRESENTATION

A 48-year-old man was admitted with 3 liver masses, which were detected by abdominal computerized tomography (CT). The patient's past medical history included type II diabetes mellitus disease and chronic hepatitis B virus (HBV) infection. Preoperative laboratory findings included aspartate aminotransferase 62 IU/L, alanine aminotransferase 58 IU/L, total bilirubin 0.7 mg/dL, albumin 3.8 g/dL, international normalized ratio 1.14, carcinoembryonic antigen 4.1 ng/mL, alpha-fetoprotein 83 ng/mL, carbohydrate antigen 19-9 52.2 IU/mL, and HBV DNA count $4.10x10^3$. Tumors were located in segment (S) 2-3 (8x6 cm in size), S5 (5x3 cm in size), and S7 (9x10 cm in size) (Figure 1 a-d). Fine-needle core biopsy from the tumor located in S7 revealed a diagnosis of HCC. No metastatic lesion was detected. Lateral sectorectomy, S7 resection, and non-anatomic S5 resection with cholecystectomy were performed. The patient was discharged 15 days after operation. Pathological examination of tumors in the right lobe revealed moderately differentiated HCC without capsule formation. Pathological examination of the tumor in segment 2-3 revealed moderately differentiated ICC (mass-forming variant) without capsule formation (Figure 2, 3). Cirrhosis was prominent. A combination of cisplatin, 5-fluorouracil, leucovorin, and adriamycin was used for chemotherapy in addition to lamivudine treatment. The patient has been followed without recurrence for 6 months after the operation.

DISCUSSION

Allen and Lisa (5) first described the coexistence of HCC and cholangiocarcinoma in 1949. The HCC-ICC combination was classified into in three subtypes, including type A, double cancer (HCC and ICC exist in two different parts of the liver); type B, combined type (HCC and ICC originate from different cells and mingle as they

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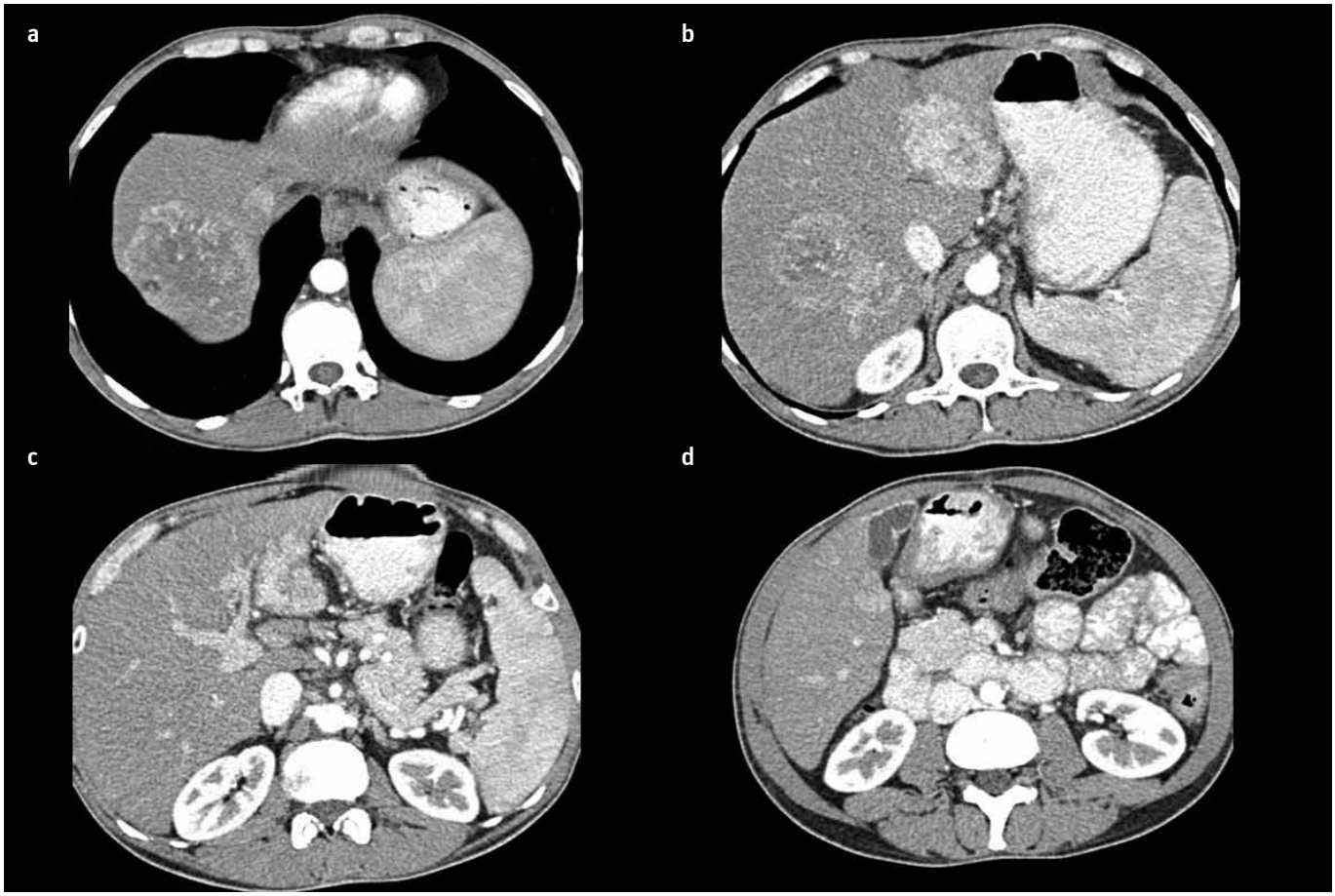

Figure 1. a-d. Dynamic computed tomography (CT). CT showed early wash-out of the tumor (filled arrow) in segment (S) 7 during the portal phase **(a).** Tumors in S7 (filled arrow) and the left lateral sector (blank arrow) were shown in the CT **(b).** Tumor located in S2-3 (blank arrow) kept contrast enhancement during the portal phase **(b, c).** CT showed another tumor in S5 with early wash-out pattern during the portal phase **(d).**

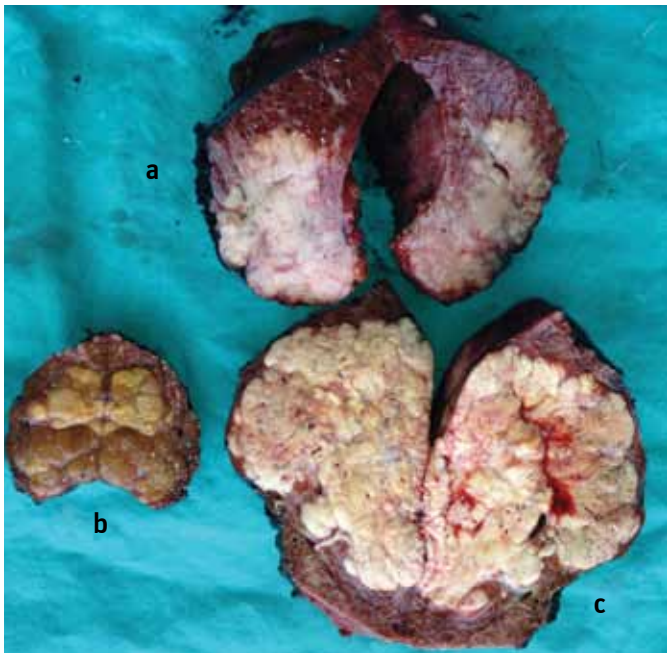

Figure 2. a-c. Cut surface of the tumors. There was a whitish, soft tumor with irregular margins, measuring 80x65x40 mm in the lateral sector **(a).** There was a yellowish-greenish, solid tumor, measuring 50x45x30 mm in segment (S) 5 **(b).** There was a yellowish, solid tumor, measuring 90x90x60 mm in segment S7 **(c).**

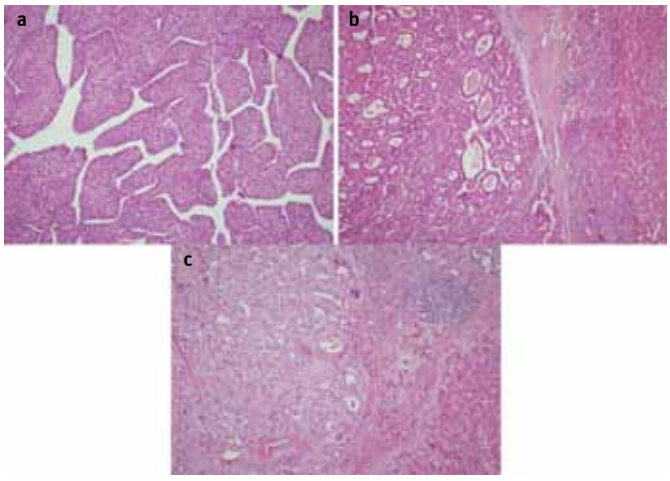

Figure 3. a-c. Microscopic examinations. Moderately differentiated hepatocellular carcinoma (HCC) with macrotrabecular growth pattern (hematoxylin and eosin stain (HE x100)) **(a).** Moderately differentiated HCC with acinar histological pattern was observed in tumor in segment 5 (HE x100) **(b).** Moderately differentiated, mass-forming intrahepatic cholangiocarcinoma with expansive nature was shown (HE x 100) **(c).**

grow); and type C, mixed type (HCC and ICC structures completely integrated in the same mass). Type A tumors are the rarest subtype of the HCC and ICC combination (4). In addition, the placement of tumors separately in both lobes of the liver

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is very incidental. This report presents the second case describing the resection of synchronous double cancers of HCC and ICC localized in both lobes of the liver.

Ethics Committee Approval: N/A.

Informed Consent: Written informed consent was obtained from patient who participated in this case.

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Conflict of Interest: No conflict of interest was declared by the authors.

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