GASTROINTESTINAL TRACT OBSTRUCTION DUE TO JEJUNAL ADENOCARCINOMA – CASE REPORT

MICHAŁ DUCHNIK, KRZYSZTOF KASEJA, JANUSZ GRĘDA, BARTOSZ KOWALEWSKI
Department of General and Vascular Surgery, Specialistic Hospital in Szczecin
Ordynator: dr n. med. K. Kaseja

The study presented a rare case of jejunal adenocarcinoma in a 60-year-old patient with symptoms of high subileus. No risk factors or coexisting diseases, which predispose towards intestinal cancer were detected. The study contained a description of the performed surgical procedure. The presented case illustrated the diagnostic and therapeutic difficulties in patients with small intestinal cancer. The low prevalence of small intestinal cancer makes no clear standards of mid- and postoperative treatment, including the qualification for adjuvant chemotherapy. The aim of this study was to broaden the knowledge concerning the presented symptoms and diagnostic test abnormalities, which, in case of rare diseases, is based on single patient reports. Furthermore, according to reference analyses, postoperative recommendations were presented, including diagnostics towards coexisting predisposing diseases.

Key words: adenocarcinoma of the jejunum, small intestinal cancer, obstruction of the gastrointestinal tract

Primary tumors of the small bowel are very rare, usually diagnosed in the 5-th and 6-th decade of life, equally common in both sexes. The above-mentioned account for 2% of all gastrointestinal tumors, wherein malignant lesions are diagnosed ten times less often than benign lesions. Metastatic lesions are observed more often, as compared to primary malignant lesions. The metastatic lesions are usually derived from the colon, stomach, pancreas, urinary bladder, prostate gland, ovaries, endometrium, and malignant melanoma (1-5). When analysing literature data one can come to the conclusion that amongst malignant lesions the following are most often diagnosed: adenocarcinomas (40%), carcinoids (30%), lymphomas (20%), sarcomas, and stromal tumors. Adenocarcinomas are characterized by a higher incidence in the duodenum and jejunum (the duodenum is the most common localization of small bowel cancer – approximately 50%), while lymphomas and carcinoids in the ileum (1, 5, 6). Macroscopically, small bowel cancer has the form of a flat infiltration constricting the gastrointestinal lumen or is an exophytic tumor. In most cases it is an adenocarcinoma, single or multiple lesions present, highly-differentiated, secreting mucous (7).

When considering the length and surface of the small bowel, such rare occurrence of malignant lesions might be explained by the presence of numerous protective mechanisms, such as quick nutritional passage, poor bacterial flora (no mucosal exposure to harmful bacterial metabolic products), and rapid turn-over time of mucous membrane epithelial cells (2, 4).

The following disease entities predispose to the development of malignancy: celiac disease, gastrointestinal polyposis, Crohn’s disease, colon cancer, Gardner’s syndrome, familial intestinal polyposis, and Peutz-Jegher’s syndrome. Additionally, smoking and alcohol consumption increase the risk of their occurrence (2, 3, 7).

Tumors of the small intestine are usually asymptomatic, which delays diagnosis (often established intraoperatively). Symptoms de-
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Pend on tumor localization. Duodenal tumors located near Vater’s ampulla usually demonstrate cholestasis symptoms and are detected earlier. Other tumors lead to microcytic anemia, gastrointestinal bleeding, intestinal obstruction, weight loss, lack of appetite, diarrhea, or change in bowel habits. A fairly common symptom, although non-characteristic is dull pain located in the mesogastrium radiating to the back, independent of nutrition and physical activity. Pain is significantly increased in case of intestinal perforation, due to tumor infiltration, or tumor necrosis. The tumor is rarely palpable on physical examination (4, 5, 6, 8, 9).

Preoperative diagnosis is usually impossible, due to the localization of the tumor, being beyond the reach of the endoscope. Suspicion of primary small bowel carcinoma might be elaborated on the basis of contrast abdominal CT, MRI, Crosby’s capsule endoscopy, or two-balloon enteroscopy. Barium enema might also prove helpful, due to its low costs and easy accessibility (6, 8, 9).

Treatment consists in the radical excision of the tumor with healthy margins, and primary intestinal anastomosis. According to literature data adjuvant chemotherapy is based on therapeutic schemes used in the treatment of colon carcinoma (most often FOLFOX 4 – oxaliplatin, 5-fluorouracil and leucovorin). The small experience is associated with low incidence. Prognosis is poor, due to delayed diagnosis. Small bowel cancer is rarely diagnosed during the I stage of the disease, and in 30% of patients diagnosis is established in the presence of distant metastases (to the liver most often). The five-year survival rate amounts to 30% (4, 6).

CASE REPORT

A 60-year old patient (P.K.) was transferred from the Department of Internal Diseases to the Department of General and Vascular Surgery, Specialistic Hospital in Szczecin on March 4-th, 2013. The first episode of symptoms occurred in mid-December, 2012, several hours after a meal, in the form of discomfort in the upper abdomen, and feeling of “fullness”. Forced vomiting brought relief. After a short period free of symptoms postprandial discomfort significantly increased – symptoms occurred every 4 to 5 days. The patient denied nausea and loss of appetite. Fever, night sweating, bloating, diarrhea, and change in bowel habits were not observed. During the two months since the onset of symptoms the patient lost 2 kg (from 91 kg to 89 kg).

The patient had no history of chronic diseases and was not on chronic medication. The patient had no history of previous hospitalization, was not operated or suffered from serious injury. He denied drug allergies. The patient’s father died of lung cancer at the age of 79 years. Considering the remaining family members cancer history proved negative. The patients’ sister, brother and daughter were healthy. The patient was a mechanic-technician, worked as a ship mechanic, being retired for the past five years. During the course of his carrier he travelled a lot, even to tropical regions. Until 1990 (for 15 years), he smoked 10 cigarettes daily, occasionally drinks alcohol, and two black coffees a day.

In mid-February the patient reported to his GP, due to the presence of the above-mentioned symptoms. He was directed to the Department of Internal Diseases, being hospitalized during the period between 20.02.2013 and 04.03.2013. During hospitalization no significant abnormalities were observed in the physical examination. Laboratory examinations showed insignificant anemia. Abdominal ultrasound showed small bowel constriction, 2 cm in length. At a length of approximately 10 cm before the stenosis one observed intestinal distention with a thickened muscular layer. Numerous enlarged mesenteric lymph nodes in the mesogastrium and epigastrium. Abdominal contrast CT (100 ml OptiRay 350) showed the presence of a jejunal loop in the left mesogastrium, 22 cm in length, distended to 40 mm with a thickened wall (5 mm), and visible distented mesenteric lymph nodes.

Presence of retrocecal peritoneal fluid. The radiologist described the small bowel changes suspected of inflammatory lesions. Gastroscopy showed no abnormalities. The urease test was negative. The histopathological examination result was as follows: gastritis chronicus gradus minoris, helicobacteriosis. The colonscope was introduced to a depth of 35 cm, due to poor bowel preparation. The CEA level was 0.8 ng/ml, stool culture – negative, Clostridium difficile and toxins A and B antigens– negative. During hospitalization clinical symptoms of
obstruction intensified, and we observed significant weight loss (from 89 kg to 78 kg). The patient was transferred to the Department of Surgery with diagnosis of gastrointestinal obstruction and suspicion of small bowel tumor and enlarged abdominal lymph nodes.

Surgical management

On March 6, 2013 the patient was subjected to laparoscopic jejunal resection. Intraoperatively, we observed a small bowel tumor, located 30 cm from Treitz’s ligament, nearly completely closing the gastrointestinal lumen. 30 cm distally from the tumor another stenotic area was observed. A 40-cm jejunal resection was performed followed by side-to-side anastomosis. Part of the jejunal mesentery was also resected comprising the venous and lymphatic outflow. The histopathological examination result was as follows: 3 cm from one of its ends lumen stenosis was observed (4 mm) with two visible exophytic tumors, 3.5 cm in diameter. Adenocarcinoma G2 was diagnosed. The tumor completely infiltrated the wall and surrounding adipose tissue. According to the TNM classification the patient was diagnosed with pT3N1M0, stage III. Two of the 12 lymph nodes showed presence of metastasis. The immunohistochemical examination was as follows: CK7 (-), CK20 (+), chromogranin (-), mucykarmin (+).

The perioperative and postoperative period were uneventful. The patient was discharged from the hospital on March 11, 2013, five days after the operation with referral to oncology for further treatment.

DISCUSSION

The aim of the study was to point to the issue of malignant tumors of the small intestine. Unlike other gastrointestinal tumors, the description of a small intestine cancer case is extremely valuable, since in case of rare diseases our knowledge is based on such descriptions. Small intestine malignant lesions, due to their low incidence and biological growth pose diagnostic difficulties, especially in terms of accurate and early diagnosis. The above-mentioned consist of uncharacteristic and late symptoms, ambiguous imaging examination results, which delay proper diagnosis. According to literature data, less than 50% of patients are properly diagnosed before surgery, and 30% are suspected of small intestine cancer. Unfortunately, after histopathological verification only a small percentage of patients are diagnosed with clinical stage I. In many cases one may observe distant metastases, being evidence of the generalized process (4, 5, 6). The location of the tumor is most important when detecting the lesion.

The presented patient had no physical examination abnormalities, and apart from subileus symptoms, presented no clear tumor characteristics. Jejunal location, 30 cm from Treitz’s ligament, excludes endoscopic methods during diagnostics. Imaging examinations described the lesion as stenotic, post-inflammatory. Only 25% of adenocarcinomas are located in the jejunum, thus, small intestine cancer is the cause of high subileus not as the first choice on the list.

Another problem in case of patients’ with small intestine cancer, which is observed after surgery, is the possibility of recurrence and dissemination, being the most common cause of death. Thus, the need for adjuvant chemotherapy. There exist therapeutic schemes applied in case of colon cancer. The most common is the FOLFOX4 scheme comprising oxaliplatin, 5-fluorouracil and leukovorin. However, most reports concerning the effectiveness of the above-mentioned are derived from retrospective or case studies, which is evidence of the poor knowledge concerning adjuvant or palliative small intestine treatment (7).

In conclusion, the only way to improve prognosis consists in aggressive diagnostics and the implementation of early surgical treatment enabling radical intestinal resection with a healthy tissue margin (3, 8). In order to establish early diagnosis oncological vigilance is required when searching for the cause of small intestinal obstruction. After surgery or intraoperatively, one should search for neoplastic dissemination-metastases (3). In-depth diagnosis should be implemented when suspecting coexisting diseases, predisposing towards small intestinal cancer, such as synchronous colon tumors or peritoneal disease. The final stage consists in the qualification of patients for eventual chemotherapy and active observation after therapy (7).
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REFERENCES


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Adress correspondence: 70-982 Szczecin, ul. A. Sokolowskiego 11
e-mail: mduchnik@yahoo.com