

Duodenal Obstruction Secondary to Metastatic Synovial Sarcoma - A Case Report

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Summary

A 17 year old Malay student who is a known case of synovial sarcoma of left elbow (treated with an above elbow amputation) presented with duodenal obstruction. We report an unusual case of gastrointestinal tract metastases from synovial sarcoma. To our knowledge, there is no previous such report in the literature. The computed tomography (CT) and magnetic resonance imaging (MRI) features are described.

Key Words: Synovial sarcoma, Metastasis, Duodenal obstruction

Introduction

Metastatic tumours to the upper gastrointestinal tract have an overall prevalence of 1 - 4 % in post-mortem series, while metastases to the duodenum are very rare. The commonest primary lesions being melanoma, breast and lung cancer¹. As far as we are aware there is no documented case of metastatic synovial sarcoma to the duodenum in the English literature. Synovial sarcoma predominantly metastasise to the lung, bone and lymph node².

We report on a case of duodenal metastasis from synovial sarcoma resulting in duodenal obstruction.

Case Report

A 17-year-old Malay student, presented with a three-week history of high-grade fever associated with abdominal pain. There was associated loss of appetite and loss of weight. He was previously diagnosed with synovial sarcoma of left elbow for which he underwent an above elbow amputation.

Examination revealed anaemia. There was no jaundice. Per abdomen examination showed hepatomegaly and

there was no mass felt. A left above elbow amputation with healthy stump noted. Systemic examination was unremarkable.

Abdominal radiograph (AXR) done was unremarkable. CT-scan of abdomen (Figure 1) showed an irregular inhomogenous solid mass with high attenuation centre (110 HU) and low attenuation at the periphery (50 HU), projecting into or lying within the second and third parts of the duodenum. The mass was surrounded by the low attenuation duodenal fluid except posteriorly where it is attached to the duodenal wall. The mass was seen separate from the pancreas. There was also dilatation of the intrahepatic ducts. Not much contrast was seen beyond this mass suggesting duodenal obstruction. No lung secondaries was seen on the CT-scan of the chest. MRI (Figure 2) confirmed the finding of duodenal obstruction with dilatation of stomach and second part of duodenum. An inhomogenous mass was seen arising in second part of duodenum. On T1-weighted image the mass was of mixed signal intensity. It had a component which was isointense to skeletal muscles with a low signal component mainly at the periphery. On T2-weighted image the mass was of intermediate signal intensity slightly greater than that of subcutaneous fat. The tumour mass enhanced

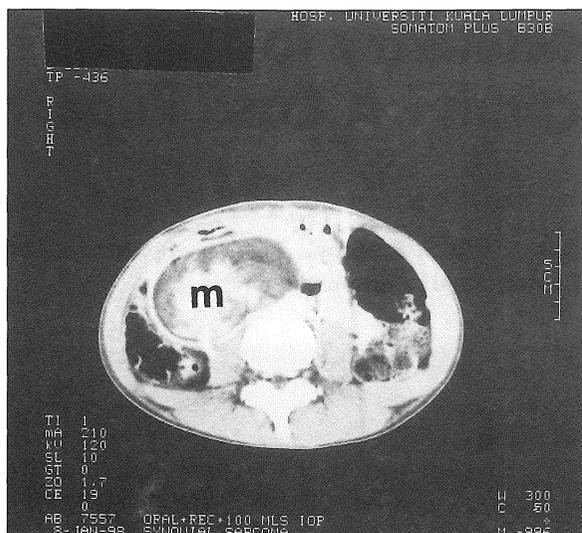


Figure 1: Enhanced CT of abdomen shows an enhancing solid intraluminal mass (m) of mixed attenuation (50-110 HU) at the duodenal region. Margins are irregular. Tumour mass is bathed within the low attenuation duodenal fluid.

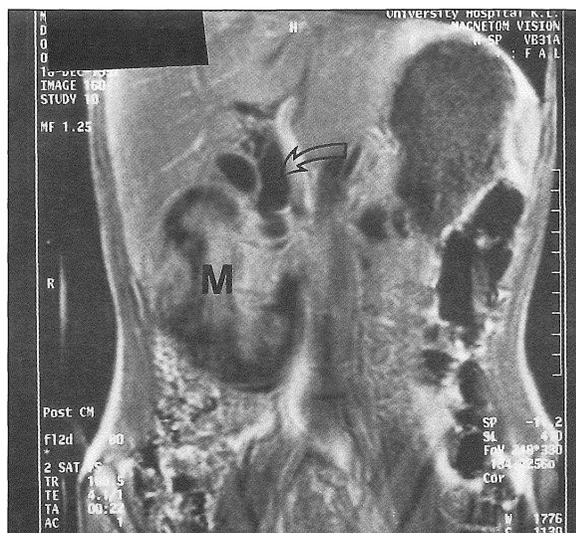


Figure 2: Enhanced coronal T1 weighted MR image shows the mass (M) to enhance inhomogenously especially centrally. The mass appeared to be attached to the medial wall of the duodenum. Dilated common bile duct is noted (arrowhead).

inhomogenously following intravenous gadolinium. Mass also caused obstruction to distal common bile (CBD) resulting in mild dilatation of the proximal CBD and proximal intrahepatic ducts. In the case presented, in view of the previous history of left elbow synovial sarcoma, metastasis was the most likely cause.

At laparotomy, a friable but mobile tumour was found in the second to fourth part of duodenum. There was no evidence of liver or nodal metastasis. An antecolic gastrojejunostomy was performed. Postoperative recovery was uneventful and patient was commenced on radiotherapy. Biopsy was consistent with that of sarcomatous metastasis to the gastrointestinal tract.

Discussion

Early diagnosis is of great importance because metastases appear in the majority of cases with fatal outcome. Despite recent advances, the prognosis for this

disease remains poor with median time from evidence of metastases to death of ten months². The lung and bone are the commonest sites for metastasis from synovial sarcoma with the sites being the lymph nodes, skin, mediastinum and retroperitoneum². Metastatic disease is seen in 25% of patient at presentation. A study by Ryan JR et al.², discovered that the metastatic involvement was predominantly pulmonary in 33 cases, bone in four, lymph nodes in three and other sites in five (skin in 2, mediastinum in 2 and one involving the retroperitoneum). Our patient had an unusual duodenal metastases involving the second to fourth part presenting with duodenal obstruction.

Complications from metastasis to the duodenum include acute and chronic gastrointestinal bleeding, malabsorption and obstructive jaundice³. In our patient, there was anaemia. Though he was not clinically jaundice, there was dilatation of his proximal CBD as well as the proximal intrahepatic ducts.

The differential diagnosis of a duodenal neoplasm consists of benign as well as malignant lesions. Benign lesions include leiomyomas, adenomas, lipoma, neurogenic tumours, hamartomas and adenoma of the papilla of Vater. Malignant neoplasms of the duodenum are uncommon. Primary carcinoma is probably the most frequently encountered; about half of small intestinal carcinomas arise primarily in the duodenum. Other malignant primary neoplasm occasionally encountered in the duodenum include lymphoma and sarcoma. The duodenum may be invaded by malignant neoplasms from adjacent organs which include carcinoma of the pancreas, carcinoma of the colon particularly of the hepatic flexure, carcinoma of the right kidney, carcinoma of the gallbladder, carcinoma of the bile duct and rarely, enlarged neoplastic retroperitoneal lymph glands. The duodenum may also be the site of metastatic deposits from malignancies elsewhere including carcinoma of the colon, kidney, uterus, malignant melanoma and breast.

On imaging, the CT the features of some of the neoplasms are characteristic. Generally benign lesions appear as intraluminal filling defects without evidence of invasion. Leiomyomas may be large with homogenous or inhomogeneous density (with necrosis or calcification) on CT. Lipomas, which may be multiple, are also well-defined but with a characteristic low (fat) density on CT. On CT, adenomas have soft tissue attenuation and may have a large intraluminal component. Lymphomas typically result in a large annular, aneurysmally dilated ulcerated mass with or without lymphadenopathy. Adenocarcinomas appear as an annular solid mass with thickening and dilatation of the small bowel proximally. Regional lymphadenopathy may be present. Metastases may also have similar appearances. The features of the synovial metastases are also non-specific. Unopacified small bowel is a known cause of a pseudotumour and must be recognised. MRI has not been widely used to look at tumours of the small bowel.

We believe this is the first reported case of duodenal metastasis from synovial sarcoma.

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