Case Report

Adenocarcinoma jejunum: A rare cause of acute onset vomiting

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ABSTRACT

Small intestine malignancies are very rare and account for <5% of gastrointestinal malignancies. Of these, around 64% occur in the duodenum, 13% in the jejunum, and 13% in the ileum. They mostly present as non-specific symptoms due to which the diagnosis is often delayed. We present the case of a 57-year-old female who presented with a short vague history of pain abdomen and vomiting. The abdominal ultrasound was normal which further delayed the diagnosis. The computed tomography scan was done which revealed circumferential thickening of the jejunal wall. On histopathology, the final diagnosis of adenocarcinoma was made.

Key words: Adenocarcinoma, Jejunum, Malignancy, Small intestine

Small intestine malignancies are a rare entity with a global incidence of 0.3–1.5 cases per 100,000 population with a higher prevalence in the Black population than Whites [1]. The four most common tumors of the small intestine are adenocarcinomas (30–40%), neuroendocrine tumors (35–42%), lymphomas (15–20%), and stromal tumors (10–15%) [2]. They usually present in the 6th decade of life. The modifiable risk factors for the small intestine adenocarcinoma are obesity, smoking, and alcohol consumption. Other non-modifiable factors include Crohn's disease, coeliac disease, adenoma of the small bowel, familial adenomatous polyposis, and Peutz-Jeghers syndrome. Small intestine adenocarcinomas are generally diagnosed at later stages due to non-specific presenting features and lack of any screening test [2,3]. We here discuss a rare case of jejunal adenocarcinoma presented with acute onset of vomiting.

CASE REPORT

A 57-year-old female presented to the department of surgery with a history of acute onset left-sided abdominal pain and vomiting for 7 days. The pain was progressive and colicky in nature which was aggravated after meals and relieved on medication. The vomitus was non-bilious and watery. She had a history of abdominal distension for the past 3 days. However, there was no history of fever, altered bowel habits, or burning micturition. She was a known case of hypothyroidism (on medication for 3 months) and type 2 diabetes mellitus (on medication for 3 years). She had a surgical history of cholecystectomy for stones and tubectomy in the past. Her general physical examination and vitals were within normal limits. On per abdomen, a vague mass was palpable in the left upper quadrant.

Her laboratory reports depicted anemia, rest all were within normal limits (Table 1). An ultrasound abdomen and X-ray chest were unremarkable. Computed tomography scan (CT scan) revealed circumferential short segment wall thickening of the proximal jejunum (Fig. 1). Tumor marker, carcinoembryonic antigen (CEA) was not elevated (CEA – 1.24 ng/ml, range 0–4.9 ng/ml).

An exploratory laparotomy and resection anastomosis of jejunum were done. The resected small bowel was sent to the histopathology department. We received a part of jejunum measuring 22 cm along with a circumferential tumor which was 5 cm away from the proximal resected end. The tumor was measuring 7×6×4 cm.

Gross examination of the cut surface showed a gray-white, solid, and homogenous tumor. It was reaching up to the serosa. The rest of the mucosa was edematous. No polyp/ulcer/stricture/perforation was identified (Fig. 2). Sections examined showed features of poorly differentiated adenocarcinoma. The tumor was

Table 1: Hematological parameters of the patient on admission

Parameter	Values
Red blood cell count	4.2×10^{12}/L
Hemoglobin	10.2 g/dl
Hematocrit	34.5%
Mean corpuscular volume	71.2 fl
Mean corpuscular hemoglobin	22.4 pg
MCHC	31.1
Red cell distribution width	16.1
White blood cell count	5.92×10^{9}/L
Platelet count	280×10^{9}/L

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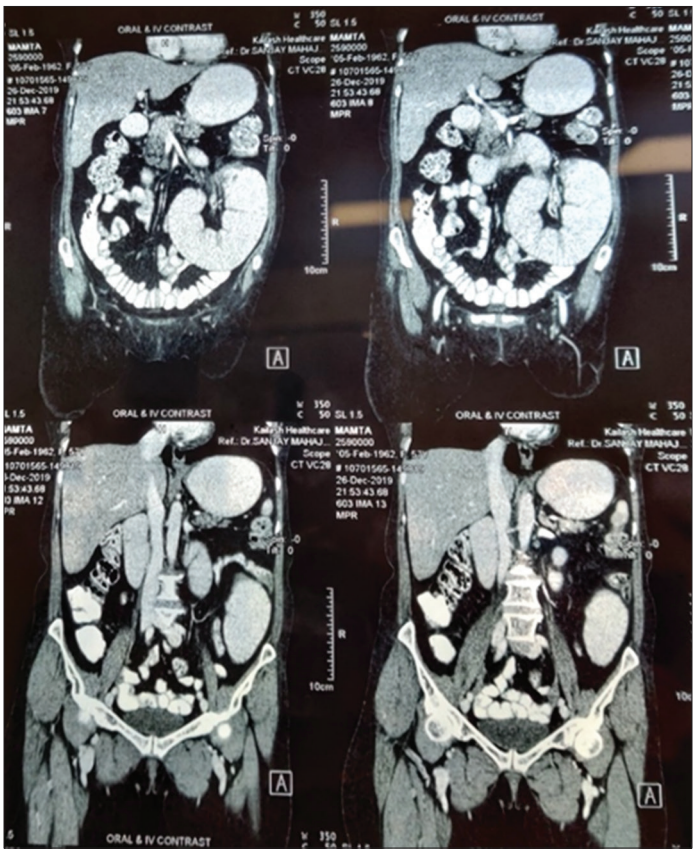

Figure 1: Computed tomography scan abdomen showing circumferential short segment wall thickening of proximal jejunum with upstream dilatation of jejunum, duodenum, and stomach, however, there was passage of the contrast distally

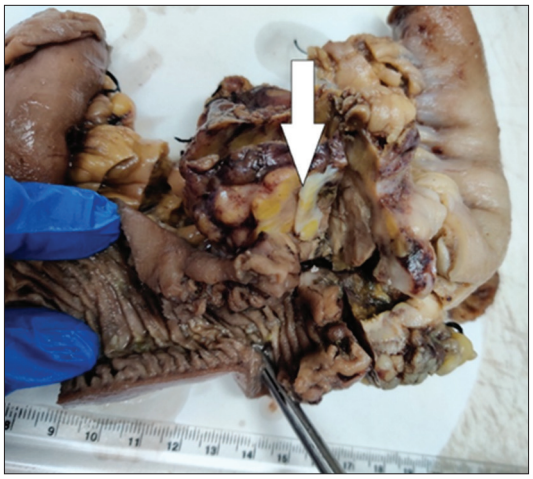

Figure 2: Gross image showing a circumferential tumor involving jejunum. The cut surface is solid and gray-white

reaching up to the serosa. However, no lymphovascular/neural invasion was seen. The tumor cells were positive for CK7 and MUC1, and were negative for LCA, CK20, and CDX2 (Fig. 3). A final diagnosis of poorly differentiated adenocarcinoma of the jejunum was rendered. The patient is doing well after 6 months of surgery and is free of symptoms.

DISCUSSION

Small bowel represents 90% of the absorptive mucosal surface and around 75% of the length of the entire gastrointestinal tract (GIT), still the small bowel tumors are very rare than other GIT malignancies. The low incidence of malignancy in small bowel as compared to large bowel is attributed to the lesser contact time between dietary carcinogens and intestinal epithelial cells, lower microbiota density resulting in less xenobiotic transformations, high level of immunoglobulin A, and the presence of anti-carcinogenic microsomal enzymes within the small intestinal epithelial cells [4]. Within the small intestine, the duodenum (48–73.6%) is the most commonly affected part followed by jejunum (13.2–31%) and the ileum (13.2–21%) [5,6].

The clinical presentation is at a later stage with vague symptoms such as insidious abdominal discomfort, nausea, vomiting, jaundice, bleeding, and anemia [5,6]. The present case had no previous long-term history and she had presented with a history of acute onset vomiting and pain abdomen which was misleading the diagnosis toward an infective etiology. The clinical differential diagnosis included gastrointestinal infection or food poisoning.

The diagnosis of the small intestinal tumors is often delayed due to these non-specific presentations and inaccessibility of esophagogastroduodenoscopy. The diagnostic modality used for the jejunal tumors is laparotomy in 85% and CT scan in the rest of 15% cases. The present case had undergone a CT scan which had revealed circumferential thickening of the small bowel, however, the tumor markers were within normal limits. Thus, exploratory laparotomy and histopathology were done to diagnose the tumor after the symptomatic treatment.

Surgical resection with margins free of the tumor along with regional lymph node resection is the treatment of choice for

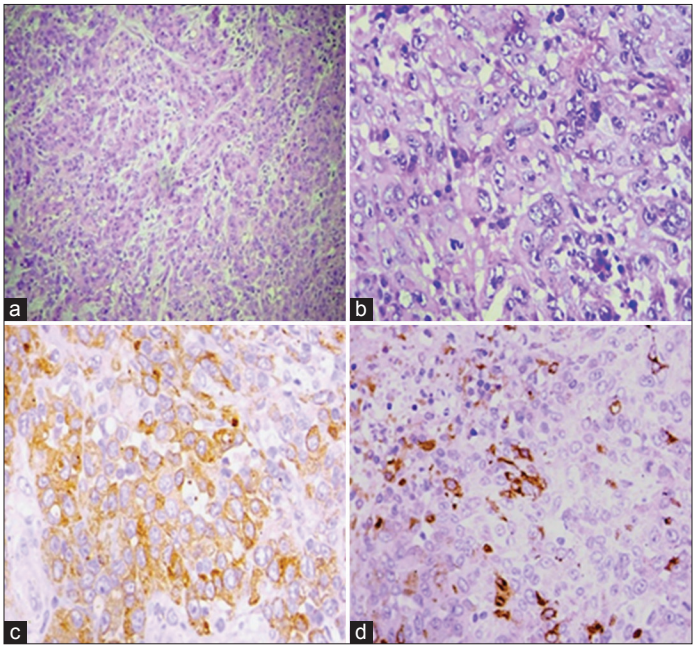

Figure 3: (a and b) Hematoxylin and eosin section showing a poorly differentiated adenocarcinoma in sheets and occasional gland formation, low- and high-power, respectively; (c) Immunohistochemistry CK7 showing cytoplasmic positivity in tumor cells; (d) Immunohistochemistry MUC1 showing cytoplasmic positivity in few tumor cells

localized small bowel adenocarcinomas, however, metastatic small bowel adenocarcinoma is also resected due to the risk of obstruction and bleeding [7]. Along with resection, chemotherapy is also given to metastatic small bowel adenocarcinomas. There is no standard chemotherapy regime for the metastatic small bowel adenocarcinoma. Hong *et al*. and Ecker *et al*. showed that higher grade tumors who received chemotherapy have higher overall survival rates than those who have not received it [5,8]. Small bowel adenocarcinoma patients treated with FOLFOX have a median overall survival rate of 17.8 months which was highest among the various other chemotherapy regimens [9]. Thus, a combination of fluoropyrimidine with platinum compounds (FOLFOX or CAPOX) has been proposed as the first-line treatment for palliative chemotherapy in metastatic small bowel adenocarcinoma treatment [10]. Newer agents like endothelial growth receptor antibody drugs can be used as the second-line treatment [11].

CONCLUSION

Jejunal adenocarcinomas are very rare and patients have vague symptoms. The present case report alerts the clinicians to have a high index of suspicion for small bowel malignancies in patients who present with non-specific abdominal symptoms. A missed diagnosis delays early treatment and timely management.

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