Intussuscepted Metachronous small bowel tumor after treatment for colorectal adenocarcinoma

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**Introduction**

Small Bowel adenocarcinoma (SBA) is a rare malignant neoplasm without specific signs or symptoms. It’s been associated with late stage disease presentations. Midterm outcomes have suggested that after successful removal of colorectal carcinoma, there is higher risk for developing a further primary (metachronous) colorectal tumor. However when it comes to small bowel, metachronous carcinomas are unusual.

**CASE PRESENTATION:** A 46-year-old female who underwent an emergency Hartmann's procedure two years previously and treatment of adjuvant chemotherapy for adenocarcinoma of the sigmoid colon at stage IIIB with loco-regional recurrence.

The patient presented with bowel obstruction secondary to a small bowel intussusception, confirmed by computed tomography. An emergent exploratory laparotomy was performed and confirmed an ileal tumor as the cause of small bowel intussusception and clinical bowel obstruction. Histopathology confirmed a primary small bowel mucinous adenocarcinoma with node metastasis (T3N1M0, stage IIIB).

**DISCUSSION AND CONCLUSION:** Patients who develop a small or large bowel adenocarcinoma have high risk of presenting a second tumor at both sites. Since data available to guide therapeutic decisions for patients presenting with small bowel metachronous tumors are scarce, the role of adjuvant therapy in patients who undergo curative resection remains unclear.

The aim of this manuscript is present a case report of a patient admitted for a rare obstructive small bowel intussusception therefore underwent surgery for metachronous small bowel carcinoma from colorectal primary which previously treated by surgery and adjuvant chemotherapy. Studies about strategies for detection at an earlier stage, optimal treatment and prognosis are mandatory for this disease.

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1. Introduction

Five percent of malignant neoplasms of the gastrointestinal (GI) tract occur in the small bowel [1]. Adenocarcinoma is the most common histopathology with the following distribution: 56% duodenum, 16% jejunum, 13% ileum, and 15% not identified [2]. The annual incidence of small bowel adenocarcinoma (SBA) in the USA is approximately 3.9 cases per million persons with age ranging between 60 and 70 years [3]. Most of them are asymptomatic until complications such as bleeding, perforation or intestinal obstruction have appeared. Nonspecific signs and symptoms associated with difficulty in performing small bowel examination is the cause of a delayed diagnosis and typically late stage presentations [3].

Small bowel intussusception is a common condition in childhood, mostly for an idiopathic cause. However, it is possible to see this pathology exceptionally in adults, with a 90% of cases due to an organic disease [3].

After successful colorectal cancer removal, there is high risk of developing a further primary (metachronous) large bowel tumor [3]. However, metachronous carcinomas affecting the small bowel are rarer. We present a case of a small bowel adenocarcinoma at an advanced stage, following surgery and adjuvant chemotherapy for colorectal adenocarcinoma, with atypical presentation at emergency room, as a rare obstructive small bowel intussusception. This case is reported in line with the SCARE criteria and PROCESS guidelines [4].

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2. Case report

46-year-old female with past surgical history of Hartmann’s procedure on 2017 for abscessed and obstructive adenocarcinoma of the sigmoid. Histopathological study confirmed low-grade mucinous adenocarcinoma of sigmoid colon with involvement of all layers and perforation of the visceral peritoneum, pt4pN0. K-RAS gene mutation was present thus chemotherapy with capcitabine was completed. Hartmann’s reversal procedure was performed months later.

Thereafter 18-months-postoperative follow up appointment, computed tomography (CT) revealed iliac lymphatic recurrence. FOLFOX and FOLFIRI-affibercept chemotherapy were provided. Abdominal CT control confirmed the persistence of lymphatic disease and target sign in small bowel suggesting intussusception as well.

Forty-eight hours later, the patient presented to emergency department complaining of abdominal pain and distension, lack of elimination of flatulence and vomiting. An abdominal X-ray showed dilated bowel loops with air-fluid levels. Blood test revealed normal white cells level, and a serum-C-reactive protein of 206 mg/L. Abdominal CT evidenced a complete bowel obstruction secondary to small bowel intussusception (Fig. 1). The laparotomy confirmed small bowel obstruction, dependent on intussusception at 50 cm from the ileocecal valve (Fig. 2: intraoperative findings) and the lymphatic recurrence as well. Small bowel resection with mechanical side to side anastomosis were performed. The histopathological analysis confirmed primary small bowel mucinous adenocarcinoma with lymph node metastasis (stage IIIB, T3N1M0). Consecutive both radiotherapy and chemotherapy with FOLFIRI were concluded.

After eight months on follow up, the patient had an elevation of tumor markers level. Abdominal CT showed left iliac lymph node disease, and PET scan settled extra focus at retroperitoneum. The patient is about to start additional chemotherapy treatment.

3. Discussion

Since SBA are exceptional tumors, the current evidence available remains hesitant. Therefore the specific clinical characteris-
4. Conclusion

Metachronous carcinomas affecting both large or small bowel are a very unusual condition. Poor prognosis is related to elderly patients in contrast to our young female patient, who despite her young age, developed colon carcinoma and later on, another primary SBA. We highlight the patient’s inadequate response to chemotherapy treatment with a second gastrointestinal carcinoma and evolution to intussusception and finally obstruction, besides treatment. We consider our case an exceptional presentation that represents a challenge for any surgeon on diagnosis, treatment and follow-up of patients with Gl adenocarcinoma.

Conflict of interest

We declare no conflicts of interest.

Sources of funding

We have no any source of funding to declare.

Ethical approval

We obtained the patient’s informed consent besides our case report is exempt from ethical approval in our institution.

Consent

The authors have obtained the written and signed consent to publish the case.

Author contribution

Author 1 GARANTOR - patient care, study concept or design, data collection, data analysis or interpretation, writing the paper, Images and revision.

Author 2 - patient care, study concept or design, data collection, data analysis, writing the paper, Images and revision.

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Guarantor

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