

CASE REPORT

Solitary skeletal metastasis in carcinoma gallbladder: two case reports

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Abstract

We report 2 cases of carcinoma gallbladder with only solitary skeletal metastasis. To the best of our knowledge there are only 3 case reports of carcinoma gallbladder with skeletal metastasis in the English literature.

Keywords: *Skeletal metastasis; carcinoma gallbladder; computed tomography; bone scan.*

Introduction

Primary carcinoma of the gallbladder most often spreads by direct extension and distant metastases are a relatively late phenomenon. The most common site of distant metastasis is the liver followed by regional lymph nodes^[1,2]. Metastasis from the gallbladder can virtually involve every organ and the skeletal system is the least frequent site^[1–3]. We report 2 cases of carcinoma gallbladder with the skeleton as the only site of distant metastasis.

Case 1

A 57-year-old male patient presented with pain in the right hypochondrium for 2 months, with increasing abdominal distension and vomiting for 10 days. On examination, there was a hard non-tender palpable lump in the right hypochondrium. Laboratory investigations revealed a mildly increased serum bilirubin level of 50 µmol/l (normal 7–20 µmol/l) and alkaline phosphatase level of 150 U/l (normal 30–120 U/l). The carcinoembryonic antigen levels were normal. Biphasic contrast-enhanced computed tomography (CECT) of

the abdomen and pelvis showed a mass in the region of the gallbladder neck, with adjacent liver infiltration causing mild bilobar intrahepatic biliary radicle dilatation (Fig. 1). There was adjacent duodenal infiltration causing gastric outlet obstruction and colonic (hepatic flexure) infiltration, leading to intestinal obstruction (Fig. 1). Minimal ascites was present and ascitic fluid examination showed no malignant cells. No liver or lymph nodal metastases were present. However, there was a lytic lesion in the sacrum suggestive of metastasis (Fig. 2). Bone scintigraphy showed no additional skeletal lesions. The patient underwent surgery due to intestinal obstruction. The surgical findings correlated with the computed tomography (CT) findings; the gallbladder mass was locally advanced, hence only a biopsy was taken. Palliative gastrojejunostomy along with ileotransverse bypass for gastric outlet and intestinal obstruction was done. Histopathology with immunohistochemistry confirmed gallbladder adenocarcinoma. After surgery, the patient underwent ultrasound-guided fine-needle aspiration cytology (FNAC) from the lytic lesion in the sacrum, which showed similar morphology to that of the gallbladder adenocarcinoma. The patient was started on chemotherapy.

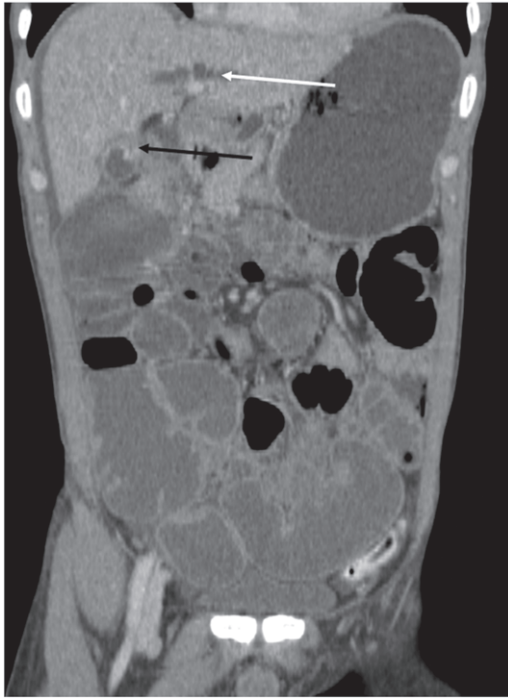


Figure 1 Coronal multiplanar reformatted contrast-enhanced CT image showing a mass in the gallbladder, with intrahepatic biliary radicle dilatation (white arrow) and colonic infiltration (black arrow) causing intestinal obstruction.



Figure 2 Axial contrast-enhanced CT abdomen image at the level of the pelvis showing a lytic lesion in the sacral ala on the left side (arrow).

Case 2

A 50-year-old man who presented with obstructive jaundice was found to have a hard non-tender lump in right hypochondrium. The serum bilirubin level was 70 $\mu\text{mol/l}$ (normal 7–20 $\mu\text{mol/l}$) and the alkaline phosphatase level

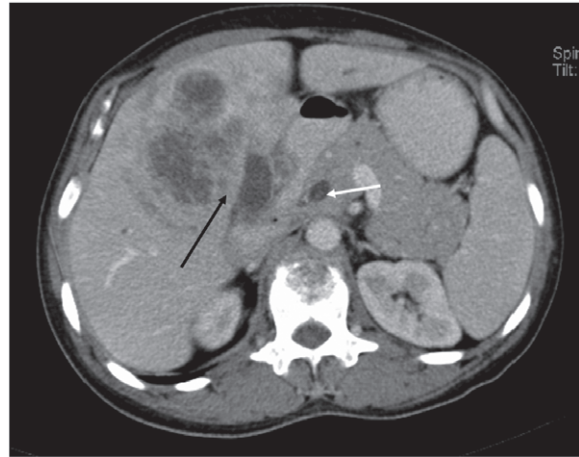


Figure 3 Axial contrast-enhanced CT abdomen image showing a gallbladder mass with contiguous hepatic infiltration (black arrow) and dilated common bile duct (white arrow). Anterior of the L1 vertebra also shows a lytic lesion (arrowhead).

was 250 U/l (normal 30–120 U/l). Aspartate and alanine aminotransferase levels were found to be normal. Biphase CECT showed the presence of a gallbladder mass measuring 6×5×6 cm (Fig. 3) with contiguous hepatic infiltration, causing bilobar intrahepatic biliary radicle dilatation. The common bile duct was dilated to its lower end due to the presence of choledocholithiasis (Fig. 3). No lymph node, liver or peritoneal metastasis was present. The lesion initially seemed resectable; however there was the presence of a lytic lesion anteriorly in the L1 vertebra suggestive of metastasis (Figs. 3 and 4). Bone scintigraphy showed increased uptake in the same area. FNAC from both the gallbladder mass and the lytic lesion in L1 vertebra revealed adenocarcinoma. Percutaneous biliary drainage was performed to alleviate the jaundice and the patient was started on chemotherapy.

Discussion

Primary carcinoma of the gallbladder is the most common biliary tree malignancy and most of them only present at an advanced stage of the disease^[4]. So, the prognosis remains poor with curative resection rates between 10% and 30%^[4]. Surgery is the only definitive cure and even advanced carcinoma can be managed with curative resection^[4]. Preoperative staging is essential to achieve a high resection rate. CT is the most common modality used to assess the local extension of the disease and is also used to evaluate hepatic, lymph nodal and peritoneal metastasis^[4]. Distant metastasis from gallbladder carcinoma occurs most frequently in the liver (76–86%); regional lymph nodes are involved in about 60% of cases. Although metastases from the gallbladder can occur in almost every organ (including liver, lymph



Figure 4 Sagittal multiplanar reformatted image of CT abdomen (bone window) showing the lytic lesion in the anterior of L1 vertebra (arrow).

nodes, adrenal glands, kidneys, spleen, brain, breasts, thyroid, heart and uterus), metastasis to the skeletal system is the least frequent^[1,3]. The incidence of bony metastasis is very rare and occurs only in the late stages

of the disease, hence screening for bone metastasis is not routinely included in the workup of patients with carcinoma gallbladder. To our knowledge there are only a few case reports of gallbladder carcinoma with skeletal metastasis in the English literature^[3,5,6]. The 2 cases described here are unusual in that bone was the only site of distant metastasis; the liver and peritoneum were not involved. In one of the cases described here, the carcinoma was resectable. However, due to the presence of vertebral metastasis, the surgery was deferred. The bony lesion was a lytic lesion, which is more commonly seen in gallbladder carcinoma, although osteoblastic metastasis has been documented in the literature^[4]. The previously mentioned case reports^[3,5] also showed bone as the only site of distant metastasis from gallbladder carcinoma. So too did the case reported by Misra *et al.*^[6]. The 2 cases reported here highlight the role of CT and bone scintigraphy in accurately staging gallbladder carcinoma.

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