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JEJUNAL ADENOCARCINOMA : A CASE REPORT AND LITERATURE REVIEW

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ABSTRACT

Small bowel cancer is a rare entity , accounting a very small percentage of gastrointestinal tumors , although its incidence is increasing. Primary adenocarcinoma is the most common subtype. Due to its nonspecific presentations , diagnosis can be delayed resulting in advanced stage and poor prognosis.

Case presentation

We present the case of a 53-year-old female diagnosed with jejunal adenocarcinoma following evaluation for abdominal pain and vomiting. At the time of the diagnosis , our patient was already at a late stage with signs of peritoneal disease. She received preoperative chemotherapy and later underwent segmental intestinal resection. The postoperative course was uneventful, and the patient was referred for adjuvant chemotherapy.

Conclusion

Small bowel tumors , although rare , can be diagnostically challenging and should be included in the differential diagnosis of abdominal pain. Early diagnosis makes surgical resection easier and total prognosis better. Due to small bowel cancer's incidence being low , very few studies have been published showing the optimal management. Given the fact that even though the incidence is low, it is gradually increasing, there is necessity in setting newer guidelines to help with small bowel cancer diagnosis and treatment. This case highlights the importance of considering small bowel adenocarcinoma in patients with unexplained gastrointestinal symptoms. Timely diagnosis and surgical management are critical for favorable outcomes.

Keywords : jejunum , adenocarcinoma , small bowel carcinoma , small bowel tumors

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INTRODUCTION

The small intestine lies between the stomach and the large intestine and is subdivided into the duodenum ,jejunum and ileum . Despite its length that accounts for 75% of the gastrointestinal tract ,small bowel cancer is quaintly rare , comprising less that 5% of all gastrointestinal cancers (1,2).
Its true incidence is believed to be underestimated, partly due to nonspecific clinical presentation and diagnostic challenges (9).
The main types of small intestine cancer are sarcomas , gastrointestinal stromal tumors (GISTs) , adenocarcinomas , neuroendocrine tumors (NETs) and lymphomas (3,4). Risk factors include celiac disease , inflammatory bowel disease , hereditary cancer syndromes such as familial adenomatous polyposis (FAP) and behavioral/environmental factors like alcohol consumption and cigarette smoking (3).
Most of these malignancies present with atypical symptoms such as abdominal discomfort , pain ,vomiting , intestinal bleeding and in advanced cases loss of weight and bowel obstruction. The absence of specific clinical presentation makes the diagnosis challenging and time consuming (3,4).

METHODS AND MATERIALS

Data for this case were obtained through review of the patient's medical records, clinical examinations, laboratory results, imaging studies and histopathological reports. Diagnostic evaluation included computed tomography (CT) of the abdomen, magnetic resonance enterography (MRE), magnetic resonance imaging (MRI), and positron emission tomography/computed tomography (PET/CT). Surgical findings and tissue specimens were analyzed by the pathology department, and immunohistochemical staining was performed according to standard institutional protocols. The patient provided informed consent for the use of clinical information and images for academic and publication purposes.

CASE PRESENTATION

Our case reports a 53 year old female presenting at our emergency department with a 24hour history of abdominal pain , nausea and vomiting. Physical examinations showed a soft abdomen with tenderness in deep palpation and present intestinal sounds. No mass was palpated in the abdomen We ordered a computed tomography of the upper and lower abdomen with per os contrast that revealed a distention of the jejunum with mild thickening of the intestinal wall , narrowing of the intestinal lumen and swollen mesenteric lymph nodes.

The patient reported a similar event with abdominal pain 4 months before for which she visited a general physician who recommended a colonoscopy. The colonoscopy findings were a transverse colon polyp who was resected and the histological analysis identified a tubular adenoma with low grade epithelial dysplasia.
One month after the first episode , the patient reports another episode with the same symptoms that were automatically recessed.
Due to the repetition of the patients symptoms, we decided to admit her into our clinic for further observation. Examination of tumor-associated antigens showed prominent high levels of carbohydrate antigen 125 (CA 125) at 50.8 IU/mL and carbohydrate antigen 19-9 (CA 19-9) at 617.6 IU/mL. She was hospitalized for three days , treated with intravenous fluids and after her symptoms were improved she exited with recommendations for further radiological testing.

Magnetic resonance enterography (MRE) revealed lesions in the peritonaic fat , the bigger of them with a diameter of 1.7cm localized in the mesenteric root , more smaller lesions in the cecum , left iliac fossa , left colic flexure and enlargement of the right ovary. These findings suggest peritoneal disease (carcinomatosis) .
Magnetic resonance imaging (MRI) of the upper and lower abdomen showed thickening of the intestinal wall and lumen stenosis of jejunal loops , enlarged right ovary (possibly Krukenberg tumor) and multiple peritoneal implants.
Positron emission computed tomography (PET)/CT scans revealed abnormal accumulations of ^{18}F-FDP in the left upper abdomen originating from a jejunal loop and multiple hypermetabolic peritoneal implants .

With these radiological findings (Krukenberg tumor) the patients underwent a bilateral oophorectomy During the procedure rapid biopsy from pelvic peritoneum (frozen section biopsy) suggested adenocarcinoma of unknown origin.
Following , the patient underwent 7 cycles of chemotherapy with FOLFOX and bevacizumab.
The last 2.5 months , the patient experienced weight loss of 15 kilos that could not be attributed to the side effects of chemotherapy.
The last computed tomography scan (CT) revealed multiple nodules , comprising bigger nodes behind the left anterior abdominal wall as of peritoneal implantation.

She was then readmitted to our clinic for surgical treatment. We performed a segmental resection of the jejunum with a side-to-side jejunojejunal anastomosis , omentum resection and a topical resection of the peritoneal implantation in the left anterior abdominal wall.

Histopathological analysis confirmed jejunal adenocarcinoma, with serosal and adjacent fat invasion, low differentiated with a maximum diameter of 2,20cm. The omental and anterior abdominal wall tissue samples were positive for malignancy , showing similar histopathological features.
Immunohistochemical analysis revealed positive markers for CK7 , CK20 , p53 and negative markers for SATB-2 , PAX-8 , WT-1 , p16. The proliferation index Ki-67 was approximately 90%.
The tumor was staged as ypT4Nx.

After surgery, the patient had an uncomplicated postoperative course, with gradual return of bowel function and tolerance of oral intake. She was discharged in stable condition with recommendations for close oncologic follow-up and continuation of systemic therapy.

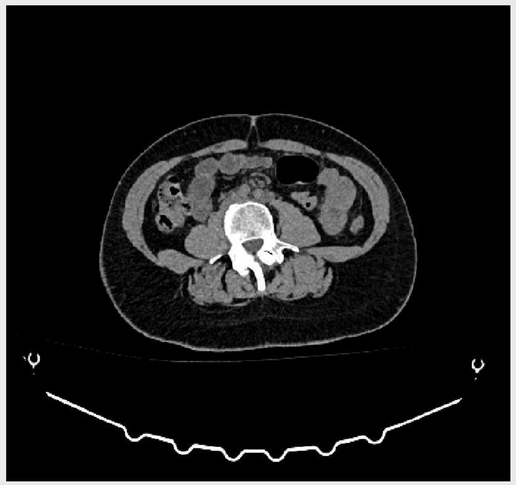

Figure 1. Abdominal computed tomography (CT) findings.

CONCLUSION

Small bowel tumors represent a small fraction of gastrointestinal malignancies , adenocarcinomas being the most prevalent followed by neuroendocrine tumours (NETs) , gastrointestinal stromal tumors (GISTs) , sarcomas and lymphomas (3,4). Adenocarcinomas are most frequently located in the duodenum (3,5). The rarity of jejunal adenocarcinoma and the atypical clinical presentation which can mimic more common gastrointestinal disorders , contributes to diagnostic delays (3,6). Similar cases reported in the literature also highlight that jejunal adenocarcinoma is often diagnosed at advanced stages due to vague and prolonged symptoms (10). Nonspecific symptoms such as abdominal pain , gastrointestinal bleeding , anemia and weight loss can be often attributed to benign conditions , delaying the diagnosis which comes at advanced stages (3,4).

Improvements in radiologic imaging such as computed tomography (CT) , CT enterography and magnetic resonance enterography (MRE) have increased the preoperative detection rates (3). Due to the limited endoscopic access of the small intestine , neoplasm located there are more commonly discovered intraoperatively or incidentally during investigations for other gastrointestinal disorders. Capsule endoscopy and balloon assisted enteroscopy can contribute in diagnosis but unfortunately they are not always widely available or feasible (3,6).

Currently, there are no standardized diagnostic algorithms or consensus guidelines for optimal management, and treatment strategies are largely based on colorectal cancer protocols with limited retrospective data (7,6). The role of chemotherapy and targeted therapy continues to evolve, yet evidence remains insufficient to guide uniform practice (8,7). The National Comprehensive Cancer Network (NCCN) has provided preliminary guidance, but recommendations rely heavily on low-level evidence and expert consensus (7). Overall, the literature highlights a critical need for multicenter prospective studies aimed at clarifying optimal diagnostic and therapeutic strategies to improve outcomes in jejunal adenocarcinoma (6,7,8).

Surgical segmental resection with lympadenectoy is the recommended approach for treatment (4,5). Prognosis is largely depended on tumor stage and lymph node infiltration at the time of diagnosis (5). Early stage disease caries a relative better outcome , whereas advanced or metastatic disease is associated with poor prognosis (5).
This case underscores the urgent need for large multicenter studies and the development of clear diagnostic pathways and management guidelines to improve early detection and patient prognosis (6,7,8).

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