International Journal of Biomedical And Advance Research

ISSN: 2229-3809 (Online)
Journal DOI:10.7439/ijbar
CODEN:IJBABN

Case Report

Gastrointestinal Stromal Tumor (GIST): Case Report

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Abstract

Gastrointestinal stromal tumor (GIST) is now defined as a specific, KIT-expressing and KIT-signalling driven mesenchymal tumor of the gastrointestinal (GI) tract. A great majority of GISTs occur in the stomach (60 -70%) or small intestine (25 - 35%). Colon, rectum, appendix (together 5%) and esophagus (2 - 3%) are rare sites. Small GISTs are typically incidentally detected on the external aspect of stomach or intestines during radiologic studies or surgery for unrelated conditions. We present a 45 year old female with a history of lump in epigastrium and left hypochondrium diagnosed later as GIST stomach.

Key words: Lump abdomen, GIST

1. Introduction

Gastrointestinal stromal tumor (GIST) is the term for a specific, immunohistochemically KIT-positive mesenchymal neoplasm of the gastrointestinal (GI) tract and abdomen. GISTs constitute a majority of GI mesenchymal tumors. Pathologic activation of KIT signal transduction appears to be a central event in GIST pathogenesis.[1,2,3]

In regard to definition, demonstration of a KIT mutation supports the diagnosis of GIST, whereas lack of mutation does not exclude it. According to all larger clinicopathologic series, GISTs have a predilection to adults over 50 years of age, with the median age varying between 55 - 65 years in different sites with no clear sex predilection.

The proportion of patients under 40 years have ranged between 5% and 20% in the larger clinicopathologic series. GISTs occur throughout the tubular GI-tract from the lower esophagus to the anus. The most common site is by far stomach (60 - 70%) followed by small intestine, rectum and colon. Only small numbers of cases have been reported in the esophagus and appendix.[4,5]

2. Case study

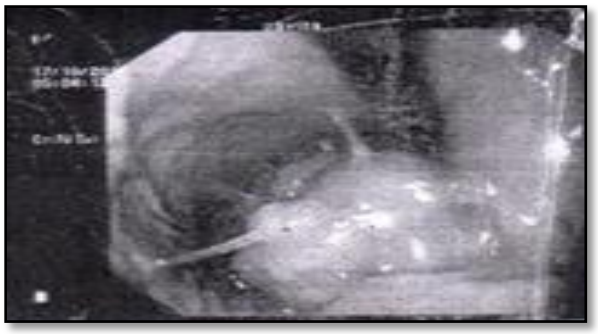
A 45 year old female presented in the opd with a lump abdomen for about 4 months in upper part of abdomen of approx size of 4x3cm. The lump grew gradually to size of 11x9cm. There was history of decreased appetite & loss of weight. There was no history of vomiting, hematemesis, malaena, upper abdominal discomfort or heaviness after meals. Bowel & bladder habits were normal.

Patient was afebrile. Vitals were stable. Pallor was present. There was no icterus, cyanosis, clubbing and lymphadenopathy. Abdomen examination revealed skin over lump was normal. Lump was moving with respiration. Lump of size 11X9cms in epigastrium extending to right and left hypochondrium and in midline 3cm above the umbilicus. Lower border was well defined. Finger could not be insinuated in upper border of the lump. Tenderness was absent. It was firm in consistency and moving with respiration. Other systemic examination was normal.

Her blood investigations were normal except for Hb - 4.6gm/dl. USG abdomen was confusing. CECT abdomen revealed heterogeneously enhancing exophytic mass lesion along the body & fundus of stomach are in favor of neoplastic etiology likely possibility of GIST can be considered.

Upper GI endoscopy revealed nodular lobulated mass in the fundus with a deep excavating 1cm ulcer on one of the lobules.

Figure 1- Endoscopic finding



Biopsy was taken from fundic mass. Endoscopy diagnosis was fundal neoplastic growth. Biopsy report was unremarkable mucosal gland with mild chronic inflammation. With repeated blood transfusion hb was build up to 10.7gm/dl in preoperative period.

Exploratory laparotomy was planned. Abdomen was opened by upper midline incision. Intraoperative findings were Lump was anteriorly covered by left lobe of liver & fibrous adhesions were present. Exophytic lump of size 12x10x8cm arising from fundus and body of stomach. Superiorly lump was adherent to left hemi diaphragm. Right side lump was abutting medial border of right lobe of liver & posterolaterally adherent to splenic hilum. Total gastrectomy with Roux-en-y anastomosis with feeding jejunostomy was done.

Figure 2- Intra-op findings

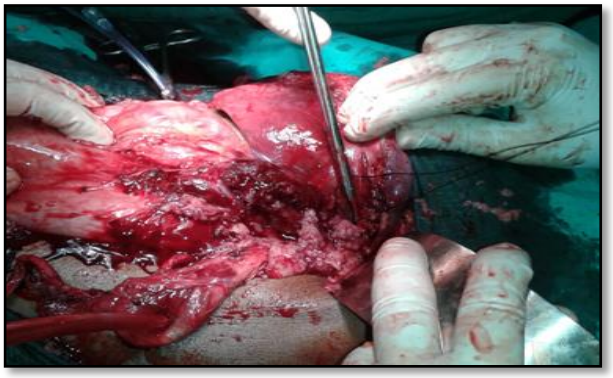
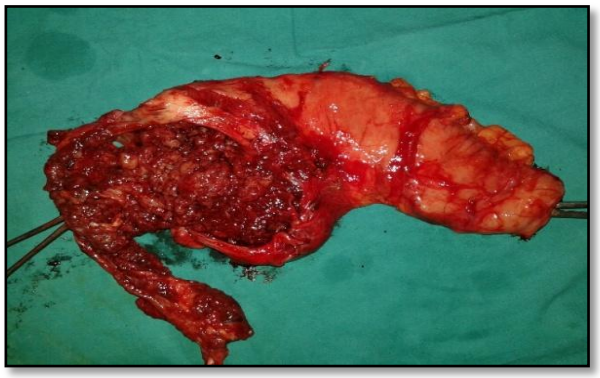


Figure 3- Intra-op findings



Post-operative period was uneventful, wound healing was satisfactory patient was discharged on post op day 14.

3. Discussion

Small GISTs are typically incidentally detected on the external aspect of stomach or intestines during radiologic studies or surgery for unrelated conditions. Less frequently, GIST is an incidental endoscopic finding. Gastrointestinal bleeding or vague ulcer-like pain is the most common symptoms of GIST.

Many of these patients have anemia due to chronic bleeding, and in some patients localization of GIST follows extensive clinical and radiologic studies. Those GISTs that do not cause ulceration can grow into a large size with little symptoms. Some of these tumors form palpable abdominal masses.

Preoperative radiologic studies by CT scan or magnetic resonance imaging are very helpful in determining the tumor configuration and its extension and relationship with adjacent organs. In general, externally bulging tumors are more common than intraluminal masses, and only some small GISTs are detected as purely intramural tumors, or rarely, as intraluminal polyps.

Large GISTs in the stomach and intestines often form externally bulging masses, whose extensive extra-GI component can mask the tumor origin from the stomach or intestines. These tumors are often centrally necrotic and cystic containing hemorrhagic-necrotic material or fluid and viable tumor only as a narrow peripheral rim.

The histologic features of GIST vary, and to some degree this variation is site-dependent. Most commonly, GISTs have a spindle cell pattern (60 - 70%), whereas epithelioid cytology is seen in 20 - 30% of cases exclusively or focally, and a pleomorphic pattern rarely (<5%). KIT-positivity in GISTs is typically strong and global.[6,7] Membrane staining is often present, and this pattern is more readily observed in epithelioid GISTs. Approximately 70 - 80% of GISTs are positive for CD34, the hematopoietic progenitor cell antigen also expressed in endothelial cells, subsets of fibroblasts and many neoplasms related to these cell types.[8]

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