A rare case of signet cell adenocarcinoma of the gall bladder

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INTRODUCTION

- Signet ring cell adenocarcinomas are extremely rare outside the stomach and colon. Most associated literature is confined to case reports.
- Nonspecific, presenting symptoms, and a grim prognosis, make early detection, crucial, yet challenging.
- We report a case of a rare, signet ring cell adenocarcinoma of the gallbladder.

CASE DESCRIPTION

The patient was an 88-year-old male with a past medical history of benign prostatic hyperplasia, type-2 diabetes mellitus and heart failure with reduced ejection fraction, who presented with a three week history of non-bloody, watery diarrhea, occurring five times a day. This was associated with one episode of large volume emesis that was non- bloody/non-bilious.

After being treated symptomatically during an ER visit for viral gastroenteritis, he was readmitted 4 days later for persistent diarrhea.

On presentation, his vitals were consistent with volume depletion, and his labs were significant for increasing hyperbilirubinemia (increase in direct and indirect bilirubin) and worsening transaminases with a cholestatic picture.

Diarrhea work up consisting of Clostridium difficile testing, stool ova/parasites, and stool viral PCR were all negative.

His hepatitis panel was also negative.

A right upper quadrant ultrasound revealed no intrahepatic, biliary or common bile duct dilation. CTA abdomen/pelvis showed chronic bibasilar effusion, heterogeneous, attenuation of the right hepatic lobe and uncomplicated proctitis.

The MRI abdomen revealed periportal edema and cholecystitis.

A HIDA scan was ordered to further delineate the gall bladder since elevations of alkaline phosphatase and bilirubin did not resolve with spontaneous resolution of the patient's diarrhea.

The HIDA scan revealed an obstruction of the CBD and a liver biopsy was scheduled due to concerns for a malignancy.

IMAGING

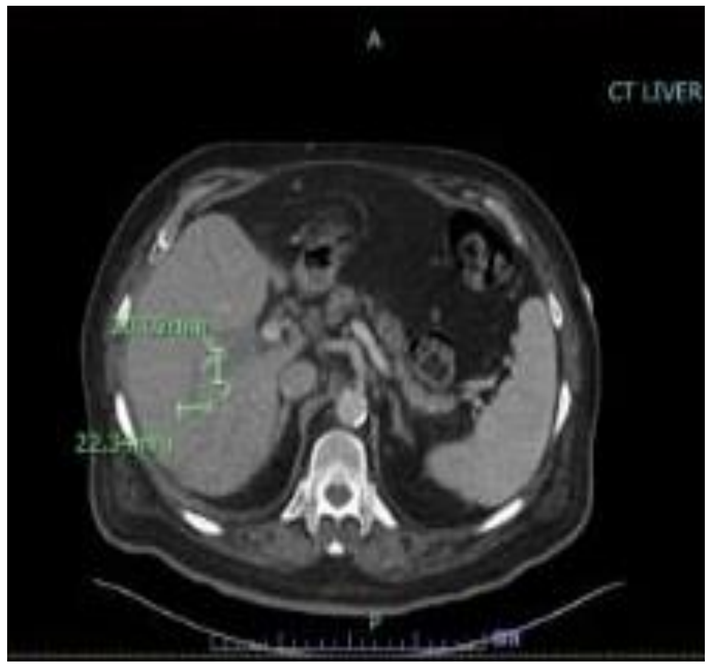

Figure 1: CT angiogram of the abdomen showing a heterogenous attenuation in the right hepatic lobe

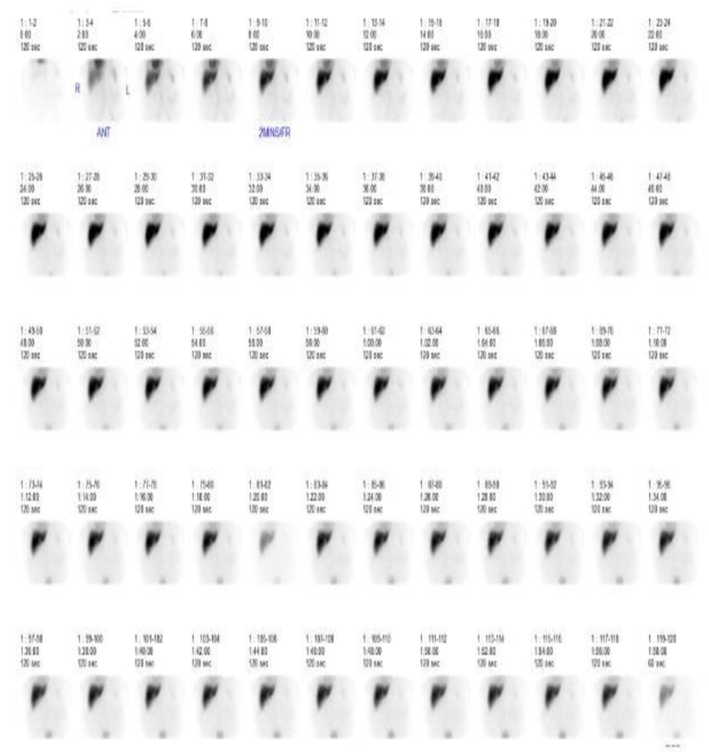

Figure 2 shows an indeterminate HIDA scan with no tracer in the gallbladder or the duodenum

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Immunohistochemistry, testing revealed intact, mismatch, repair proteins, ruling out a colonic origin of the adenocarcinoma.

Additionally, positive CK20,CDX2 and CK7 tumor stains made gallbladder/pancreatic tumor origin more likely.

Given the patient's poor prognosis, he was transferred to inpatient hospice and unfortunately passed away on hospital day 25.

DISCUSSION

Most signet-ring cell adenocarcinomas in literature are of gastric/colonic origin. Other locations of origin are rare.

-This report presents a case of signet ring cell adenocarcinoma of biliary/pancreatic origin.

- Signet cell adenocarcinoma has as poor prognosis owing to non-specific symptoms and late-stage presentation.

This patient presented with symptoms mimicking gastroenteritis and labs and imaging pointing toward cholecystitis.

- The definitive diagnosis was only revealed on liver biopsy and immunohistochemistry tumor staining.

- This highlights the importance of keeping rare cancers such as this in the differential, after the usual suspects have been ruled out. Heterogeneous attenuation of hepatic lobes on imaging, not correlating with clinical/symptom severity, warrants further investigation. With a median survival of only four months, early detection is crucial to reduce the morbidity and mortality associated with this condition. However, the diagnosis is usually delayed due to the nonspecific symptoms, which usually occur late in the course of the disease