CASE REPORT

Adenocarcinoma of ileum: a case report

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Abstract

Small bowel cancers are a rare group of cancers of the gastrointestinal tract. Adenocarcinoma of ileum is an even rarer pathology to come across. We had a case of small bowel adenocarcinoma (SBA) who presented with recurrent abdominal pain and vomiting to different local hospitals. Abdominal ultrasound showed dilated bowel 4.7cm in size with sluggish movement. Patient was treated symptomatically for 3 months with poor outcome. Then patient presented in our hospital as an emergency with intestinal obstruction and haemodynamic instability. Exploratory laprotomy was performed after initial optimization. A hard stricture was found in ileum. The segment of ileum with suitable margins was resected and loop ileostomy was performed. Histopathology findings indicated an adenocarcinoma of ileum. Our rationale to report this case is to raise awareness among physicians about SBA in patients with vague abdominal pain and vomiting, and the fact that negligence in diagnosing this rare cancer can turn it into a surgical emergency which increases the morbidity and mortality in patients.

Keywords: Small bowel adenocarcinoma - rare - emergency - surgery

Introduction

Malignant tumours of the small intestine are an uncommon finding globally. The worldwide incidence is of less than 1.0 per 100 000 population.[1] One study in Pakistan reported 102 cases for Ampullary, Periamapullary, pancreatic, and Small intestine Carcinoma from a total of 10,000 cancer cases encountered in a calendar year.[2] Multiple international studies indicate that the incidence of small bowel cancers is greater in western world than in Asia.[1] Small bowel cancers are either benign or malignant with over 40 different histological types. The malignant types include carcinoid (44%), followed by adenocarcinoma (33%), lymphoma (15%), and sarcoma (8%).[3]

Being a rare type of cancer and notoriously difficult to diagnose, the exact pathogenesis of SBA has always evaded researchers. Studies have reported increase risk with alcohol, increase intake of animal fat, refined carbohydrates, high sugar consumption, smoked food or red meat, while reduction in risk was seen with high intake of fish, coffee, fruits and vegetables.[4,5] Diseases such as familial adenomatous polyposis, Cröhn's disease, hereditary non-polyposis cancer, other GI polyposis, and coeliac disease have also shown correlation with increase incidence of small bowel adenocarcinoma. Due to a nonspecific presentation, the diagnosis of SBA is delayed by 6-10 months.[6] Patient usually presents with nausea, vomiting, melena, palpable abdominal mass, anaemia, weight loss, dyspepsia, jaundice and intestinal obstruction.[7,8] Despite the improved results of various diagnostic modalities such as CT enteroclysis, double-balloon enteroscopy or video capsule endoscopy, SBA is frequently diagnosed per-operatively. Surgical resection remains the mainstay of treatment whereas the role of chemotherapy is still under review.

Case Report

A 62 year old male with no known comorbids started experiencing recurrent abdominal pain and vomiting at every 3-4 th day interval with no altered bowel habits. He also noticed significant weight loss for past 6 months. Patient was treated with oral drugs at different local hospitals and was investigated for H.pylori and hepatitis. Ultrasound abdomen was performed and it showed all viscera's to be normal except bowel was found to be dilated 4.7 cm with sluggish bowel movements but no further investigations were performed. Then after 3 months, patient came to Kulsum Bai Valika social security hospital in January 2018 in emergency with haemodynamic instability, abdominal distension, vomiting and absolute constipation. Patient was admitted, baseline investigations were done and abdominal x-ray was performed which showed multiple air-fluid levels [figure 1] suggestive of complete intestinal obstruction. Nasogastric tube was passed and patient

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Figure-1: Abdominal x-ray showing air-fluid levels).

was catheterized, while I/v fluid and antibiotics were also started. Decision to perform exploratory laprotomy was taken after initial optimization. Per-operatively proximal bowel was hugely dilated and distal ileum as well as large intestine was found to be collapsed. A hard stricture was found obstructing the small bowel completely. The suspected tumour measured 1.5x1 cm and was about 70-75cm proximal from ileocaecal junction. Two mesenteric lymph nodes were enlarged with the suspicion of carcinoma. Resection of the diseased part of gut with appropriate margins and mesenteric lymphadenectomy was performed. Loop ileostomy was created due to lack of preoperative diagnosis and staging workup of suspected tumour, as well as for future need to reoperate involved margins. Postoperatively patient remained vitally stable; he received 4 days of total parental nutrition (TPN) because of extreme weight loss and a body mass index of 11.3; He was subsequently discharged on 8th postoperative day with advice for stoma care. On histopathology, diagnosis of adenocarcinoma of ileum was confirmed [figure 2]. It was found to be moderately differentiated with tumour free margins and no lymph nodes metastasis. It was followed by CT scan abdomen and chest, colonoscopy, upper gastrointestinal endoscopy and distal loopogram with gastrographin. No

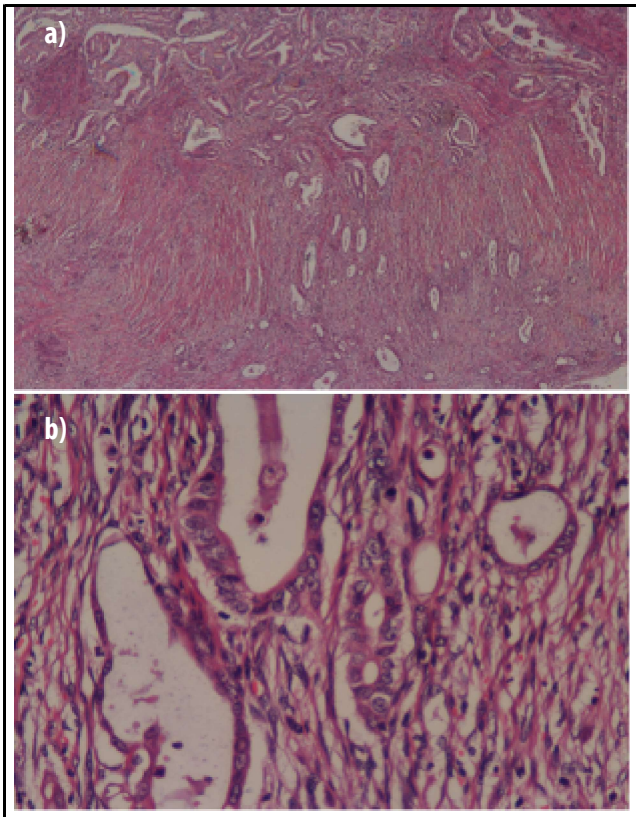

Figure-2: a) Microphotographs of the tumour from the pathologic specimen; haematoxylin and eosin staining of a full thickness section of small intestine at low power magnification (x40), showing dysplastic glands invading into lamina propria and muscularis propria. b) High-power magnification (×400) showing dysplastic glands in adenocarcinoma of ileum.

synchronous lesions as well as distant metastasis were found after the extensive workup. The tumour was staged as T3N0M0. Serum CEA level was 5.6ng/ml. In postoperative follow up patient only had stoma complication i.e. skin excoriation which was very extensive. Reversal of stoma was done after 8 weeks of first surgery. No chemotherapy was given after consultation with oncologist. Patient will be followed after 3 months, 6months and yearly.

Discussion

SBA is more predominant in duodenum, followed by jejunum and ileum with a diminishing frequency as we go distally. One study found 52% SBA in duodenum, 25% in jejunum, 13% located in ileum and 10% at non specified sites in patient.[6] High concentration of bile and its metabolites in duodenum compared to jejunum and ileum have been attributed as a cause of increased risk

by Lowenfels[9] Diagnostic tools, as CT enteroclysis has a sensitivity and specificity of 100% and 95% respectively.[10] Upper gastrointestinal series has an accurate diagnostic yield in 50-70% of patients with neoplasm of small intestine.[11] Video capsule enteroscopy (VCE) allows viewing the complete mucosal length, with some studies reporting a prevalence rate as high as 8.9% for patients undergoing VCE.[12] For diagnosing small bowel tumours presenting with obscure bleeding, VCE has a sensitivity of 88.9- 95% and a specificity of 75-95%.[13,14] However capsule endoscopy is contraindicated in suspected obstruction and thus should be used with caution as restrictive growth and obstruction is common in adenocarcinoma of lower intestine. Push enteroscopy, is limited to visualizing the proximal 150-200 cm of small bowel. Double-balloon enteroscopy allow pan-enteric examination of small bowel, though it is time consuming and only available at specialized centers.

Once diagnosis is confirmed, French guidelines[15] recommend doing a thoraco-abdomino-pelvic CT to asses for distant metastasis, and an upper and lower gastrointestinal endoscopy to look for other tumours suggesting a predisposing genetic disease. Tumour markers such as carbohydrate antigen (CA) 19-9 and carcinoembryonic antigen (CEA) should be done at baseline, as they have prognostic value especially in advanced disease. Despite the advancement in diagnostic techniques, cancer of small intestine can present as surgical emergency. In one retrospective study 31 out of 43 patients with SBA presented as surgical emergency.[16] In another study[6] all the tumours located in jejunum and ileum required emergency intervention, as was the case with our patient. Emergency manifestation can be obstruction, perforation or gastrointestinal bleeding.

A Whipple resection is the option for a tumour involving the duodenum. Additionally, resection of lymph nodes surrounding the duodenum, pancreas and liver should be performed. Adenocarcinomas of jejunum and ileum are best managed by wide segmental resection and regional lymphadenectomy. For tumours involving distal ileum, a right hemicolectomy should be performed. In patients with symptomatic advanced disease, surgical intervention can be used as palliative measure to relieve intestinal obstruction.[11] In surgery, involvement of local lymph nodes, including mesentery lymph nodes, are correlated with the prognosis of disease. Chemotherapy is of benefit, especially when there is metastatic disease. Makino et al[17] concluded Fluorouracil- or fluoropyrimidine-based regimens might effectively treat unresectable or recurrent SBA.

Conclusion

Small bowel cancers are a challenging entity with vague presentation leading to a delay in diagnosis. They may even present as a surgical emergency and therefore, its imperative to raise suspicion among physicians about its presentation. Surgical intervention can be used both for curative as well as palliative purpose. These cancers should be managed by a multidisciplinary team of surgeons and oncologist for best results. Chemotherapy may have a role in advance stage of disease.

Declarations Consent to participate: Informed consent to participate in the study was taken both from the patient and his family.

Disclaimer: None.

Conflict of Interest: The head of department who signed the ethical review statement is also the co-author of this case report.

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