International Journal of Science and Research (IJSR)
ISSN: 2319-7064
SJIF (2022): 7.942

A Case Report on Duodenal Gastrointestinal Stromal Tumour

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Abstract: ***Duodenal gastrointestinal stromal tumours are rare tumours type of mesenchymal tumour which usually requires surgical management different from other type of mesenchymal tumour. This is because of its unique location and its relation with ampula of vater, pancreas, mesentric blood vessel, biliary and pancreatic duct. The surgical management of D - GIST provide good outcome as long as adequate resection margin is achieved. The surgical procedures for resectable. Depending upon the factors above wedge resection with primary closure, segmental resection with small bowel anastomosis or whipples procedure can be done. The patient may need adjuvant or neoadjuvant chemotherapy which includes thyrosine kinase inhibitor which may increase overall survival rate.***

Keywords: Mesenchymal tumour, Duodenal GIST, Surgical management

1. Introduction & Background

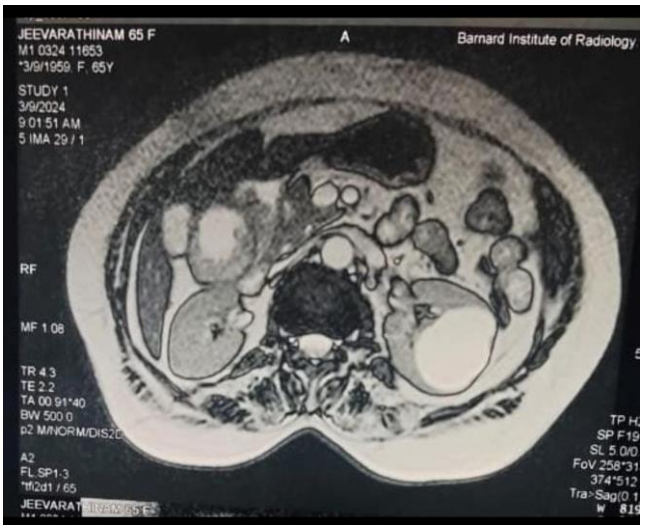
GIST are the most common type of mesenchymal tumour in the duodenum. GIST originate from the interstitial cells of Kajal which is located in the submucosa. Mutation in KIT, PDGFRA and BRAF which are growth signaling genes can lead to GIST. The incidence of GIST is around 10 - 15 cases per million with mean onset of age being above 60 years. The most common location of GIST is stomach followed by small bowel. The curative treatment of GIST is complete surgical resection of the tumour with adequate margin (R0 resection) and adjuvant chemotherapy with thyrosine kinase inhibitors. Lymph nodes involvement is rare is GIST, but if gross lymphadenopathy is present lymphadenectony should be done as the chance of recurrence is high. Local recurrence can occur if R0 resection is not achieved or if there tumour rupture and spillage.

2. Case Presentation

A 65 year old female was referred to us with incidental finding of mass with possibility of it being duodenal GIST for evaluation. On examination a vague mass of size 4*3*cm* was palpable in epigastric localized to right side of midline, hard in consistency, ill defined margin, irregular surface, does not move with respiration. Routine test showed patient with anemia with Hb of 8. Ct and CECT abdomen was taken which showed evidence of well defined soft tissue lesion measuring 4.3*3.6 cm *(fig - 1)*. arising from the second part of duodenum occupying hepatoduodenal ligament, showing both exophytic and endoluminal component. No enlarged lymph nodes were present. MRCP was done which revealed the same. OGD scopy was done and the scope could not be passed beyond D1 region, so CT - guided biopsy of the lesion was done which showed GIST of duodenum. After getting anaesthesia fitness patient was taken up whipples procedure, intra - operative findings was a well defined soft fleshy tumour involving lateral and posterior segment of D2 segment extending into the lesser sac *(fig - 2)*. Whipples procedure was done followed by feeding jejunostomy.

She was started on feeding through feeding jejunostomy on POD - 3 and on oral feeds from POD - 8. Post operative Histopathology showed GIST of spindle type origin *(fig - 3)* with no lymph node involvement with pathologist staging of pT2N0M0.

After 2 months patient was refered to medical oncology and was started on IMATINIB 400 mg OD for 3 years.



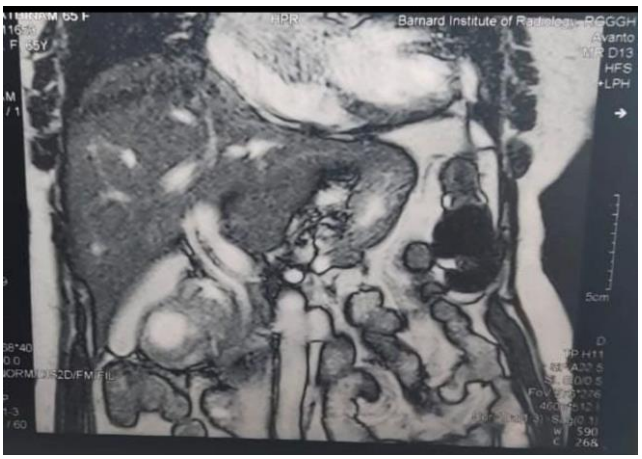


Figure 1: CECT - Abdomen showing mass involving D2

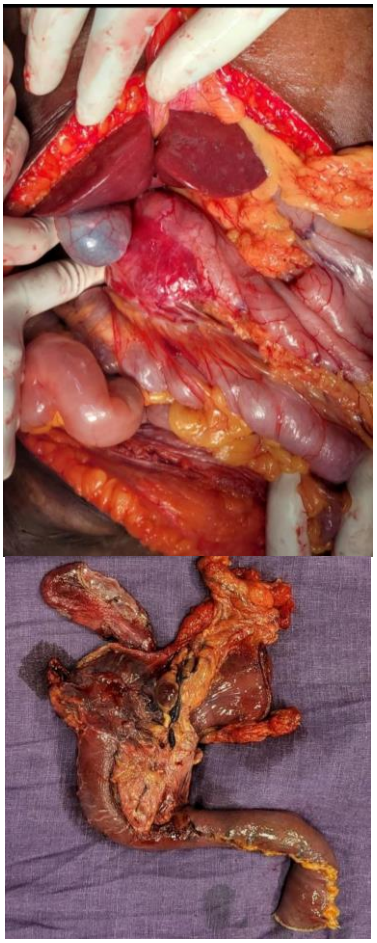


Figure 2: Intra - op and Post - operative specimen picture

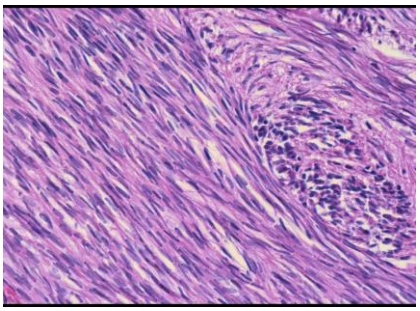


Figure 3: Post - operative Histopathological specimen showing spindle cell variant of GIST

3. Clinical Discussion

GIST as primary site in duodenum (D2 being most common location followed by D3 and D2) is very rare with incidence less that 5% of all cases. It is observed mostly in adults with mean age of 60 years, duodenal GIST often presents as asymptomatic and an incidental finding. If symptomatic the most common presentation is upper GI bleed followed by abdominal pain, abdominal mass, and anaemia. Symptoms of GIST appears mostly if size of the tumour is more that 5 cm. Our patient presented with abdominal mass and anaemia with tumour size of 4.3*3.6 cm. Metastasis is common in duodenal GIST at the time of presentation as it is mostly asymptomatic. Preoperative diagnosis is very important in D - GIST as it will determine the surgical procedure. Staging CT and MRI are standard modality to evaluate the size and location of tumour. EUS guided biopsy or CT guided biopsy is required if palliative or neoadjuvant therapy is planned.

The surgery for duodenal GIST depends upon size and location. Local resection involves excising the tumour with primary closure without transecting or anastomosis of duodenum, this is done in patient with tumour size of less than 2 cm or only exophytic components are present. Segmental resection involves transecting the duodenum with reconstruction like billroth - 1 gastroduodenostomy, billroth - 2 or Roux - en - Y gastrojejunostomy, end - to - end duodenoduodenostomy or end - to - side duodenojejunostomy, this is done in patient with tumour greater than 2 cm with no adjacent structures involved. Whipples procedure involving gastrojejunostomy, choledocojejunostomy, pancreticojejunostomy is done if surrounding structures like pancreas, pancreatic duct, ampula of vater or pancreatic duodenal wall.

Other options for duodenal GIST are laparoscopic local resection of the tumour which causes minimal blood loss, less operative period and less intraop and post op complications. Robotic resection of the tumour and reconstruction is also a resent modality. Although these modalities are better in terms of complications and mortality of the patient the over all survival rate of both are same.

4. Conclusion

Duodenal GIST are rare tumours with presentation varying from patient being asymptomatic to active bleeding. Surgical R0 resection remains the mainstay treatment for these tumours, due to complex location of the duodenum local resection or limited resection is not always feasible. As the patient is mostly asymptomatic at the time of presentation the tumour usually is greater than 3 cm involving adjacent structures whipples procedure is the treatment of choice in these patients.

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