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Small Bowel Adenocarcinoma Presenting As Intussusception in Young Adolescent: A Case Report

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Abstract

Small intestine comprises of 75% of total bowel length and contributes to around 90% of the functioning of gastrointestinal tract. Small bowel tumors are a rare entity despite high epithelial turnover. An 18-year-old male presented with a history of diffuse colicky pain abdomen associated with multiple episodes of vomiting for 2 days. There was history of significant weight loss for past 2 months. On palpation abdomen was soft and distended. No mass was palpable. USG abdomen revealed a target sign in RIF suggestive of intussusception. Corroborative CECT was suggestive of ileojejunal intussusception with viable bowel loops. Patient was taken up for emergency surgery and diagnostic laparoscopy was done where the transition point was identified and approximately 20 cm of bowel could be reduced with laparascopy. Due to inability to further reduce the bowel, it was converted to mini laparatomy through the port sites. Small bowel resection including the pathological lead point was done with side to side jejunoileal anastomosis. Postoperative period was uneventful and patient started tolerating orally from POD 4. The HPE report diagnosed the case as Well differentiated mucinous adenocarcinoma(pT3N0). Patient was referred to Oncology OPD and was started on Chemotherapy #7 cycles of Tab Capecitabine500 mg(4-0-3).

SBA is an uncommon malignancy that requires extensive investigations for diagnosis and management. Presentation is usually at an advanced stage hence evaluation for etiology of bowel obstruction should include SBA, particularly in elderly.

Keywords: Small Bowel Adenocarcinoma, Small bowel obstruction, intussusception, adjuvant chemotherapy.

INTRODUCTION

Small bowel comprises of 75% of total bowel length and contributes to around 90% of functioning of GI tract. Small bowel tumors are a rare phenomenon despite high epithelial turnover.

The incidence of small bowel tumour is around 1-2% with the most common type described in literature as a carcinoid tumour(1). Duodenum is the most common location with adenocarcinoma as the most common variety of malignancy(2). Male to Female ratio is 1.3:1. Small bowel adenocarcinoma presenting with features of bowel obstruction is an uncommon presentation. The pathogenesis of SBA remains unclear, however recent literature denoting the pathophysiology of colorectal cancer (CRC) in terms of the adenoma–carcinoma transformation and associated risk factors have found some

resemblance. Other risk factors like environmental factors that include diet rich in red meat, smoked foods, processed foods, and saturated fats are also implicated in the etiology of SBA. High incidence rates have been observed in patients with hereditary nonpolyposis colon cancer(1-2%), familial adenomatous polyposis (FAP- 4-12%), and Peutz–Jeghers syndrome(15%).
We discuss one such case of a 18 yr old young male presenting with features of intestinal obstruction due to a mass in jejunum.

CASE SUMMARY

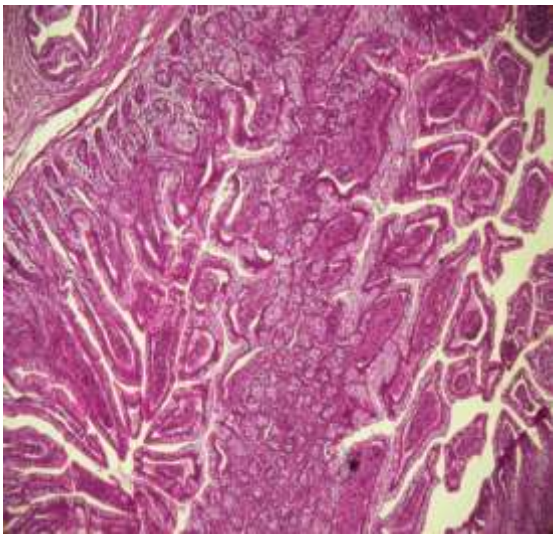
18 yrs old male presented to the emergency department with complains of severe pain abdomen associated with multiple episodes of bilious vomiting for past 2 days. On obtaining detailed history patient elicited that he had been complaining of recurrent episodes of intermittent colicky pain abdomen for past 2 months which used to get relieved on its own after 2-3 mins. There was associated history of significant weight loss of approximately 10 kgs in past 2 months.
On presentation to the ED patient had tachycardia and was dehydrated. Abdomen was soft, non tender and was grossly distended. No mass was palpable and bowel sounds were sluggish. Patient was evaluated and on USG abdomen bowel in bowel (Target sign) was seen in Right iliac fossa suggestive of Ileoileal or jejunoileal intussuception. A corroborative CECT was suggestive of Ileo-Ileal intussuception with viable bowel loops (Figure 1). Lead point could not be identified in the scan.
Patient was resuscitated with intravenous fluids and was taken up for emergency surgery. Initially, diagnostic laparascopy was done where the transition point was identified and approximately 20 cm of bowel could be reduced with laparascopy. However, there was still a significant amount of bowel that could not be reduced, hence it was converted to mini laparatomy (Figure 2). Small bowel resection including the pathological lead point was done with side to side jejunoileal anastomosis (Supplementary figure 1). Postoperative period was uneventful and patient started tolerating oral diet from POD 4. On pathological evaluation, gross specimen identified a cauliflower like mass arising from the inner wall of ileum as a pathological lead point (Supplementary figure 2). The histopathological report diagnosed the case as Well differentiated mucinous adenocarcinoma (pT3N0) (Supplementary figure 3). Patient was referred to the Oncology OPD and was started on Chemotherapy #7 cycles of Tab Capecitabine 500 mg (4-0-3).

CECT Abdomen coronal view depicting dilated Ileum loops with collapsed distal bowel suggestive of small bowel obstruction.

Intraoperative view: dilated jejunum and proximal ileum with collapsed distal ileum with a mass as a transition point.

Resected specimen demonstrating the pathological lead point.

Gross specimen identitied a cauliflower like mass arising from the inner wall of ileum as a pathological lead point



Histopathological image diagnosed the case as Small bowel mucinous adenocarcinoma.

DISCUSSION

Small bowel tumors are 40-60% times lesser common than Colorectal carcinomas despite having maximum length and absorptive surface area. The presentation of small bowel malignancy is non specific which makes the diagnosis of small bowel tumors difficult and frequently delayed. Routine diagnostic investigations are inaccurate and inconclusive to detect early or locally advanced stages of SBA because of the inaccessibility of the small bowel (4).

Primary Small bowel adenocarcinoma is an uncommon occurrence and challenges surgeons in both detection and treatment. The clinical manifestation of SBA is not specific(abdominal pain, weight loss, nausea and vomiting, fatigue, anemia due to occult GI bleed) that makes the diagnosis and evaluation even more challenging.(5)

Intussusception in adults is usually due to enlarged lymph nodes as a pathological lead point and malignancy as an etiology for intussusception is an exceptional occurrence. Ileo jejunal intussusception

due to a mass in the lumen of bowel presents with features of bowel obstruction and although rare it should be kept as one of the differential diagnosis of small bowel obstruction.

SBA usually presents as a short annular intraluminal lesion with irregular margins and duodenum is the usual site of lesion whereas carcinoids are more commonly located in Ileum . SBA presenting as small bowel obstruction with location in jejunum and ileum is a rare entity. They usually present in a more advanced stages and after detailed evaluation are candidates for adjuvant Chemotherapy. But the prognosis is usually poor for such patients.

There are multiple evaluation modalities available for evaluation of SBA but are limited in diagnostic accuracy. Barium meal follow through has a sensitivity of around 50% in the detection of tumor but it fails to characterize the lesion. Contrast enhanced CT of bowel with thin slices(<1mm) has the highest sensitivity as it can detect bowel thickness and also characterize the lesion. Short annular intraluminal lesion with irregular margins in duodenum are usually features of adenocarcinoma. Lymphoma in small bowel present with smooth margins with regular contour.

Management of SBA is mainly surgical based on R0 resection with adequate lymph node dissection. The intraoperative finding of SBA should respect the classic oncological requirements: complete exploration of the entire peritoneal cavity for possible metastases, exploration of the mesentery for lymphadenopathy, liver palpation, careful palpation of the whole of the small intestine and the colonic frame looking a second location or a potential primary tumor. R0 resection with 5cm margin is usually the safe margin as described in oncology literature. But presentation of SBA is usually advanced and patients present in ED with features of bowel obstruction and its difficult to maintain R0 resection in emergency surgery. Postoperative histopathological diagnosis of SBA requires detailed evaluation in form of CECT chest abdomen and pelvis to look for primary and lymph nodal involvement and in some cases PET CT is indicated. Stage 2 and 3 patients are candidates for adjuvant chemotherapy in form of FOLFOX or CAPEOX regimen. CAPEOX regimen is usually associated with less toxic side effects. Just like in any other malignancy, the most important prognostic factor in SBA is the TNM classification. Despite a relative improvement in the median overall survival (OS) for localized disease, the overall prognosis for SBA remains poor. As per ARCAD-NADEGE trial the 5-year overall survival (OS) rate is 50% for stage I, 40% for stage II, 10–40% for stage III, and reaching less than 5% for stage IV disease [6]. The other factors associated with worse prognosis are male gender, duodenal location, poor differentiation, and SBA associated with Crohn's disease as compared to de novo SBA. Due to delayed presentation of SBA patients usually are in stage III or stage IV disease.

CONCLUSION

Small bowel adenocarcinoma is a rare malignancy and it's unpredictable presentation makes it difficult to anticipitate adequate treatment as per surgical oncology principles.

SBA presenting as intussusception is an uncommon phenomenon and presentation in a young individual as a cause of bowel obstruction is a rarity in itself. Surgeons should keep in mind the possibility of jejunal adenocarcinoma while evaluating for causes of small bowel obstruction.

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