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Advance renal pelvic cancer caused obstructive jaundice: A case report

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ABSTRACT

We report a case of advanced renal pelvic cancer in a 69-year-old woman who presented with fatigue, appetite loss, and yellow sclera. Contrast-enhanced computed tomography revealed a large lesion mass extending from the right renal pelvis to the duodenum and surrounding enlarged lymph nodes. Gastroduodenal endoscopy revealed a mass in the ampulla of Vater, and an endoscopic biopsy was performed. Histological and immunohistochemical examination of the biopsy specimen confirmed a diagnosis of urothelial carcinoma.

To the best of our knowledge, this is the first report of advanced renal pelvic cancer causing obstructive jaundice.

1. Introduction

Obstructive jaundice is characterized by an obstruction of the biliary system, either intrahepatic or extrahepatic. It can be caused by isolated pancreatic metastases, but it is more commonly associated with primary pancreatic or duodenal cancers. Although there have been a few case reports of obstructive jaundice due to pancreatic metastasis from urothelial carcinoma (UC), no reports of jaundice caused by direct invasion of locally advanced UC have been published.[1]

Relief of biliary obstruction via endoscopic or surgical methods has been the gold standard for achieving biliary decompression, allowing patients with obstructive jaundice to safely undergo chemotherapy, because chemotherapeutic agents are often implicated in causing liver dysfunction.[2] Here, we report a case of advanced renal pelvic cancer with obstructive jaundice, and chemotherapy was performed after biliary drainage via biliary bypass procedure.

2. Case presentation

A 69-year-old woman presented with primary complaints of fatigue, appetite loss, and yellow sclera. Her medical history included hypertension, diabetes mellitus, dyslipidemia, and angina pectoris. Abdominal enhanced computed tomography (CT) revealed a large tumor, measuring 100 × 59 mm in length, with high-density enhancement surrounding the right renal pelvis with hydronephrosis, head of the pancreas, and duodenum (Fig. 1a). In addition, dilatation of the bile and pancreatic ducts were observed (Fig. 1b), and an enlarged para-aorta lymph node was strongly suspected as metastasis (Fig. 1a). On admission day, her Karnofsky performance status (KPS) was 70, and her laboratory parameters showed severe anemia (Hb 6.9 g/dl), elevated liver function (total bilirubin 2.4 mg/dl, alkaline phosphatase 933 mg/dl, lactate dehydrogenase 228 μ/l, gamma-glutamyl transpeptidase 711 μ/l, aspartate aminotransferase 198 μ/l, alanine aminotransferase 189 μ/l), and normal tumor markers (CEA 4.7 ng/ml). Urine cytology was repeatedly performed; however, the results were difficult to differentiate.

The clinical diagnosis of the primary tumor was undistinguished. Gastrointestinal endoscopic findings showed a reddish neoplastic lesion with oozing exposed at the ampulla of Vater, and subsequent biopsy was performed (Fig. 2). Hematoxylin and eosin (HE) staining indicated poorly differentiated adenocarcinoma or UC, and immunohistochemistry results were positive for CD7, CK20, GATA3, and Ki67 (50%) but negative for CDX2 (Fig. 3); these findings confirmed a diagnosis of aggressive advanced UC (cT4N1M0). Thus, we considered starting chemotherapy as soon as possible. However, we believed that it was necessary to first improve loss of general condition due to progressive anemia caused by mechanical stimulation for eating and progressive obstructive jaundice. In fact, she underwent frequent blood transfusions due to progressive anemia, and her T-Bil level increased to a maximum of 11 mg/dl after her hospitalization. Since endoscopic biliary drainage

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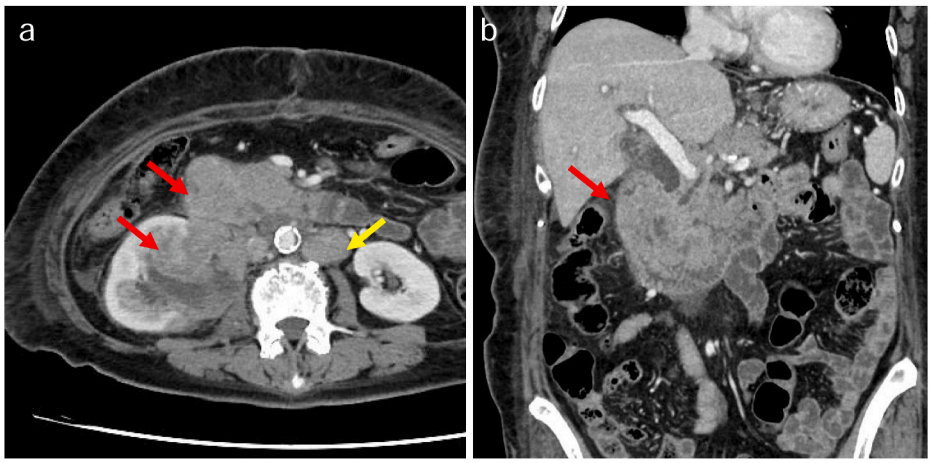

Fig. 1. (a) Contrast-enhanced computed tomography (CT) scan shows a huge mass surrounding the right renal pelvic and duodenum (red arrows) with para-aorta lymph node enlargement (yellow arrow) in axial view. (b) CT reveals that the biliary tract was obstructed by the mass (red arrow) in coronal view. (For interpretation of the references to colour in this figure legend, the reader is referred to the Web version of this article.)

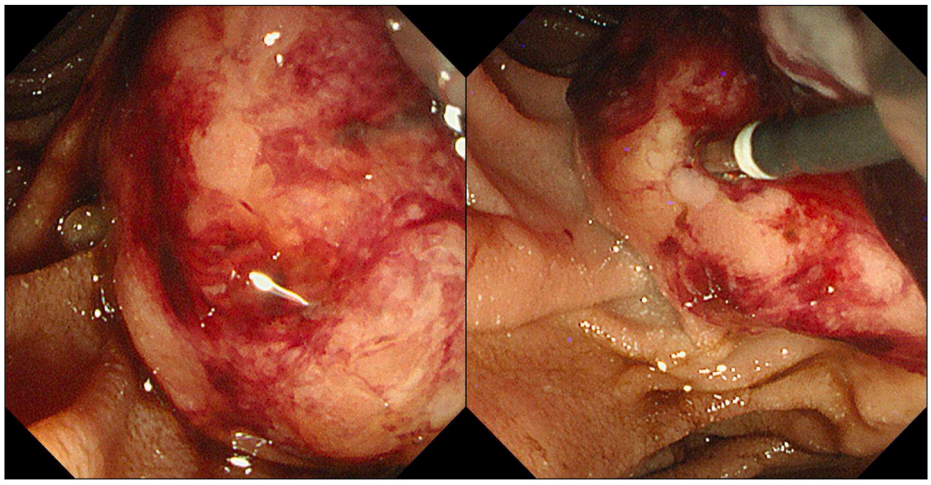

Fig. 2. The upper endoscopy revealed a reddish protruding lesion oozing in the duodenal papilla, and punched biopsy was performed.

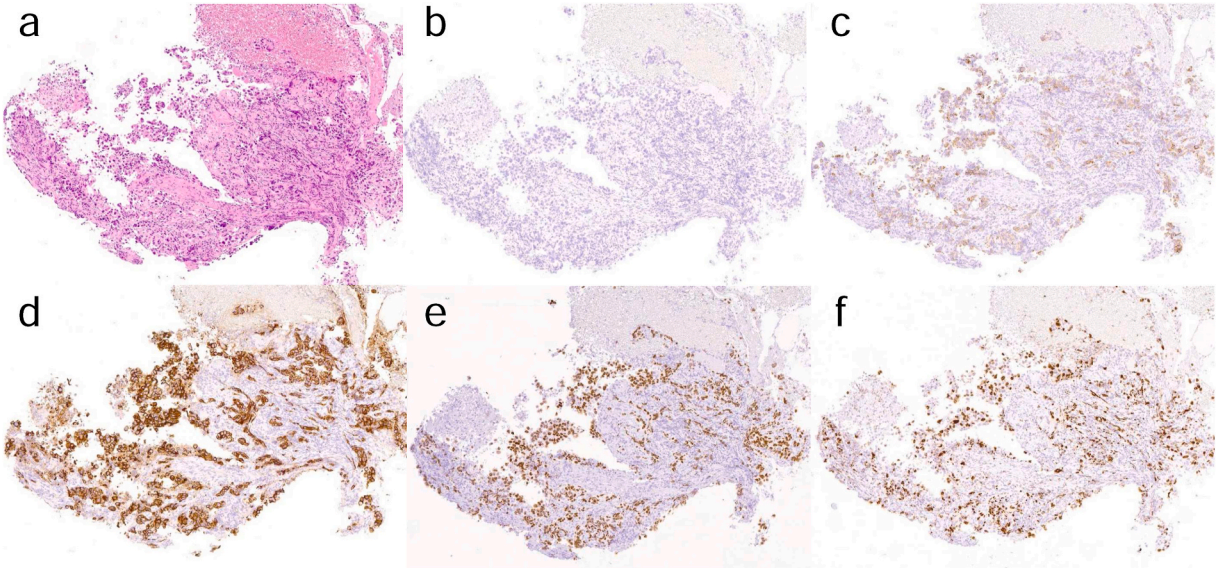

Fig. 3. Hematoxylin and eosin (HE) staining and immunohistochemical staining of the duodenal tumor (× 40): (A) HE staining, (B) CDX2 (negative), (C) CK20 (weakly positive), (D) CK7 (positive), (E) GATA3 (positive) and (F) MIB1 (positive; 50%).

was difficult due to tumor obstruction, biliary bypass and palliative gastrojejunostomy were performed. Her postoperative course was uneventful, and she could start eating without developing progressive anemia. Symptoms, including fatigue and jaundice, rapidly improved. We scheduled chemotherapy at this time because her KPS had increased from 70 to 100, and laboratory findings, including Hb and liver function levels, had returned to normal. Next, she started chemotherapy with gemcitabine and cisplatin (GC) and continued it without progression.

3. Discussion

Urothelial cancer was reported to be the tenth most common cancer among Japanese males in 2007. Upper tract urothelial carcinoma, including renal pelvic cancer, is a rare type of urothelial cancer that accounts for 5%–10% of all urothelial cancers. The most common symptom is hematuria, and subsequently lateral flank pain, fatigue, and abdominal mass.[3] Obstructive jaundice is an extremely rare presenting feature, and the causes in such cases can be due to direct tumor invasion, external compression of the biliary tree due to lymph node compression, or, in rare cases, due to a paraneoplastic phenomenon.[1] In the present case, the patient had symptoms associated with anemia and liver dysfunction, with no gross hematuria.

As with unresectable UC, gemcitabine and cisplatin therapy is the standard of care for unresectable biliary tract carcinoma presenting with obstructive jaundice, and it is recommended that chemotherapy or surgery be initiated with appropriate biliary drainage for patients with obstructive jaundice.[4,5] In the present case, the issue was not only jaundice but also the progression of anemia associated with stimulation by eating rather than gross hematuria. Therefore, we performed a combined biliary bypass and gastrojejunostomy. As a result, the patient's overall condition rapidly improved, and subsequent chemotherapy could be administered safely.

4. Conclusion

In this report, we demonstrated the management of advanced UC with obstructive jaundice. We believe that biliary drainage combined with biliary bypass was effective and allowed safe administration of subsequent chemotherapy.

Consent

Written consent to publish was obtained from the patient for the publication of this case and any accompanying images.

Author contributions

DI drafted the report and cared for the patient. TS helped establish the pathological diagnosis. ST, TT, and HF cared for the patient and contributed to the manuscript. WO supervised and reviewed the report.

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None.

Declaration of competing interest

The authors have no conflicts of interest to declare.

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