

Case Report

Jejunal adenocarcinoma in a young female patient – Case Report

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Keywords: small bowel, jejunum, adenocarcinoma, unexplained abdominal pain, diagnostic laparoscopy, minimal access surgery

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Received: 30 Oct 2020, Accepted revised version: 12 Jan 2021, Published: 13 May 2021
Competing Interests: Authors have declared that no competing interests exist

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Introduction

The duodenum and the small intestine comprise about 75% of the digestive tract but the incidence of neoplastic lesions is extremely low, especially compared to that of the large intestine which accounts for only a quarter of the length of the small bowel. A variety of tumours, both malignant and benign, are reported from the small intestine, accounting for 2-5% of the neoplasms in the gastrointestinal tract [1,2,3]. The commonest type of primary malignant neoplasm of the small intestine is carcinoid (35%-42%) followed by adenocarcinoma (30%-40%), lymphoma (15%-20%) and sarcoma (10%-15%) [4,5]. More than 50% of the adenocarcinomas are found in the duodenum and the incidence drops along the rest, being about 27% in the jejunum and only around 10% in the ileum [5].

Primary adenocarcinoma of the small intestine is usually aggressive. They commonly present at an advanced stage due to the non-specific nature of clinical features, which leads to delay in diagnosis [5,6]. Delays of around 6-10 months from the onset of symptoms have been reported [1]. Due to the low incidence of the disease, its pathogenesis, clinical characteristics, treatment modalities and prognosis are not clearly understood, especially in the Asian populations. However, complete surgical resection plays a major role in curative treatment [1,5,6].

Minimal access surgery (MAS) has become an indispensable tool in evaluating patients with chronic abdominal pain especially when other imaging modalities do not yield conclusive findings [7].

We report a rare case of a young female patient with a small bowel adenocarcinoma (SBA) of the jejunum which was diagnosed with the aid of MAS.

Case description

A 47 year old, previously healthy female presented to the surgical clinic with a history of nonspecific abdominal pain, mainly confined to the left hypochondrium and the peri-umbilical region for about 3 months. It was associated with nausea and vomiting at times. Inquiry regarding other common gastrointestinal symptoms was unremarkable. She had no surgical history or trauma to the abdomen. General and systemic examination, including the abdominal examination, showed no significant abnormality. Symptomatic management was initiated pending investigations. X-ray and ultrasound scan (USS) of the abdomen were normal. Upper gastrointestinal endoscopy (UGIE) and colonoscopy were normal.

Her symptoms failed to resolve with symptomatic management. She had recurrent admissions and developed significant loss of appetite and loss of weight over the next 4 months. Contrast enhanced computed tomography (CECT) of the abdomen was performed but it did not yield any findings to account for her symptoms. She was evaluated by the Psychiatry team as well since no obvious organic cause was identified. A diagnosis of moderate depression was made and she was started on sertraline.

She was re-admitted with features of dehydration following a bout of persistent vomiting. The abdominal examination was unremarkable but supine X ray abdomen showed a localized dilated small bowel loop in the left upper quadrant (Figure. 1) which raised the suspicion of a jejunal obstruction by congenital band, neoplasm or small bowel stricture.



Figure 1: X-ray abdomen demonstrating localized dilatation of a small bowel loop

After initial resuscitation and optimization, she underwent a diagnostic laparoscopy which revealed a mass lesion in the jejunum with proximal small bowel dilation (Figure: 2). The peritoneum, omentum, liver and rest of the bowel appeared normal.



Figure 2: Mass lesion seen on diagnostic laparoscopy

The small bowel loop with the lesion was delivered outside via a mini-laparotomy incision (Figure.3) and segmental resection of the jejunum was performed, along with en-block excision of enlarged mesenteric lymph nodes. Bowel continuity was restored with a side-to-side anastomosis.



Macroscopic examination of the resected specimen revealed a polypoidal tumour involving about 60% of the circumference of the jejunum. Histological examination revealed a well differentiated adenocarcinoma invading the muscularis propria. Proximal and distal resection margins were free of tumour. The resected mesenteric lymph nodes were free of malignancy.

The patient made an uneventful recovery. Oral feeding was commenced on day 2, and she was discharged home on day 7.

Discussion

The small intestine consists of the duodenum, jejunum and ileum and is around 5 meters in length in an adult. Primary and secondary malignancies of the small intestine are very rare. Adenocarcinomas are the second-commonest type of tumour [1,2,3]. SBA is commoner in the duodenum, especially in the peri-ampullary region, than in the jejunum. Carcinoids occur predominantly in the ileum [4,5].

SBA shows a male preponderance with a male: female ratio of 1.4:1. It has been shown to increase in incidence after 40 years of age [3,4,5].

Animal studies have shown a relationship between SBA and exposure to bile and chemical carcinogens, possibly explaining the proximity of the majority of SBAs to the opening of the bile duct [3]. Rapid small intestinal transit, higher IgA production and a lower number of bacteria have been proposed as possible explanations for the lower incidence of SBA than colorectal adenocarcinoma [5]. A high intake of animal fat, red meat and alcohol and smoking are implicated as risk factors, though not proven conclusively. Coeliac disease, Crohn's disease and familial cancer syndromes like familial adenomatous polyposis, hereditary non-polyposis coli and Peutz-Jeghers syndrome are risk factors for SBA [3,4].

Early SBAs are usually polypoidal in appearance. They commonly present with non-specific symptoms like colicky abdominal pain, sometimes associated with nausea and vomiting, or loss of weight. Obstructive jaundice may be the presenting feature in lesions occurring in the peri-ampullary region. The indistinct clinical presentation and difficult visualization on routine UGIE leads to delays in diagnosis of up to 6-10 months, resulting in more advanced disease at the time of diagnosis. Advanced tumours are seen as annular constricting lesions with shouldering borders, and they tend to present with intestinal obstruction. Gastrointestinal bleeding and anaemia are rarer presentations of SBA [3,8,9].

UGIE plays a major role in diagnosis as 50% of the SBA which occur in the duodenum are reachable with the endoscope. SBAs distal to the 2nd part of the duodenum are often diagnosed by capsule endoscopy or small bowel enteroscopy. SBAs may show mild to moderate enhancement on CECT and are usually seen as a focal thickening of the intestinal wall without significant dilatation [4,10]. This finding may not be obvious, as in our patient whose CECT abdomen was seemingly negative. Like in colorectal adenocarcinoma, carcino-embryonic antigen (CEA) levels in the blood may be elevated in SBA, which is useful in the follow up [3].

Radical surgical resection is the mainstay of treatment and provides a high chance of cure in SBA [1,5,6]. An extensive literature survey showed that 45%-60% of patients with SBA were suitable for curative resection, while the rest had advanced SBA at the time of diagnosis making bypass surgery or palliative resection the feasible options. Patients with SBA in the first and second part of the duodenum benefit by pancreaticoduodenectomy whereas segmental resection including lymphadenectomy was the curative option in patients with SBA in the distal duodenum (3rd and 4th parts), jejunum and proximal ileum with ileocelectomy for distal ileal SBA.

Neoadjuvant or adjuvant chemotherapy has remarkably increased the survival of patients with SBA. 5-Fluorouracil (5-FU) is the commonly used chemotherapeutic drug, administered as a single agent or combined with cisplatin, doxorubicin, levamisole or mitomycin [3,10,11].

Evaluating a patient with unexplained abdominal pain is a challenge faced by clinicians, especially when the conventional imaging modalities and laboratory investigations are reassuring or inconclusive [7]. Diagnostic laparoscopy is a feasible, safe and readily available procedure in many institutions in such diagnostic dilemmas. Early use of MAS helped in the early diagnosis of SBA in this patient and complete surgical resection was performed with good prognostic outcome, highlighting the therapeutic advantage of this approach.

Conclusion

SBA is quite rare compared to colorectal adenocarcinoma. Nonspecific clinical presentations and the lack of sensitive screening tools leads to delay in diagnosis or misdiagnosis of the condition. Therefore, a high degree of clinical suspicion and prompt diagnostic investigations are extremely useful to prevent unnecessary delays. Early use of MAS is extremely valuable in the diagnosis and as a mode of therapeutic intervention in a patient with nonspecific abdominal symptoms due to SBA.

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