PERINEAL EXTERNALIZATION OF LATE JEJUNAL FISTULA AFTER RECTUM AMPUTATION – CASE REPORT

Elena-Violeta Radu¹, I.S. Coman¹, Oana Ilona David¹, Sabina Gabriela Tănăsescu², C.D. Badiu¹, Ş.I. Bedereag³, C.D. Lupaşcu⁴, Corina Ursulescu-Lupaşcu⁵*, V. T. Grigorean¹

“Carol Davila” University of Medicine and Pharmacy Bucharest
Faculty of Medicine
1. Department of Surgery
2. Department of Anesthesics and Intensive Care Unit
3. Department of Histopathology
“Grigore T. Popa” University of Medicine and Pharmacy Iasi
4. Department of Surgery (I)
5. Department of Surgery (II)

*Corresponding author. E-mail: corina.ursulescu@gmail.com

PERINEAL EXTERNALIZATION OF LATE JEJUNAL FISTULA AFTER RECTUM AMPUTATION-CASE REPORT (Abstract) Digestive fistula represents one of the most severe complications of surgical procedures performed on the abdominal area. We present the case of a 55-years-old female patient, known with a squamous cell carcinoma of the uterine cervix, for which was practiced 16 years ago a Wertheim procedure and afterwards treated according to the oncological medical protocols. In 2015 the patient was admitted in the General Surgery Department of the “Bagdasar-Arseni” Clinical Emergency Hospital from Bucharest for lower rectum tubular adenocarcinoma, diagnosed by clinical exam, radiological findings and histopathology. The patient underwent surgery and required an abdomino-perineal resection of the rectum. The patient had no indication for preoperative radiotherapy. The peculiarity of the case consisted in the development of upper gastrointestinal fistulas lately externalized through the perineal wound. The following surgical intervention could not identify the fistula, but we managed to perform an effective enteral-caecum anastomosis, with the main purpose to achieve a bypass of the intestinal breach. Postoperative evolution consisted in spontaneous closure of the intestinal fistula. Keywords: ENTEROCUTANEOUS FISTULA, RECTAL CANCER, RECTUM AMPUTATION.

Enterocutaneous fistula is an abnormal communications between the gastrointestinal tract and the surface of the skin and can lead to real therapeutic management challenge. With all the progress made by modern medicine, the mortality related to enteral fistulas still remains significantly high (10-30%), especially in neoplastic or septic context (1).

Digestive fistula mainly occur following abdominal surgeries involving gastrointestinal resections followed by an anastomosis, injuries produced by drainage tubes, laborious dissections with subsidiary ischemia of the intestinal wall (2). About 15-25% of spontaneous enterocutaneous fistulas are the result of but inflammatory bowel diseases, corrosions induced by acute pancreatitis, radiation enteritis or diverticular disease (3). Inadequate nutritional support and conse-
sequences of septic syndrome are the main factors involved in the morbidity and mortality of patients with enteric fistulas (4).

CASE REPORT

We present the case of a 55-years-old female, admitted to the General Surgery Department of the “Bagdasar-Arseni” Clinical Emergency Hospital from Bucharest for intermittent rectal bleeding, significant weight loss (12 kilograms in the past 2 months). The patient had a history of cervical cancer, treated with radiotherapy followed by the Wertheim procedure about 16 years ago (histopathological findings confirmed a squamous cell carcinoma), as well as a hiatal hernia surgical repair 5 years ago.

Clinical examination performed at the admission concluded with the rectal exam highlights at 3-4 centimeters from the anal sphincter a circumferential tumor with a partially rectal stenosis and bleeding when it is touched. The vaginal examination reveals a vaginal stump without local tumor recurrence.

Under spinal anesthesia was performed instrumental anal dilation and a biopsy was purchased from the endorectal proliferative process in shape of a crater about 5 cm in diameter. Histopathological findings reveal micro-fragments of ulcerated, tubular and papillary adenocarcinoma, with extensive areas of necrosis, fibrosis with granulation tissue, moderate desmoplastic reaction and necrotic debris. With this result the patient is directed to the oncology service, where she received chemotherapy. Radiotherapy is contraindicated due to the maximal doses previously received for the cervical cancer.

After the completion of the oncological treatment, an abdominal and pelvic magnetic resonance imaging (MRI) was performed, identifying asymmetric parietal thickening of the rectum wall (maximum thickness is 19 millimeters in the right lateral wall), intense irregular internal contours and an inhomogeneous structure causing an asymmetric stenosis at this level and invasion of the urinary bladder posterior wall. There were no signs of perirectal fat infiltration, vaginal stump invasion, ascites or pelvic lymph nodes involvement – T2N0Mx, stage I, Dukes A (fig. 1).

The patient undergoes surgery and were identifying a multisacular incisional hernia in the lower abdomen (after the Wertheim procedure), as well as multiple postoperative peritoneal adhesions in the inframesocolic compartment. After sectioning the pelvic peritoneum, the rectal tumor was identified attached to the urinary bladder and the dissection was performed with difficulty. An abdominoperineal resection of the rectum
was performed. The surgical procedure ends with the primary maturation of the colostomy and double drainage: peritoneal and perineal (the last one on a Pezzer tube).

Postoperatively, the patient was closely monitored, with hematological, hydro electrolytic and acid-base status rebalance in the intensive care unit and the resumption of the intestinal transit on the colostomy after 72 hours. The peritoneal drainage was suppressed 9 days after the surgical procedure. On the 10th day was observed an increase of the perineal drainage tube (serous liquid from 100 milliliters (mL)/day up to 300 mL/day). On postoperative day 11, the perineal drainage increased to 700 mL and gained a biliary aspect.

The suspicion of upper digestive fistula was raised (possible jejunal loop injury). This hypothesis was sustained by externalization on the perineal tube of methylene blue previously administered orally. A gastrointestinal transit using a radiopaque substance was performed to identify the fistula but the results were inconclusive. Considering the persistence of a large fistula flow (700-800 mL/day), interruption in intestinal transit and the appearance of an important rash on perineal skin, a new surgical procedure was required.

The accessing into the peritoneal cavity was very difficult due to adherence syndrome and edematous aspect of the intestinal loops with easy bleeding due to dissection maneuvers. In the remnant pelvic area was identified a visceral block, irreducible, adherent to the sacrum and the internal iliac vessels. The repeated attempts to dissect this block failed. Due to the elevated risk of intestinal injury, it was decided to perform an enteral-caecum anastomosis (the jejunal loop was dissected as far away as possible from the Treitz angle – about 150 cm). The enteral-caecum anastomosis was performed lateral-lateral, in double layer, respecting the peristalsis movement directions. The pelvic drainage was repositioned and the perineal drainage was checked out. The abdominal wall was closed using a substitution mesh.

Postoperatively, the patient has slowly recovered, with resumption of the intestinal transit on the colostomy 5 days later. Intestinal content continued to be externalized on the perineal drainage, but the quantity decreased gradually. On the 13th day from the second surgical procedure a gastrointestinal transit using Gastrografin was performed, revealing the small bowels loops opacified, but the anastomosis was not detected and the results were inconclusive (fig. 2).
After one month, the perineal tube was suppressed, the fistula flow being minimal. Wound dressing was performed daily, perineal wound healing being complete 43 days after the second surgical procedure.

The patient is discharged 46 days after the second surgical procedure, with closed intestinal fistula, slender perineal scar, normal bowel movement and discharge on the colostomy. The patient was directed to the oncology service (fig. 3,4).

**Fig. 3.** Rectal tubular adenocarcinoma (A – mucosa of normal aspect; B – area of impact between the free rectal mucosa and the tumor; C – rectal tubular adenocarcinoma; Hematoxylin-Eosin staining - 10x

**Fig. 4.** Tubular adenocarcinoma – tumoral glands with chaotic architecture, mitoses and intratumorally necrosis; Hematoxylin-Eosin staining - 40x
The patient underwent surgery 18 months ago and is still in evidence of the General Surgery Department of the “Bagdasar-Arseni” Hospital, returning to control every 6 months. Following the surgical and oncological treatment, the patients had a good biological status, without clinical and imaging findings suggestive for tumor recurrence.

DISCUSSION

Perineal small bowel fistula is a life-threatening complication of abdominoperineal resection of the rectum (5). External digestive fistula can occur after any surgical intervention performed into the abdominal cavity and concerns the general surgery departments and intensive care units, in order to overcome septic complications resulting from early intra-abdominal infection, fluid electrolyte imbalance and malnutrition (6). The therapeutic management of the enteral-cutaneous fistulas is complex, involving a balance in the nutrition, sustained drug treatment, protection of the skin against the aggressive digestive content, as well as the psychological monitoring of the patient, all these being accomplished with the help of a multidisciplinary team (7). The prognosis of an intestinal fistula depends on the anatomic location, the flow, septic complications, nutritional status, as well as the other comorbidities of the patient (8).

Choosing the optimal time for surgical intervention has not been well defined, but surgery should be delayed until the intra-abdominal and systemic conditions of the patient are propitious for major surgery (9). Usually, it is expected between 4-6 weeks, during which time about 95% of the fistulas close spontaneously (9,10).

The surgical aims for enterocutaneous fistulas are to reestablish the function of the entire bowel, resection of the fistula with end-to-end anastomosis of the bowel and secure abdominal wall closure. Sometimes, previous surgical and oncological procedures such as radiotherapy can lead to a extremely difficult exploration of the peritoneal cavity and to an impossible direct approach of the intestinal fistula. In these cases, one of the few therapeutic solutions is to perform an anastomosis to bypass the fistula (6,9).

In our case, the patient presented since the onset of the fistula a large amount of intestinal output (about 700 mL/day), and lack of response to conservative treatment associated with the modified aspect of the previous irradiated intestinal loops led to performing the surgical procedure.

Regarding our patient, the disease and the changes in the intestinal wall were decisive in the development of the enterocutaneous fistula and the suspected mechanism was a lesion due to the perineal drainage tube.

Consulting the specialty literature, we found that the externalization of intestinal fistulas predominantly through the abdominal wound or through the drainages is more frequent located on the anterior or lateral abdominal wall and the expression of a jejunal fistula through a drainage located in the perineum represents the peculiarity of this case.

CONCLUSIONS

Our case emphasizes the fact that digestive fistulas represents one of the major complications of abdominal surgery, triggering a major biological imbalance on the patient and requires a complex, interdisciplinary approach, between the surgical and the intensive care procedures. Although
most digestive fistulas close spontaneously after a certain time, there are cases where, due to the large fistulous flow, associated comorbidities or pathological preexisting conditions (neoplasia, irradiation) surgery is imposed.

REFERENCES