CASE REPORT

ADENOCARCINOMA OF THE ILEUM; A RARE CAUSE OF INTESTINAL OBSTRUCTION

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Abstract

Small bowel carcinomas are usually in advanced, terminal stages when they are diagnosed. It's clinical rarity and multiple possible clinical presentations, makes diagnosis and management challenging. In this case report, we discuss about an elderly female who presents with intestinal obstruction due to a tumor in the ileum, which later proved to be a moderately differentiated adenocarcinoma of the small intestine.

Keywords: Adenocarcinoma, small bowel

Introduction

The small bowel is less known to harbor malignancies when compared to the rest of the gastro intestinal tract, or even compared to any other organ system of the human body. The small bowel accounts for only 2% of all gastro intestinal neoplasms, and these tumors vary widely with regards to epidemiological denominators, and clinico-pathological outcomes[1,2,4]. In the international context, 64% small bowel malignancies are reported to be malignant, of which 40% are adenocarcinomas[1,2,4].

Here we report a case of an elderly female presenting with signs of intestinal obstruction due to adenocarcinoma of the small intestine.

Case presentation

In December 2017, a 65-year-old female was transferred to the surgical unit from a peripheral hospital, with intractable abdominal pain, vomiting, relative constipation followed by absolute constipation for 1 day. The pain had originated 2 weeks prior to presentation as an intermittent, non-radiating, colicky pain, which escalated at night. The abdominal pain was initially well-tolerated, but acutely escalated to a severe, persistent, cramping colic-like pain, which made her seek medical care. She also complained of recent onset subjective loss of weight, and severe loss of appetite. She did not have any urinary symptoms or fever. Examination findings revealed a distended, tense abdomen with guarding. There was clinical evidence of free fluid. The rest of the examination was normal.

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The basic laboratory work-up including the white blood cell count, platelets, urine full report and culture, C-reactive protein, serum amylase, liver and renal function tests were normal. The capillary blood sugar level and the subsequent fasting blood sugar levels were also normal. X-ray abdomen revealed multiple air-fluid interfaces (Figure 1). Ultrasound scan of the abdomen revealed multiple dilated bowel loops suggestive of intestinal obstruction.

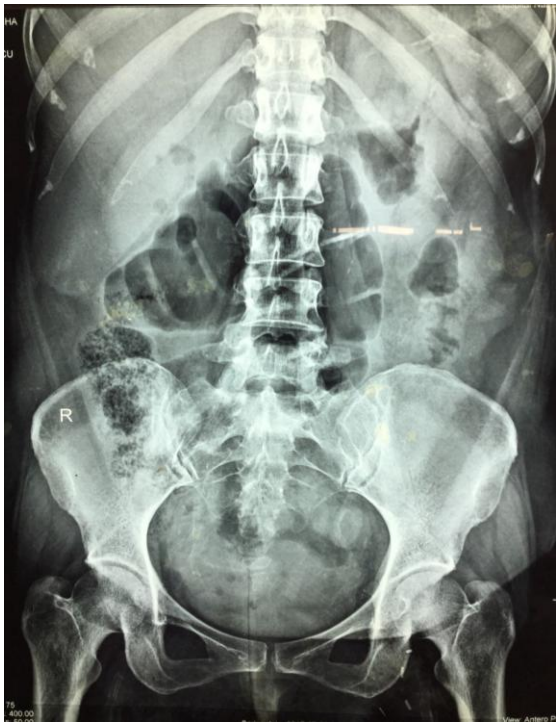

Figure 1: X-ray abdomen demonstrating multiple air-fluid interfaces

During explorative laparotomy, which was the agreed upon mode of management of acute intestinal obstruction for this patient, she was found to have a circumferential tumour in the terminal ileum, approximately 30 cm proximal to the ileo-coecal junction, causing complete obstruction of the lumen (Figures 2 - 4). There was no clinical or radiological evidence of any regional or distant metastasis. On later histological analysis, the tumour proved to be a moderately differentiated adenocarcinoma of the

ileum, with no evidence of regional or distant metastasis.

Figure 2: Intestine as seen during surgery

Figure 3: Gross appearance of the removed segment

Figure 4: Gross appearance of the tumour

The agreed upon definitive option of management was total surgical resection of the tumour, with an adequate tumour margin consisting of approximately 20cm of an ileal segment. Hence, the patient underwent successful total resection of the tumour, and end to end anastomosis of the small bowel. After a brief course of symptomatic treatment with intravenous omeprazole, metoclopramide and analgesics, she had an uneventful post-operative period with excellent recovery, and remains healthy up to date.

Discussion

Small bowel cancers demonstrate a dominant geographical distribution in industrialized countries (lesser in Asia), a male preponderance of 1.4:1, and the mean age of diagnosis is in the 5th-6th decades of life[1,2,4,10]. The low prevalence of these malignancies and their widely variable clinical presentations often make the diagnosis challenging, paving the way for an average gap of 6 to 8 months between the onset of symptoms and final diagnosis; as a result most patients are diagnosed at stages 3 or 4 with distant metastasis, unlike our patient, who had a rather acute and early diagnosis[1,2,4,5,10].

The clinico-pathological sub types of small bowel cancer include adenocarcinoma (40%), gastro-intestinal stromal tumours (GIST) (15%), and lymphomas and carcinoid tumours account for the remainder[3,5]. The anatomic distribution of the cancers tend to concentrate towards the duodenum (50%), followed by jejunum (30%) and ileum (20%), thus making ileal tumours the rarest kind of small bowel cancer[3,5]. Increased exposure to ingested chemicals and pancreatico-biliary secretions may have an effect on this particular duodenum-dominant distribution as per suggested by animal studies[10,11].

Although not been explained fully, adenocarcinoma of the small bowel is found to be associated with familial adenomatous polyposis, hereditary non-polyposis colo-rectal cancer, high intake of animal fat, red meat or salt-cured food, Crohn disease, and Peutz-Jeghers syndrome[8,9,10,11]. None of these were identified as potential risk factors in our patient.

The clinical presentation of small bowel cancer varies widely, depending on the sub type and other co morbid conditions. An initial prodrome of nausea, vomiting, and dull abdominal colics may even precede the final diagnosis of cancer by 6 to 8 months. Adenocarcinomas are likely to present as acute intestinal obstruction, whereas GIST may first present as acute gastro intestinal bleeding. However, good clinical suspicion is essential to detect small bowel cancer early, and to avoid attributing the symptoms to other more common pathologies.

With regards to investigations, other than the classic radiological findings of intestinal obstruction, small bowel adenocarcinoma can give rise to increased levels of carcino-embryonic antigen (CEA), thus providing evidence for its significant similarities to colon cancer. There could be increased levels of liver transaminases if the carcinoma is peri-ampullary and causing biliary obstruction. Imaging studies such as abdominal CT could be useful for both diagnosis and staging of the disease (American Joint Committee on Cancer staging - TNM). Upper gastro intestinal endoscopy series with small bowel follow may prove to be useful in early detection of mucosal/sub mucosal adenomas which might go through the adenoma-carcinoma sequence, carcinoma in-situ, or invasive adenocarcinoma. Small bowel enteroclysis studies, capsule endoscopy and multi-detector cross sectional imaging also aid in

the process of diagnosis in the modern context.

The mainstay of treatment for small bowel adenocarcinoma is surgical resection with adjuvant or neo-adjuvant chemotherapy. Multiple studies which included administration of infusional 5-Flourouracil (5-FU) have yielded an extension of median survival of 9 months, which was advanced to 13 months in the most recent set of clinical trials[14,15,16,18]. Salvage irinotacan therapy, and more recently, the FOLFOX 4 regimen (i.e., combination infusional 5-FU, oxaliplatin, and leucovorin) have produced positive results for 5-FU refractory cases, but never a remission[15,16]. For GIST, in contrast to conventional chemotherapy, the recently developed Tyrosone kinase inhibitor imatinibmesylate (STI571/Gleevec) has shown promising results[15,18].

Surgical resection remains the major definitive management for adenocarcinoma of small bowel. Nearly two thirds of all adenocarcinomas are resectable, whereas the other one third presents with local and distant metastasis[4,15,18]. This includes total resection/wide local excision of the tumour with adequate tumour margins. In peri-ampullary carcinoma, a pancreatico-duodectomy should be performed in synchrony to the tumour resection. For late stage inoperable tumours, palliative surgery can be offered, for example, for relief of intestinal or biliary obstruction.
In conclusion, although rare in nature, a high clinical suspicion is required to detect small bowel malignancies early. A standard screening of the small bowel would be beneficial to obtain a favorable clinical outcome, especially in the presence of any risk factors.

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