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ISSN: 2690-8662

Journal of Clinical Images

Open Access | Clinical Image

An Original Image of a Rare Neoplasm Gastro Intestinal Stromal Tumour

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Received: Sep 30, 2024

Accepted: Oct 28, 2024

Published Online: Nov 04 2024

Journal: Journal of Clinical Images

Publisher: MedDocs Publishers LLC

Online edition: http://meddocsonline.org/

Keywords: Gastrointestinal stromal tumour (GIST); Identification; Risk stratification; Management.

Abstract

Background: Rare neoplasms of the gastrointestinal system known as gastrointestinal stromal tumours (GISTs) have a high risk of developing into malignant transformation. Asymptomatic GISTs are the most common kind. The easiest way to identify them is with a Computed Tomography (CT) scan; the majority of them stain positively for DOG-1, CD34, and/or CD117 (C-Kit). Numerous risk stratification categorisation schemes have been developed, with the factors of tumour size, mitotic rate, location, and perforation being taken into account. Treatment options for GISTs include excision of primary low-risk tumours, excision of high-risk primary or metastatic tumours requiring imatinib 400 mg daily for a full year, or, in the event that the tumour is incurable, the use of neoadjuvant imatinib 400 mg daily in conjunction with surgical resection. KIT exon 9, 13, and 14 mutations require sunitinib, ponatinib is used for exon 17 mutations, and regorafenib is used for highly refractory tumours. Repeated abdominal CT scans should be used to check for the recurrence of high-risk tumours. When surgery is not appropriate, radiofrequency ablation has demonstrated efficacy. Promising outcomes have been observed with newer therapy such as nivolumab, ipilimumab, and endoscopic ultrasound alcohol ablation. The epidemiology, clinical manifestation, diagnostic imaging, histologic diagnosis, risk assessment and categorisation, staging and grading, adjuvant therapy, surgical management, and metastasis of GISTs are all included in this paper.

Introduction

The most frequent mesenchymal tumours of the Gastrointestinal (GI) tract are called gastrointestinal stromal tumours (GISTs), which make up 0.1 to 3% of all gastrointestinal malignancies and 80% of all GI tumours [1]. The percentage of malignant GISTs is about 30% [2]. Although GISTs can occur anywhere in the GI tract, they are most frequently seen in the stomach (60%) or small intestine (20% to 30%) [3]. GISTs most frequently arise in the omentum, mesentery, or retroperitoneum, although they can also form extra-gastrointestinal. GISTs were first identified in the 1980s and were believed to be smooth muscle tumours. However, during the last 20 years, advancements in immunohistochemistry and the identification of gain-of-function mutations have led to the recognition of GISTs as a distinct entity [4]. Although gastrointestinal stromal tumours are known to originate from the same lineage as the interstitial cells of Cajal, it is still unclear whether these tumours originate

Cite this article: Mavale A, Dasar D. An Original Image of a Rare Neoplasm Gastro Intestinal Stromal Tumour. J Clin Images. 2024; 7(2); 1164.

from the progenitors of these cells or from the cells themselves [5]. In around 85% of rare instances of GISTs, mutually exclusive mutations of the KIT (CD 117) or platelet-derived growth factor receptor alpha (PDGFRA) have been demonstrated to activate their encoded tyrosine kinase receptors, resulting in constitutional activation [6]. After hyperplasia, this activation eventually results in neoplasia. KIT and PDGFRA mutations can also be inherited, which results in the far rarer familial GISTs. These mutations account for most of the more common sporadic occurrences of GISTs [7].

In 18% of cases, GISTs do not cause any symptoms at all, particularly when they are smaller digestive tract tumours. Typically, these tumours are discovered by accident during endoscopy, abdominal CT scans, or surgical procedures for unrelated symptoms. Patients with symptoms may exhibit nonspecific signs such as vomiting, nausea, distension of the abdomen, early satiety, discomfort in the abdomen, and in rare cases, a palpable lump in the abdomen. Depending on where the mass is located, larger tumours may compress the GIT due to exophytic growth or impede the gastrointestinal lumen due to endophytic growth, which can result in dysphagia, obstructive jaundice, or constipation. Gastrointestinal bleeding or peritonitis symptoms are common presentations of perforated neoplasms. Ulceration and pressure necrosis are the secondary causes of indolent or severe intraperitoneal haemorrhage [8].

Case

A 65-year-old Female patient with pain and swelling at abdominal region also feeling of mass at abdomen with heaviness region for the past 1-2 years and day by day increasing so patient came to our hospital for further management. An old medical record case of K/C/O-HTN /DM No K/C/O-TB/ASTHMA. A recent RBS Fasting 198mg/dl and Post meal-232mg/dl. HbA1c -5.6% ECG is Normal sinus rhythm. A well-defined, transversely movable intra-abdominal mass, measuring about 30 by 30 cm, was seen in the Right hypochondrium during a clinical examination of the abdomen. A enormously tumour was detected by abdominal CT and USG, most likely due to the omentum or the stomach's increased curvature, which caused the transverse colon to shift caudally.

Treatment

The gold standard of care for GISTs is laparoscopic surgical resection; however, an open laparotomy is the recommended course of action if the patient is unstable. For GISTs in the stomach and small bowel that are less than 5 cm in size, laparoscopic surgery (LSG) is advised. In this case image we are using open abdomen method for excision of GIST. During an elective abdominal exploration, a about 30 × 30-centimeter tumour with a sessile base was observed to arise exophytically from the stomach's greater curvature. There was no sign of lymphadenopathy or metastases, nor was there any infiltration of the mass into the nearby tissues. The tumour was removed together with the stomach's larger curvature, and the latter was then traditionally reconstructed.

Differential diagnosis: Leiomyoma, leiomyosarcoma, schwannoma, desmoid tumour, inflammatory myofibroblastic tumour, solitary fibrous tumour, sarcomatoid carcinoma, neuroendocrine carcinoma, and angiosarcoma are among the tumours that can cause peripheral nerve sheath tumours to become malignant.

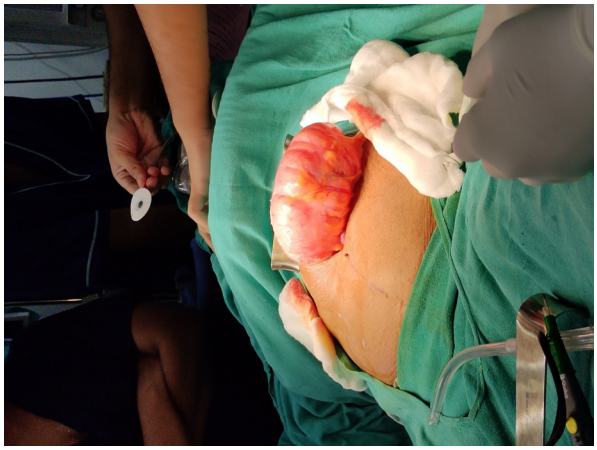

Figure 1: Before operation (excision): Gastrointestinal stromal tumor.

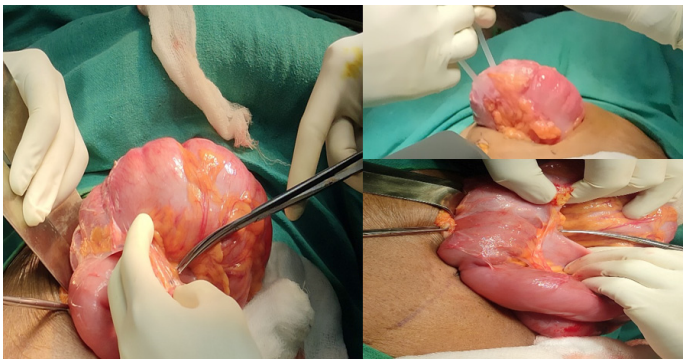

Figure 2: Completely exploring of gist.

Disclosure regarding patients' consent: Patient's consent was obtained for collecting information and producing images with maintenance of privacy and confidentiality for use in research/academic purposes.

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