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Case Report

A Case Report of Metastatic Gallbladder Cancer as The Cause of Acute Appendicitis

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ABSTRACT

Appendiceal metastasis from primary gallbladder cancer is rare. Here we report the case of a 62-year-old female with stage IV gallbladder cancer who presented to the ED four months after initiation of her cancer treatment. Diffuse abdominal pain was her only presenting symptom and contrast-enhanced CT imaging revealed findings consistent with acute appendicitis. Prompt surgical treatment with laparoscopic appendectomy was initiated. Surprisingly, the histologic analysis was consistent with gallbladder primary metastatic adenocarcinoma to the appendix rather than primary adenocarcinoma of the appendix.

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Introduction

Diagnoses and treatment of acute appendicitis is routine for general surgeons and most often uneventful. The luminal obstruction caused by a fecalith is the most common cause of acute appendicitis, but, rarely, does it result from metastatic carcinoma. This case report describes a rare case of acute appendicitis caused by metastatic gallbladder adenocarcinoma [1].

Case Presentation

A 62-year-old lady was diagnosed with advanced gallbladder cancer following a cholecystectomy in May of 2018. Her past medical history was significant for hypertension and she was a former smoker. Oncologic workup demonstrated a stage IV gallbladder adenocarcinoma with hepatic and omental metastatic spread. The patient underwent chemoradiation therapy and ERCP with stent placement for relief of biliary obstructive symptoms. Four months later, the patient presented to the ED complaining of right lower quadrant pain, nausea and vomiting. Labs revealed a WBC count of $3.6 \times 10^9/L$, lactic acid of 1.5 mmol/L, normal renal and hepatic function. CT imaging was consistent with acute appendicitis and an uneventful laparoscopic appendectomy was performed (Figure 1). Surgery revealed an inflamed, non-perforated

appendix. Palpation did not reveal any significant mass. The postoperative course was uneventful, and the patient recovered from the surgery. Histologic analysis revealed positive staining for CK7 and negative staining for CK20 (Figure 2). These results are consistent with gallbladder primary metastatic adenocarcinoma to the appendix rather than primary adenocarcinoma of the appendix. The patient was counselled regarding her diagnoses and she decided to proceed with hospice care.

Discussion

Gallbladder adenocarcinoma is a rare entity, with the majority of patients being asymptomatic at the time of diagnosis. The diagnosis is made either intraoperatively or, as in our case, on pathological analysis after elective cholecystectomy. On the other side, appendicitis is a very commonly encountered surgical problem. Here we present a rare case of acute appendicitis caused by metastasis from primary gallbladder adenocarcinoma. Most often acute appendicitis is caused by fecaliths or lymphoid hyperplasia [2]. Metastatic tumors causing appendicitis is a rare occurrence. Few case reports of extrahepatic biliary and pancreatic cancer have been reported [3-5]. According to a recent SEER-based study by Wang et al, primary extrahepatic bile-duct cancer tends to spread to liver, distant lymph nodes and lung [6]. To our knowledge, a

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single case of metastatic cholangiocarcinoma causing acute appendicitis has been reported by Kang et al [1]. Rare cases of acute appendicitis caused by distant metastatic tumor spread have been reported from small cell carcinoma of the lung, hepatocellular carcinoma and small cell carcinoma of the esophagus [7, 8].



Figure 1: Contrast-enhanced abdominal ct scan demonstrating an acutely inflamed appendix in the right lower quadrant.

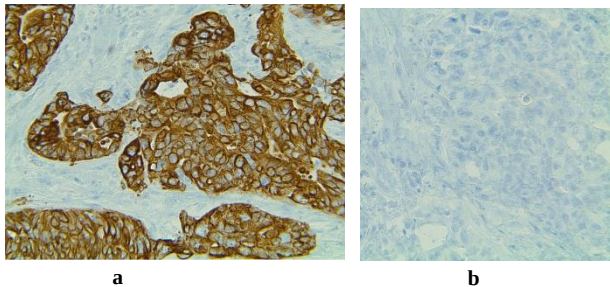


Figure 2: (a) Histologic analysis demonstrating positive ck7 staining, **(b)** histologic analysis demonstrating negative ck 20 staining.

When patients with stage IV gallbladder adenocarcinoma show symptoms of acute appendicitis, the surgeon should take appendiceal metastasis into consideration, even though it is clinically rare. Moreover, prompt surgical treatment should be initiated. It is important to remember that patients who develop acute appendicitis while

undergoing chemotherapy may have a blunted immune response and atypical symptoms, making the diagnoses even harder. Elevated temperature and white blood cell count may be absent and diffuse abdominal pain may be the only presenting symptom. For these reasons, it is important to attain high quality imaging and have a broad differential diagnosis and a high grade of suspicion in this patient population.

Conflicts of Interest

None declared.

REFERENCES

1. Kang SI, Kang J, Park HS, Jang SI, Lee DK et al. (2014) Metastatic cholangiocarcinoma as a cause of appendicitis: a case report and literature review. *Korean J Hepatobiliary Pancreat Surg* 18: 60-63. [[Crossref](#)]
2. Akbulut S, Tas M, Sogutcu N, Arikanoglu Z, Basbug M (2011) Unusual histopathological findings in appendectomy specimens: a retrospective analysis and literature review. *World J Gastroenterol* 17: 1961-1970. [[Crossref](#)]
3. Kim HC, Yang DM, Jin W, Kim GY, Choi S (2008) Metastasis to the appendix from hepatocellular carcinoma manifesting as acute appendicitis: CT findings. *Br J Radiol* 81: e194-e196. [[Crossref](#)]
4. Wolf CF, Friedl P, Obrist P, Ensinger C, Gritsch W (1999) Metastasis to the Appendix: sonographic appearance and review of the literature. *J Ultrasound Med* 18: 23-25. [[Crossref](#)]
5. Filik L, Ozdal-Kuran S, Cicek B, Zengin N, Ozyilkan O et al. (2003) Appendicular metastasis from pancreatic adenocarcinoma. *Int J Gastrointest Cancer* 34: 55-58. [[Crossref](#)]
6. Wang X, Yu GY, Chen M, Wei R, Chen J (2018) Pattern of distant metastases in primary extrahepatic bile-duct cancer: A SEER-based study. *Cancer Med* 7: 5006-5014. [[Crossref](#)]
7. Kimura Y, Machimoto T, Yasukawa D, Aisu Y, Hori T (2018) Acute appendicitis caused by metastatic adenocarcinoma from the lung: a case report. *Surg Case Rep* 4: 59. [[Crossref](#)]
8. Wang Q, Zhou T, Sun H, Li B (2017) Metastasis of esophageal small cell carcinoma to the appendix: A case report and literature review. *Cancer Biol Ther* 18: 666-669. [[Crossref](#)]