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Case report

Upper GI Surgery

Metastatic transitional cell cancer of the gall bladder presenting as acute cholecystitis: a rare phenomenon

US Ogu[1]*, S Caganap[2], AS Badr[1], RS Bloch[1]

Abstract

Introduction

Metastatic involvement of the gallbladder is extremely uncommon. We present a first-in-literature report on a 79-year-old male who presented with acute cholecystitis secondary to metastatic transitional cell carcinoma from the urinary bladder to the gall bladder.

Case Report

A 79-year-old male with a history of bladder cancer, presented with right upper quadrant pain and a positive Murphy's sign on physical examination. He was diagnosed with acute cholecystitis and underwent a laparoscopic cholecystectomy. Pathologic examination revealed a poorly differentiated, infiltrative tumour, most consistent with metastatic bladder carcinoma.

Conclusion

This case report serves to remind internists and surgeons to consider metastatic disease as the aetiology of acute cholecystitis in patients with a history of cancer. Also, oncologists, radiologists and urologists need to be aware of this rare presentation of bladder cancer metastasis in order to focus some attention on the biliary tree in follow-up scans of these patients.

Introduction

Metastatic disease of the gallbladder is extremely uncommon, and when present, rarely causes signs and symptoms of gallbladder disease[1,2]. To date, there are no case reports in the literature of primary urinary bladder cancer metastasising to the gallbladder, and only one case report of bile duct metastasis from urinary bladder cancer has been published[3]. This case report documents a 79-year-old male who presented with acute cholecystitis secondary to metastatic transitional cell carcinoma of the urinary bladder diagnosed after laparoscopic cholecystectomy. This case is unique in that it is the first and only report of symptomatic urinary bladder metastasis to the gallbladder.

Case Report

A 79-year-old male with a past medical history significant for bladder cancer, currently receiving chemotherapy, presented to the emergency department with nausea, emesis and right upper quadrant abdominal pain for the past 3–4 days. The pain had progressed to 10 out of 10 intensity and radiated to his back. The emesis was neither bloody nor bilious. He denied anorexia and recent weight loss. Physical exam was significant for a positive Murphy's sign without rebound tenderness. No organomeg-

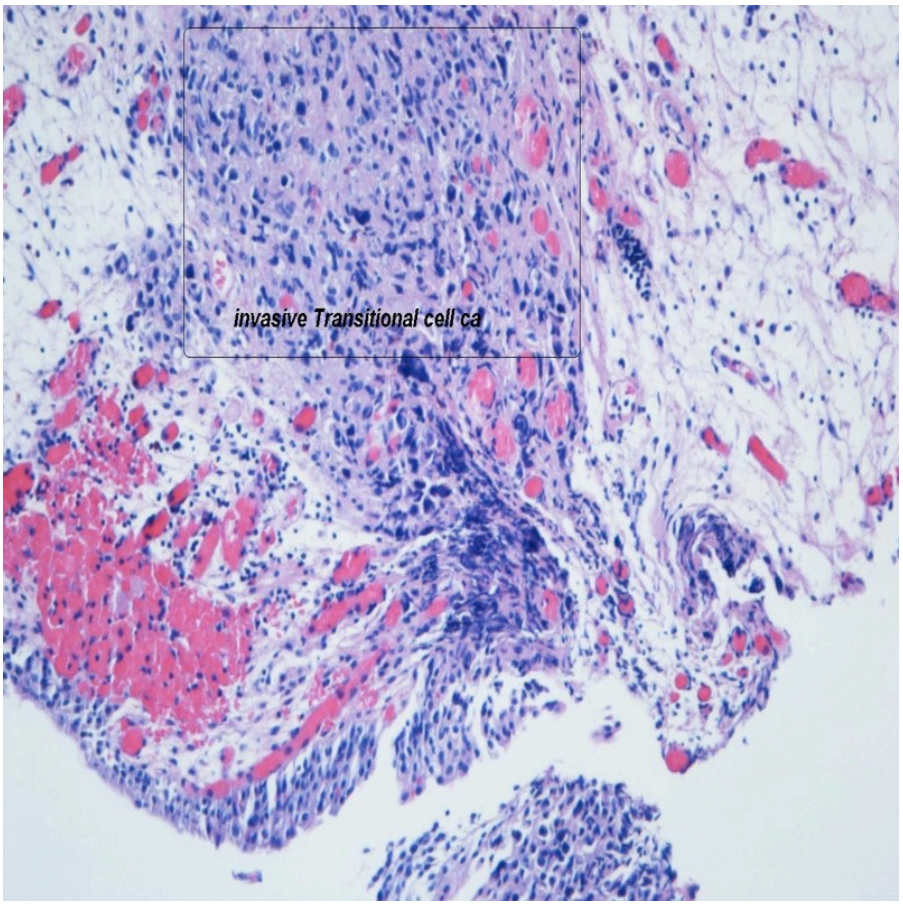

Figure 1: Bladder tumour slide showing Invasive Transitional cell cancer.

* Corresponding author
Email: ogustanley@hotmail.com

[1] Easton Hospital Department of Surgery, Easton, Pennsylvania, USA 18042
[2] University of California San Francisco Department of Neurology, San Francisco, California, USA 94143

FOR CITATION PURPOSES: *Ogu US, Caganap S, Badr AS, Bloch RS.* Metastatic transitional cell cancer of the gall bladder presenting as acute cholecystitis: a rare phenomenon. OA Surgery 2013 Dec 01;1(1):4.

Competing interests: none declared. Conflict of interests: none declared.
All authors contributed to conception and design, manuscript preparation, read and approved the final manuscript.
All authors abide by the Association for Medical Ethics (AME) ethical rules of disclosure.

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Case report

aly was present. His presentation was suspicious for cholecystitis versus pancreatitis. At this time, conservative medical management consisting of administration of intravenous fluids and analgesics, and bowel rest, was initiated. Initial laboratory findings revealed a total bilirubin of 0.4, alkaline phosphatase of 361, AST of 110 and ALT of 100. Amylase and lipase were not significantly elevated. CT scan of the abdomen and pelvis revealed gallbladder wall thickening and at least one calcified stone. Subsequent abdominal ultrasound revealed a contracted gallbladder with a stone and wall thickness of 4 mm without a sonographic Murphy's sign. A hepatobiliary iminodiacetic acid scan was performed suggesting acute cholecystitis. The patient received an uncomplicated laparoscopic cholecystectomy with specimen sent to pathology (see report below) and was discharged to home on postoperative day 2 with plans to follow-up with his family physician and oncologist, and to resume chemotherapy.

The patient's bladder cancer was diagnosed 9 months prior to this event. He presented to a urologist after an episode of gross haematuria. Cystoscopy and subsequent bladder biopsy and transurethral resection of the tumour were performed. Pathology revealed high-grade invasive transitional cell carcinoma (Figure 1). The patient's PET scan and whole-body bone scan reported multiple metastatic foci in his ribs and femur. Cystectomy could not be recommended due to bone metastasis, so chemotherapy was initiated.

On gross pathologic exam, the gallbladder specimen measured 4.5 cm in length × 2.2 cm in diameter. Opening the specimen revealed blood and bile. The gallbladder showed velvety tan mucosa without tumour nodules. No stones were evident. Sectioning revealed a thickened, fibrotic wall ranging from 5 to 10 mm in thickness. Further histologic evaluation revealed a poorly differentiated infiltrative tumour seen coming from the serosal surface of the gallbladder and extending up through the muscularis propria but not into the mucosa (Figure 2) with the mucosa of the gallbladder appearing entirely normal. Immunoperoxidase staining revealed cytokeratin 7 positive in tumour cells (and in normal gallbladder epithelium), cytokeratin 20 negative in tumour cells (and in normal gallbladder epithelium) and cytokeratin 5/6 (Figure 3) positive in tumour cells (but not in normal gallbladder epithelium).

Bladder carcinomas are frequently positive for CK7, less frequently positive for CK20 and almost always positive for CK5. The staining and histological characteristics with the tumour penetrating inward from the serosal surface are most consistent with metastatic bladder carcinoma.

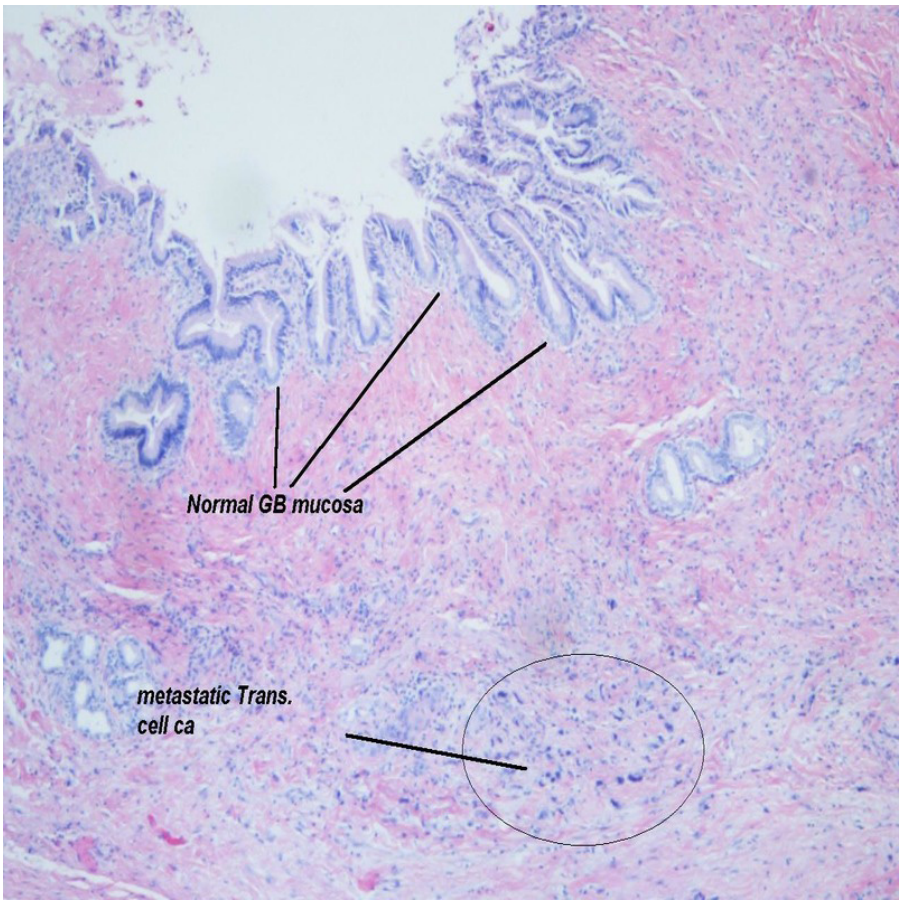

Figure 2: Gall bladder tumour showing metastatic Transitional cell cancer.

Discussion

Urinary bladder cancer is the fifth most common overall cancer and fourth most common diagnosed cancer in men. Approximately, 73,510 new cases of bladder cancer were diagnosed in the United States in 2012, and about 14,880 bladder cancer-related deaths will occur[4]. Mortality rates associated with the disease are not insignificant. Loss in median life expectancy at the time of bladder cancer diagnosis compared with the general population is 3.9 years (33% of potential years of life) and 6.5 years (47%) in men and women, respectively[5].

Bladder cancer rarely spreads to distant sites and occurs in about 4% of cases[4]. The most common metastatic site is lymph nodes, followed by bone, lung, liver and peritoneum[6]. Distant metastasis to the biliary tree

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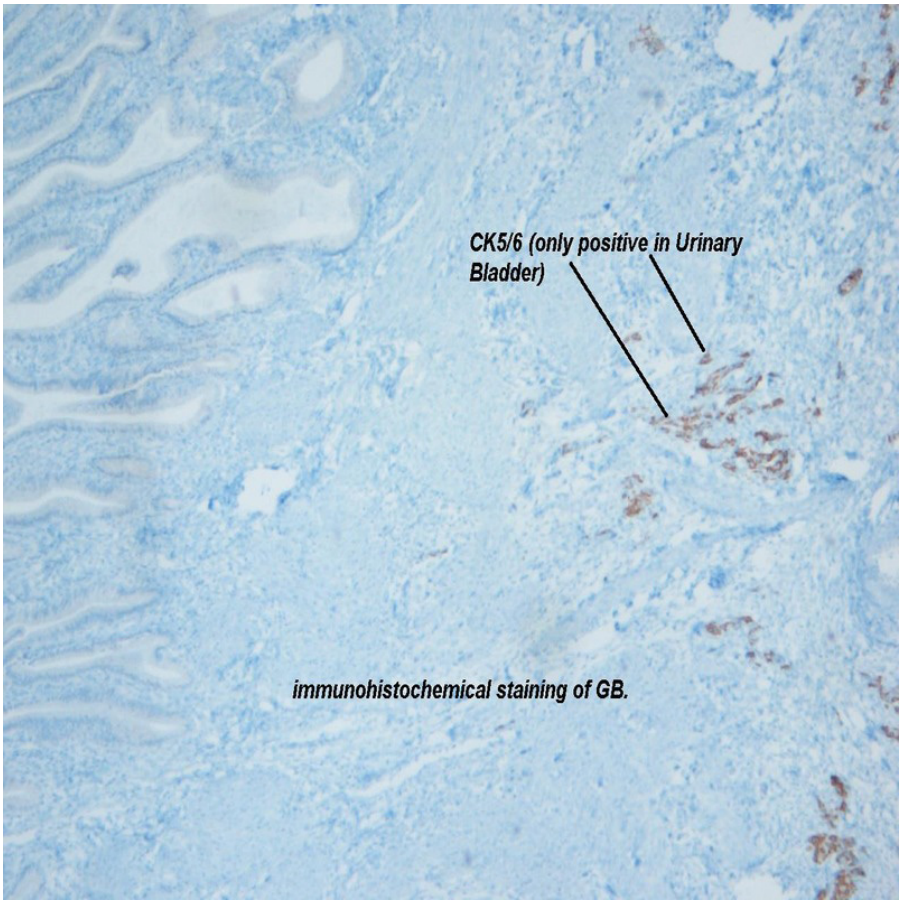

Figure 3: Gall bladder tumour showing metastatic transitional cell cancer.

is extremely uncommon. In fact, only one case has been identified in the literature describing bile duct wall metastasis from bladder cancer imitating cholangiocarcinoma[3].

Secondary tumours of the gallbladder are uncommon, and thus, not much data have been gathered on rates of occurrence and sites of origin. One study analysed the metastases of 1000 consecutive autopsied cases of carcinoma[1]. The analysis revealed an incidence of metastasis to the gallbladder of 5.8%. The most common primary site is melanoma, accounting for over 50% of cases, followed by renal cell carcinoma and breast cancer[2,7]. Melanoma metastatic to gallbladder is often clinically asymptomatic, and detected at the time of autopsy. When brought to clinical attention, the most common presentation is right upper quadrant or epigastric pain imitating cholecystitis followed by jaundice[2,8].

Conclusion

The case presented above is unique insofar as it is a first-in-literature report of urinary bladder cancer metastasising to the gallbladder. A review of the literature did not reveal a single case of transitional cell carcinoma, or another variant of bladder cancer, metastasis to the gallbladder. The observation that the patient's symptomatology was due to the gallbladder metastasis is a rarity in itself and an uncommon finding in the literature. This case report serves to remind internists and surgeons to consider metastatic disease as the aetiology of acute cholecystitis in patients with a history of cancer. Also, oncologists, radiologists and urologists need to be aware of this rare presentation of bladder cancer metastasis in order to focus some attention on the biliary tree in follow-up scans of these patients.

Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal.

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