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Preoperative diagnosis of an asymptomatic cancer restricted to the cystic duct

Shuji Komori*, Juji Tsuchiya, Iwao Kumazawa, Hajime Kawagoe, Kimitoshi Nishio, Yuki Misao

Department of Surgery, Ibi Welfare Hospital, Gifu, Japan

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ABSTRACT

INTRODUCTION: Even now, cystic duct cancer (CDC) as defined by Farrar is rare and has a better prognosis than gallbladder cancer, although CDC as defined by Ozden et al., the definition of which could apply to early and advanced cases of CDC, is not rare and has a poorer prognosis than the CDC defined by Farrar.
PRESENTATION OF CASE: A 78-year-old woman with no complaints was found to have a tumor restricted to the cystic duct. Three cytology examinations of the patient's bile could not establish that the tumor was an adenocarcinoma. However, adenocarcinoma was suspected due to the hypervascularity shown on contrast-enhanced computed tomography. Cholecystectomy and extrahepatic bile duct resection with D2 lymph node dissection was performed. The pathological study revealed it to be CDC. Her postoperative course has been uneventful and without recurrence for 21 months.
DISCUSSION: At their first medical examination, many CDC patients are found to have such advanced spread of the cancer to adjacent organs that an extended operation might be necessary. As in our case, better patient outcome results when no lymph node or remote metastasis is present.
CONCLUSION: Diagnosing CDC as early as possible contributes to curative resections and favorable patient outcomes and also allows surgeons to recommend a mini-invasive procedure to their patients rather than extended resection including that of adjacent organs.

1. Introduction

Classic carcinoma originating from the cystic duct, i.e., cystic duct cancer (CDC) was defined by Farrar as (a) growth restricted to the cystic duct; (b) absence of neoplasia in the gallbladder, hepatic ducts, or common bile duct; and (c) histological confirmation of carcinoma cells in the mass.[1] Classic CDC is a rare tumor that has been identified in only 2.6% of all bile duct and 1.5% of all gallbladder cancers.[2–5] Recently, some authors reported that the compared with the new classification of CDC, CDC defined by the classic definition of 60 years ago is outdated, and many CDCs are detected only when they are at a far advanced stage.[6–8] However, patients with the classically defined CDC have good outcomes after surgery and lower rates of regional lymph node metastasis than do gallbladder cancer patients.[9] Therefore, diagnosis of and therapy based on the status of classic CDC are very important.

We report a case of asymptomatic CDC that was suspected preoperatively, and we discuss the available diagnostic and therapeutic strategies for surgical treatment from our experience with the present case and with reference to previously reported cases.

2. Presentation of case

A 78-year-old Japanese woman underwent a medical examination for symptom-free mild liver dysfunction. The patient had hypertension and a past history of cerebral infarction. Enhanced computed tomography (CT) and ultrasonography both showed a hypervascular tumor of 10 mm in diameter in the cystic duct (Figs. 1 and 2); therefore, additional detailed studies were undertaken. Laboratory blood tests were normal except for slight hyperglycemia and a high value of carbohydrate antigen 19-9 (CA19-9) of 99.3 U/ml (normal range: <37 U/ml). A cytological examination was performed with endoscopic retrograde cholangiopancreatography (ERCP) rather than magnetic resonance cholangiopancreatography (MRCP) because CT showed the tumor to be in the cystic duct. The ERCP revealed an obstruction of the cystic duct and no pancreaticobiliary maljunction (Fig. 3). Three cytological examinations of bile taken from the endoscopic nasobiliary drainage tube did not reveal any cancer cells. However, the tumor was suspected to be malignant due to the hypervascularity shown by CT. No regional lymph node swelling, metastasis or direct

* Corresponding author at: Department of Surgery, Ibi Welfare Hospital, 2547-4 Miwa, Ibigawa, Ibi, Gifu 501-0696, Japan. Tel.: +81 585 21 1111; fax: +81 585 21 1112.
E-mail address: b-joel555shuji-k@violin.ocn.ne.jp (S. Komori).

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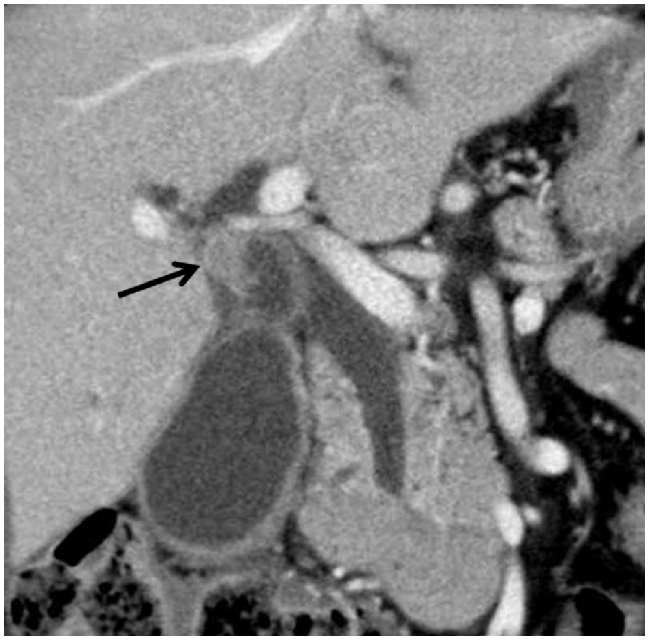

Fig. 1. Enhanced computed tomography showed a hypervascular tumor, 10 mm in diameter, in the cystic duct.

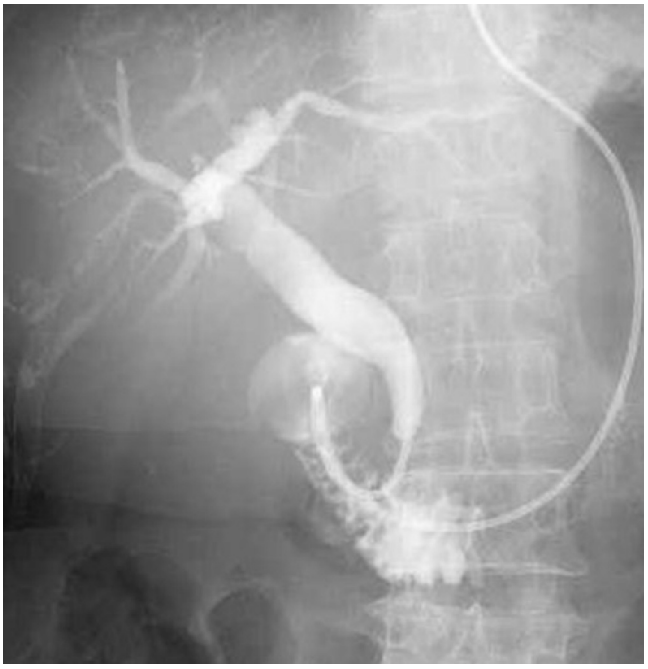

Fig. 3. Endoscopic retrograde cholangiopancreatography showed an obstruction of the cystic duct.

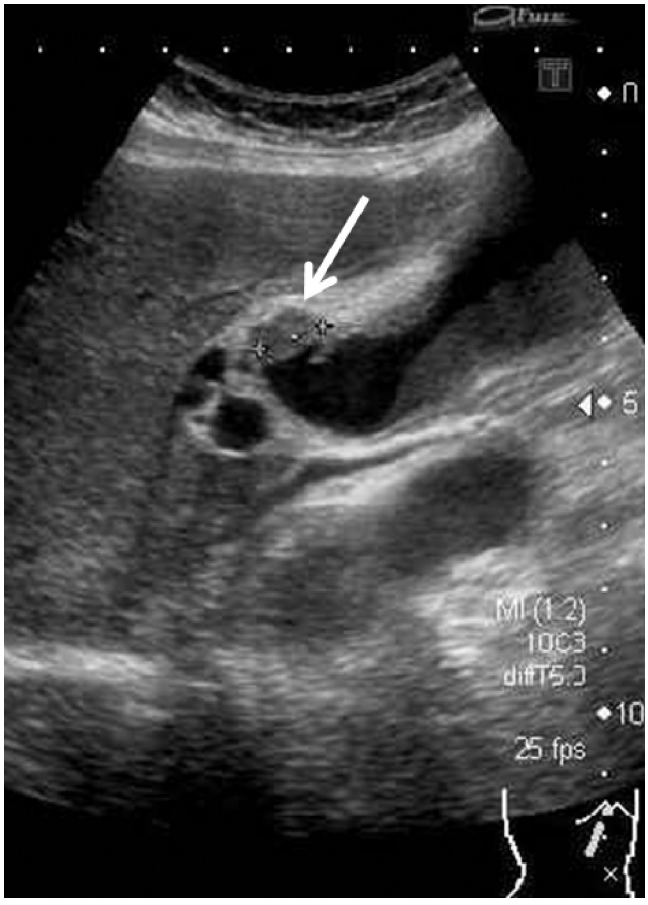

Fig. 2. Ultrasonography also showed a tumor of 10 mm in diameter in the cystic duct.

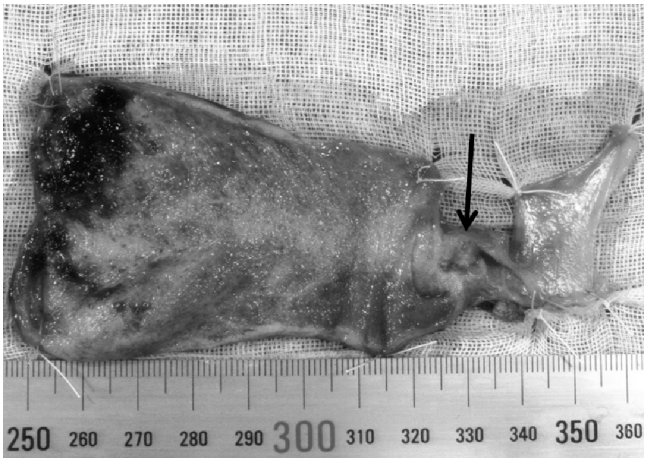

Fig. 4. The surgically resected specimen comprised a 6.0 mm × 5.0-mm nodular infiltrating tumor (arrow) surrounded by a shallow ulcer, 11 mm × 10 mm in diameter, restricted to the cystic duct.

invasion to adjacent organs was detected on chest and abdominal CT scans. We then performed cholecystectomy, extrahepatic bile duct resection and regional lymph node dissection (D2) followed by hepaticojejunostomy.

The surgically resected specimen showed a 6.0 mm × 5.0-mm nodular infiltrating tumor surrounded by shallow ulcer, 11 mm × 10 mm in diameter, that was restricted to the cystic duct (Fig. 4). The pathological study demonstrated the presence of moderately differentiated tubular adenocarcinoma and classified according to the Classification of Biliary Tract Carcinoma of the Japanese Society of Biliary Surgery (2nd English edition) (pStage: II; invasion level: subserosa; lymphatic duct invasion: not detected; vessel invasion: not detected; pHinf0, pBinf0, pPV0, pA0, pBM0, pHM0, pEM0) (Fig. 5). Regional lymph node, liver and distant metastasis and peritoneal dissemination were not noted (pN0, H0, M0, P0). The patient is currently in good health without recurrence at 21 months after surgery.