

SELF-EXPANDING METALLIC STENT FOR PALLIATIVE TREATMENT MALIGNANT COLORECTAL OBSTRUCTION – CASE REPORT AND REVIEW OF LITERATURE

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Summary

Carcinomas of the colon and rectum are the third most common in the world in men and second in women. About 60% of cases occur in developed countries. Colorectal carcinomas are observed more frequently in men than women. In Poland most cases of colorectal cancers occur after the age of 50 – about 94%, with more than 75% of cases in both sexes falls on the population of the elderly over 60 years. Approximately 20% of patients with colorectal cancer have distant metastasis at time of diagnosis. Up to 29% patients with colorectal cancer present symptoms of bowel obstruction such as: vomiting and abdominal pain. Due to age, serious multiple comorbidities and metastatic disease, colonic stenting is safe and effective alternative approach for palliation.

The authors of this article presented a case of a 76-year-old Caucasian man who was admitted to the Department of Surgical Oncology because of colorectal carcinoma which was located in descending colon. Due to age and serious multiple comorbidities, doctors with the patient decided to palliative treatment by using self-expanding metallic stent. The authors performed a literature review on enteral metallic stents for the management of malignant colorectal cancers.

Key words: colorectal cancer, stent, intestinal obstruction, palliation, treatment

INTRODUCTION

Carcinomas of the colon and rectum are the third most common in the world in men (660 000 cases per year) and second in women (570 000 cases per year). About 60% of cases occur in developed countries. Colorectal carcinomas are observed more frequently in men than women. They are responsible for 8% of cancer deaths in the world, which is the fourth leading cause of cancer death in the world resulting in about 600 000 deaths annually.

In Poland most cases of colorectal cancers occur after the age of 50 – about 94%, with more than 75% of cases in both sexes falls on the population of the elderly over 60 years. Approximately 20% of patients with colorectal cancer have distant metastasis at time of diagnosis (1, 2). Up to 29% patients with colorectal cancer present symptoms of bowel obstruction such as: vomiting and abdominal pain (1). Due to age, serious multiple comorbidities and metastatic disease, colonic stenting is safe and effective alternative approach for palliation (3).

CASE REPORT

A 76-year-old Caucasian man was referred to the Department of Surgical Oncology due to diagnosed colorectal carcinoma located in the sigmoid colon.

In an interview the patient consistently treated for atrial fibrillation, chronic heart failure, thoracic and abdominal aorta aneurysm, renal failure in stage 3 and psoriasis. The colonoscopy showed ulcerated infiltration, intestinal lumen narrowing sigmoid located about 24 centimeters from the anal sphincter. With taken for pathological examination found adenocarcinoma G2.

The CT scan of the chest was found aneurysmal enlargement of the aortic arch to 57 millimeters in length. Part of the ascending aorta extended to 50 millimeters and a descending part to 46 millimeters (fig. 1). Ultrasound abdomen revealed aneurysmal expansion of the abdominal aorta distal section on 122 millimeters, the lateral dimensions of the aneurysm was 68 x 65 millimeters. The CT scan of the abdomen and pelvis found abdominal and thoracic aorta atherosclerotic winding,

abdominal aortic aneurysm with the largest transverse dimensions 74 x 70 millimeters and a length of 101 millimeters, which was 42 millimeters below the renal arteries (fig. 2). The study made echocardiogram abnormalities found extensive myocardial left ventricular contractility, the characteristics of pulmonary hypertension, extending all the cavities of the heart and ascending aorta. The patient appeared tricuspid regurgitation and mitral valve and a small aortic regurgitation. EF was 33%. Upon acceptance to the department the patient was in good general condition with small exertional dyspnea. In studies HGB 6.5 g/dl. The patient was transfused during hospitalization 6 units of blood.

The patient was consulted by the oncologist, the surgeon oncologist, the vascular surgeon and the anesthesiologist. Because of the patient's general condition and



Fig. 1. A 76-year-old Caucasian man with the ascending aorta aneurysm diameter to 50 millimeters.



Fig. 2. A 76-year-old Caucasian man with the abdominal aorta aneurysm diameter 70 x 74 millimeters.

chronic disease patient was disqualified from surgery and chemotherapy.

The patient was qualified for the colonic stent in place of the inoperable tumor of the sigmoid colon. The patient was founded stent length 10 cm and a diameter of 20 millimeters (fig. 3, 4). In the first day after palliative treatment the patient was performed X-ray of the abdomen and pelvis finding the correct position of the stent tract (fig. 5). The patient was discharged home in good general condition on the first day after surgery. The patient is now under the care of oncological outpatient at our hospital.

DISCUSSION

Up to 29% patients with colorectal cancer present symptoms of bowel obstruction such as: vomiting and abdominal pain (1). Due to age, serious multiple comorbidities and metastatic disease, colonic stenting is safe and effective alternative approach for palliation (3). These patients are in poor medical condition and need emergency decompression of the colon. Emergent surgical decompression results are poor with high mortality

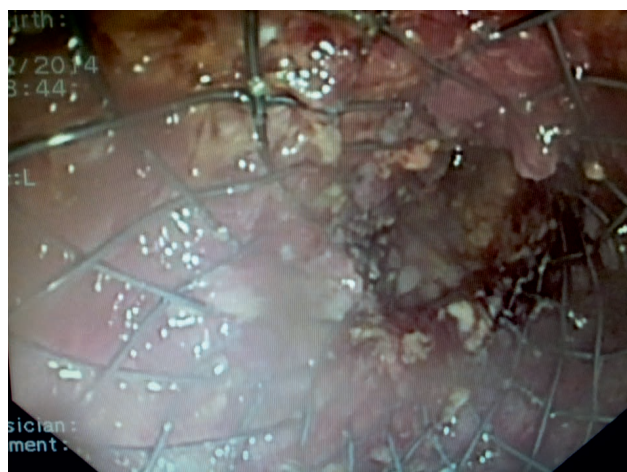


Fig. 3. Self-expanding metallic stent.

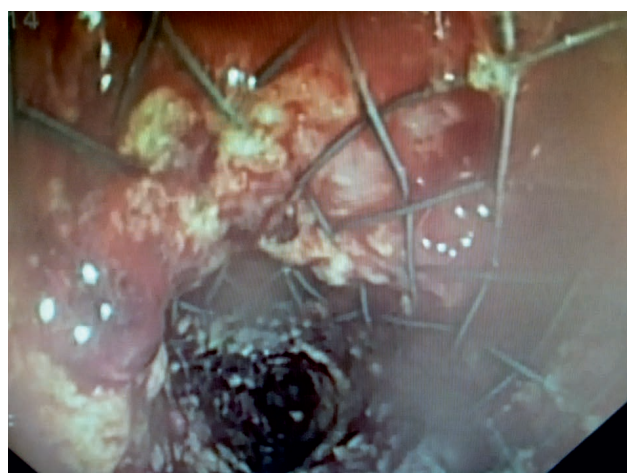


Fig. 4. Colonic stent located in the area of the inoperable sigmoid carcinoma.



Fig. 5. X-ray picture shows self-expanding metallic stent located in area of the inoperable tumor of the sigmoid colon.

rate of 15-20% and morbidity of 45-50% than elective surgery of 0.9-6% mortality in post-surgical period (2, 4, 5).

Self-expanding metal stents (SEMS) were first time used in the early 1990s (5, 6). Colon stents are used as a palliative treatment or as a bridge to surgery at a later date. In described by the authors of this article case report, palliative treatment was the only chance to avoid obstruction of the gastrointestinal tract in the future. Because of the patient's general condition and chronic disease patient was disqualified from surgery and chemotherapy.

A systematic review reported a technical success rate of implanting colonic stents 96.2% and clinical suc-

cess rate of 92% (7). In palliative patients the median duration of patency was 106 days (7).

After colonic stent implantation were observed some complications (7). Reobstruction rate were 18.3%, migration rates 9.2% and perforation rates 10.1% (7, 8). The survival rate of patients with unresectable colorectal carcinoma who had implanting enteral metallic stent is 14.8-21.5 months (8).

The authors of this article believe that implanting enteral self-expanding metallic stent should be routine procedure before radical surgery where obstruction of bowel is present and in palliative treatment of colorectal carcinoma. This method of treatment is safe and effective in colorectal carcinoma.

References

1. Deans GT, Krukowski ZH, Irwin ST: Malignant obstruction of the left colon. *Br J Surg* 1994; 81: 1270-1276.
2. Mulcahy HE, Skelly MM, Husain A et al.: Long-term outcome following curvative surgery for malignant large bowel obstruction. *Br J Surg* 1996; 83: 46-50.
3. Shrivastava V, Tariq O, Tiam R et al.: Palliation of obstructing malignant colonic lesions using self-expanding metal stents: a single-center experience. *Cardiovasc Intervent Radiol* 2008; 31: 931-936.
4. Leitman IM, Sullivan JD, Brams D et al.: Multivariate analysis of morbidity and mortality from the initial surgical management of obstructing carcinoma of the colon. *Surg Gynecol Obstet* 1992; 174: 513-518.
5. Dohmoto M: New method-endoscopic implantation of rectal stent in palliative treatment of malignant stenosis. *Endosc Digest* 1991; 3: 1507-1512.
6. Spinelli P, Dal Fante M, Mancini A: Self-expanding mesh stent for endoscopic palliation of rectal obstructing tumors: a preliminary report. *Surg Endosc* 1992; 6: 72-74.
7. Watt AM, Faragher IG, Griffin TT et al.: Self-expanding metallic stents for relieving malignant colorectal obstruction: a systematic review. *Ann Surg* 2007; 246: 24-30.
8. Sebastian S, Johnston S, Geoghegan T et al.: Pooled analysis of the efficacy and safety of self-expanding metal stenting in malignant colorectal obstruction. *Am J Gastroenterol* 2004; 99: 2051-2057.

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