A 51-year-old man presented with anemia, weight loss and occasional upper abdominal pain. Upper GI barium study suggested malignant lesion in gastric fundus. Endoscopy and CT scan was performed.

Imaging Findings:

A 51-year-old man presented with anemia, weight loss and occasional upper abdominal pain. A barium upper GI fluoroscopic study was performed, which showed fold distortion and marked mucosal irregularity in the fundus of the stomach suggesting of malignant process. Endoscopy showed large ulcerated mass with submucosal component. The endoscopic biopsy was performed. Histological diagnosis of gastrointestinal stromal tumor (GIST) was made with positive immunohistochemical tumor stain with CD 117. Staging CT showed large lobulated soft tissue density mass in the fundus with multiple cystic metastases in the liver. Considering tumor unresectable with liver metastases, patient was treated with Gleevec. After one year of treatment, there is significant decrease in the size of primary tumor. The liver metastases are unchanged without any evidence of progression.

Discussion:

Gastrointestinal stromal tumors (GISTs) are the most common mesenchymal neoplasms of the gastrointestinal tract. The best defining feature of GISTs is the expression of KIT (CD 117), a tyrosine kinase growth factor receptor, which distinguish them from true smooth muscle and neural tumors, like leiomyomas, leiomyosarcomas, schwannomas, and neurofibromas. Targeting this receptor with a KIT-tyrosine kinase inhibitor STI 571(Gleevec) is very helpful in treating patients with unresectable GISTs. Histologically, 70-80% of GISTs are of spindle cell morphology and 20-30% is of epitheloid morphology. GISTs most frequently occur in the stomach (70% of cases) followed by the small intestine (20-30%), anorectum (7%), colon and esophagus. GISTs may rarely occur primarily in the omentum, mesentery, and retroperitoneum. Presenting sign and symptoms depends on the size and anatomic location of the tumor. Patients may present with pain, dysphagia, weight loss, gastrointestinal bleeding, bowel obstruction, or a palpable abdominal mass. Occasionally, small asymptomatic GISTs are discovered incidentally during a radiological study. GISTs range in size from several millimeters to greater than 30 cm. Most GISTs originates within the muscularis propria of the GI tract and can grow endoenteric or exoenteric. In the endoenteric growth pattern, tumors tend to be submucosal or intramural. Among gastric GISTs, 50 % are intramural, 35% are exogastric and 15% are endogastric. Among small bowel GISTs, 65% are exoenteric, 15% are intramural and 15% are intraluminal. Focal areas of hemorrhage, cystic degeneration, and necrosis may occur, particularly in large lesions. 10-30% of GISTs are malignant. Risk of malignancy increases with an extragastric location, size greater than 5 cm, extension into adjacent organs, and more than 1 mitoses per 50 high-power fields. The liver is most common site of metastatic disease, followed by peritoneum. Metastases to the liver and mesentery are often cystic.
Barium studies classically show a smooth, discrete submucosal mass, usually with intact overlying mucosa. The larger tumors may ulcerate with intramural and exogastric component. CT is better in showing the extraluminal component. At CT, benign GISTs are usually homogeneous with attenuation value similar to muscle. Aggressive GISTs are often heterogeneous with areas of hemorrhage, necrosis or cyst formation. Calcification is an unusual feature of GISTs. CT is also helpful in evaluation of local spread of tumor and metastatic disease. Metastatic lymphadenopathy is not a feature in patients with GISTs. While the surgical resection of the primary disease remains standard treatment, enzymatic treatment with KIT-tyrosine kinase inhibitor STI 571 (Gleevec) is promising in some patients.

**Differential Diagnosis List:** Gastrointestinal Stromal Tumor (GIST) of Stomach with Liver Metastases

**Final Diagnosis:** Gastrointestinal Stromal Tumor (GIST) of Stomach with Liver Metastases

**References:**


Figure 1

Description: Barium upper GI study show extensive fold distortion and mucosal irregularity in the gastric fundus. Origin:
Figure 2

Description: Barium upper GI study show extensive fold distortion and mucosal irregularity in the gastric fundus. Origin:
**Figure 3**

**Description:** Axial CT scan image show large lobulated cavitary soft tissue density mass in the gastric fundus (arrows). A large cystic metastatic lesion is also seen in the left hepatic lobe (arrowheads).

**Origin:**
Description: Axial CT scan at slightly lower level demonstrate more cystic metastatic lesions in the right hepatic lobe (arrowheads). Inferior exophytic portion of the gastric mass is also seen (arrow).

Origin:
Description: Follow-up CT scan after one year on 'Gleevec' treatment demonstrates substantial decrease in the size of primary tumor (arrows). The hepatic cystic metastatic lesions remain unchanged (arrowheads). Origin: