PORTAL VEIN TUMOUR THROMBUS AS A PRESENTING FEATURE OF HEPATOID ADENOCARCINOMA OF THE STOMACH: A CASE REPORT AND RADIOLOGICAL INSIGHT

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INTRODUCTION

Hepatoid adenocarcinoma of the stomach (HAS) is a rare aggressive neoplasm which is morphologically similar to hepatocellular carcinoma (HCC) and has poor prognosis. HAS is usually associated with a high serum alpha fetoprotein level, as one would normally expect with a HCC. The diagnosis is primarily based on histology and immunohistochemistry (1,2).

Intraluminal tumour thrombus in the portal vein originating from HAS is a rare complication. It can occur either directly from the primary cancer or indirectly from metastases in the liver. Associated most commonly with primary hepatocellular carcinoma, it has also been reported with HAS previously, although not as a presenting feature (3). Diagnosis is made primarily radiologically.

We report the case of a patient with an underlying hepatoid adenocarcinoma of the stomach presenting with clinical features related to the patient’s associated portal vein tumour thrombus.

CASE REPORT

A 79 year old lady presented with dull, right upper quadrant abdominal pain, nausea, and weight loss over three months. She had no significant past medical history. Abdominal examination revealed tenderness in the right upper quadrant.

Initial blood tests revealed a microcytic anaemia (Hb 7.9, MCV 73.8) and deranged liver function (Bil 61, ALT 544, AST 897, ALP 692, GGT 452).

Further investigations including an abdominal ultrasound and computed tomography (Fig 1) revealed a left hepatic portal vein tumour thrombus, and a large mass in the stomach. The liver was otherwise normal. A gastroscopy revealed a highly vascular, bleeding tumour at the incisura of the stomach.

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Histology revealed an adenocarcinoma of the stomach with a clear hepatoid component, secreting alpha fetoprotein (AFP serum levels 6108).

The patient was not a candidate for surgery and was treated with endoscopic photocoagulation and radiotherapy to reduce the tumour bulk.

RADIOLOGY

The use of CT scanning to diagnose primary gastric malignancy is a fairly nonspecific although the advent of multidetector CT has increased diagnostic accuracy. A wall thickness of greater than 2cm is suggestive of malignancy(4).

Contrast enhanced CT scanning is the primary non invasive method used to identify portal vein (PV) thrombosis, although ultrasound is also useful. Ultrasound can sometimes be inconclusive in the presence of anechoic thrombus.

Differentiating malignant from bland PV thrombus on imaging does present a diagnostic challenge. Pulsatile intrathromboic flow seen on Doppler ultrasound is thought to be highly specific but not a sensitive sign for malignant portal vein thrombosis(5). Pulsatile intrathrombus flow maybe more applicable to primary HCC than gastric tumours as HCC tends to be more vascular(6). The minimal continuous intrathrombotic flow seen in our case may be due to the less vascular gastric tumour.

In the largest study utilising CT, Tublin et al retrospectively studied 58 patients, attempting to differentiate benign from malignant thrombus(7). Features such as portal vein expansion greater than 23mm, generalized thrombus enhancement and intrathrombus vascularity were thought independent features of malignant thrombus. In our case, although the thrombosed intrahepatic left portal vein measured less than 23 mm, it appeared expanded when compared to the right branch. Although generalized PV enhancement was noted here, PV neovascularity could not be commented on as a biphasic CT scan was unfortunately not performed.

DISCUSSION

This is the first case report of a hepatoid adenocarcinoma presenting with liver dysfunction due to a portal vein tumour thrombus.

A case series by Tanaka et al looked at five cases of tumour thrombi in the portal venous system originating from a gastrointestinal tract cancer.(3) They considered that since a portal vein tumour thrombus itself may determine the length of survival, that surgical thrombectomy (combined with resection of the primary cancer) should be considered. In our case where there was not felt to be a possibility of curative resection nor was the tumour thrombus likely to define survival, surgery was not performed.
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A case series of patients with hepatoid adenocarcinoma of the stomach undertaken by Lee MW et al, retrospectively analysed the CT scans of 8 patients with proven hepatoid adenocarcinoma of the stomach.(8) Rather than the 1.2% incidence of portal vein tumour thrombus previously reported with gastric cancers, portal vein tumour thrombi were found in 50% of patients with known hepatoid adenocarcinoma of the stomach.

Being aware of the association between portal vein tumour thrombi and hepatoid adenocarcinoma of the stomach, we suspected the underlying gastric mass seen on our initial ultrasound might prove to be a hepatoid adenocarcinoma. Our suspicion was confirmed with a raised alpha fetoprotein and on histological examination of the biopsy. We suggest that, in a patient with a portal vein tumour thrombus and a new gastric lesion, a hepatoid adenocarcinoma of the stomach should be considered.

CONCLUSION

Hepatoid adenocarcinoma of the stomach is associated with a high incidence of tumour thrombi, particularly in the portal vein. This contrasts with a comparatively low incidence of tumour thrombi in gastric cancers overall. In a patient with a portal vein tumour thrombus in context of a gastric mass, a hepatoid adenocarcimona of the stomach should be considered.

REFERENCES


**Figure 1.** Enhancing expansile thrombus seen in the left intrahepatic portal vein branch (straight arrow). This has similar enhancement characteristics to the lymph node mass in the gastro hepatic ligament (curved arrow) suggesting tumour thrombus.