Phytobezoars as a cause of small bowel obstruction associated with a carcinoid tumor of the ileocecal area

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Carcinoid tumors are slowly growing malignant neoplasms associated with an indolent clinical course. About 60% of such tumors are located within the gastrointestinal tract. We describe an unusual case of small bowel obstruction associated with a carcinoid tumor of the ileum. A 70-year-old woman was presented with abdominal pain, vomiting, and clinical signs of mechanical bowel obstruction. X-ray and CT-scan of the abdomen showed hydroaeric levels and the presence of intraluminal hyperdense "stones", presumably of gallbladder origin. A diagnostic laparotomy revealed that a large part of the terminal ileus was edematous, with prominent evidence of intestinal loop adhesions. The edematous part of the ileum was resected. Incision of the intestinal wall revealed a 2-cm soft mass at 8 cm from the ileocecal valve, where the presence of ten fruit pits obstructed the intestinal cavity. Histopathological examination confirmed the diagnosis of a carcinoid tumor. An interesting case of small-bowel obstruction with a double cause is presented: an ileal carcinoid and fruit pit bezoars. The pathophysiology of the obstruction is discussed.

Key words: carcinoid, phytobezoars, small-bowel obstruction

INTRODUCTION

Carcinoid tumors are slowly growing malignant neoplasms associated with an indolent clinical course. About 60% of such tumors are located within the gastrointestinal tract, while more than 25% of these tumors are located within the bronchopulmonary system. Symptomatology linked to the secretion of various angioactive molecules (i.e., histamine and serotonin) occurs in less than 10% of patients, while in more than 50% of cases diagnosis is established during surgery for bowel obstruction caused by lumen occlusion, intussusception, or adhesions. In contrast, "phyto-bezoars" are an uncommon cause of mechanical bowel obstruction. Here, we report a rare case of incidental diagnosis of carcinoid of the ileocecal area, following surgery for small-bowel obstruction due to fruit pits, erroneously interpreted as gallbladder stones by radiological tests.

CASE REPORT

A 70-year-old woman was admitted at the Alexandroupolis University Hospital with abdominal pain and vomiting. The patient reported significant weight loss (20kg), weakness, loss of appetite, and intermittent diarrhea, that had started 4-months before admission. A clinical examination revealed signs of mechanical bowel obstruction. Blood tests were in the normal range (Hb level 14.4 mg/dl, WBC 85x10⁹/μl), while the only abnormal parameter assessed in serum biochemistry was a markedly increased level of C-reactive protein of 2.21 mg/dl (normal values are mg/dl).

Chest X-ray was normal, while abdominal X-ray in a standing position showed hydroaeric levels. Pelvic/abdominal ultrasound revealed a normal liver, the presence of gallbladder stones, normal pancreas and kidneys, and edematous intestinal walls. The uterus was abnormally large and contained numerous fibromyomas. A CT-scan of the upper/lower abdomen showed edematous intestinal walls, hydroaeric levels, and the presence of seven or eight intraluminal hyperdense "stones", presumably of gallbladder origin. These findings were interpreted as ileus from gallbladder stones.

After 7 days of conservative treatment with nasogastric suction and total parenteral nutrition, an abdominal X-ray confirmed persistent ileus. The patient underwent diagnostic laparotomy for small-bowel obstruction, which was attributed to gallstones. The liver was normal, while numerous stones were present in the gallbladder, but with no evidence of gallbladder adhesions, inflammation, or fistulae. A cholecystectomy was performed. A large part of the final ileus (1 m from the ileocecal valve) was edematous,
Carcinoid tumors of the gastrointestinal tract often exhibit an indolent clinical course, with non-specific symptomatology. Intestinal obstruction, hemorrhage, diarrhea, or even skin lesions and symptoms related to angioactive molecule secretion, often indicative of metastasis to the liver, may form an atypical clinical image. In most cases, diagnosis is made surgically following histopathological confirmation, while incidental diagnosis during surgery for unrelated conditions is not rare. Here we report an interesting case of small-bowel obstruction with a double cause: an ileal carcinoid and fruit pit bezoar. A similar case has been reported by Lorimer et al., where recurrent small-bowel obstruction occurred in the context of a carcinoid associated with a phytozoaar. A detailed history could have revealed the uncommon habit of the patient swallowing fruit pits, which would have facilitated the diagnosis. The reported loss of weight during the previous 4 months is compatible with the presence of carcinoid but could also have been due to another neoplastic or hematological disease. The cause of intestinal obstruction should not be attributed to the tumoral mass itself, as its small size is unlikely to prevent the passage of fruit pits to the large bowel. The prominent adhesions and fixation of a large portion of the ileum around the area of the carcinoid and the edematous intestinal walls, compatible with decreased motility of a large portion of the ileum, seems to be the most important reason for fruit pit accumulation and eventual lumen obstruction. The pathogenesis of intestinal edema and of the formation of adhesions, which often accompany intestinal carcinoids, is unknown. This may involve the production of growth factors and angioactive molecules by carcinoid cancer cells promoting vasodilation and fibrogenesis (i.e., fibroblast growth factor).\textsuperscript{7,8}

The tumor size and extension of the tumor through the intestinal walls are important factors in the prognosis. When intestinal carcinoids are smaller than 1 cm, the incidence of metastasis is lower than 20%, while in exceptionally rare cases (0.01%) the tumor is localized to the appendix.\textsuperscript{8} Metastasis, however, is quite frequent when the tumor-mass dimensions exceed 2 cm.\textsuperscript{8} The relatively small size of the tumor and the absence of extramural invasion and node involvement in our patient is predictive of a good prognosis, as in such cases the anticipated 5-year survival rate ranges from 60.5 to 80%.\textsuperscript{9,10} Twelve months after surgery the patient is well with no signs of recurrent disease.

REZIME

Karcinoid je sporo rastuća maligna neoplazma sa nekarakterističnom kliničkom slikom. Oko 60% ovih tumora su lokalizovani u gastrointestinálnom traktu. Opisujemo jedan neobičan slučaj opstrukcije tankog creva udružene sa carcinoidom ileuma. Žena, 70 godina, sa abdominalnim bolom, povraća njem i kliničkim znacima mehaničke ilealne opstrukcije. Ro i CT sken abdomena pokazali su nivo i postojanje intraluminalnog "kamen", poreklom iz žućke kese. Dijagnostička laparotomija potvrdila je da je veliki deo terminalnog ileuma bio edematozan, sa preraslicama crevne petije. Edematozni deo ileuma je reseciran. Inicizija dužine 2 cm intestinalnog zida uradjena je na 8 cm od ileokekalne valvule, gde je postojala opstrukcija intestinalne supljinje, uzrokovanu vnom ostacima. Histopatološki pregled potvrdio je dijagnozu karcinoida.

Interesantan slučaj opstrukcije tankog creva koji je prouzrokovano karcinoidom i bezoarom od voćnih ostača. Histologija opstrukcije je za razmatranje.

Ključne reči: karcinoid, fitobezoar, intestinalna opstrukcija.
REFERENCES


