Rare complication after anterior resection of the rectum and colon reconstruction: severe constipation with obstructed defecation.
Report of a Case

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Salvatore Franco, Gaspare Foresta, Vittorio Lombardo, Giorgio Giannone

Department of Surgical Oncology, "Garibaldi" Hospital, Catania, Italy

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OBJECTIVE: *The aim of this manuscript is to verify the impact that some recanalization procedures for intestinal continuity could have in bowel function and quality of life.*
STUDY MATERIAL: *We describe a clinical case of a rectal cancer patient who underwent anterior resection of the rectum with colo-anal anastomosis, coloplasty and diverting ileostomy.*
RESULTS: *After the diverting ileostomy closure, suffered of severe bowel function problems. The establishment of a coloplasty caused a syndrome of such severe obstructed defecation to necessitate the reestablishment of a diverting ileostomy.*
DISCUSSION: *Anterior resection with total mesorectal excision and colo-anal anastomosis is the gold standard surgical treatment of rectal carcinoma. The so called "anterior resection syndrome" is well known after such surgical procedures. The establishment of a reservoir such as the J-pouch and more recently the transverse pouch (coloplasty) are procedures used to improve the quality of life after anterior resection of the rectum.*
CONCLUSIONS: *The presence of bowel obstruction without mechanical causes makes us consider the coloplasty as its cause with a Hirschprung like mechanism or similar to the "obstructed defecation". The peristalsis stops at the coloplasty level impeding the progression of feces. The coloplasty or the pouch do not function as a reservoir to accommodate feces, but because they stop the peristalsis.*

KEY WORDS: Anterior resection of the rectum, Anterior resection syndrome, Obstructed defecation.

Introduction

The Gold Standard in the treatment of the low rectal carcinoma is an anterior resection with total excision of the mesorectal and colo-anal anastomosis [1,2]. The so-called "anterior resection syndrome" characterized by frequent bowel movements, fragmented feces, urgent bowel evacuation and incontinence, is a known consequence of the RAR (rectal anterior resection) [3,4]. For this reason, it was necessary to find a way to correct or minimize such inconveniences. J-pouch and colon reconstruction are alternative procedures to improve the quality of life after RAR [5,6]. These procedures, widely studied, function as a reservoir, but their beneficial effect is more probably linked to a mechanism of constipation. The ideal dimensions of such reservoirs seem to be standard but very little has been reported about its malfunctions with "unsuitable" dimensions; even less is known about the percentage of patients who had to abandon the possibility of a colon reconstruction.
We report a case in which a colon reconstruction has caused obstructed defecation which forced us to reestablish the ileostomy.

Case report

A 71 year-old patient with rectal cancer, was submitted on February 2004 to an anterior resection and colon-rectal anastomosis plus a colon reconstruction and diverting loop ileostomy. The patient, after a x-ray study, underwent closure of the ileostomy in May 2004. The postoperative period was uneventful and the patient was

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For correspondence: Salvatore Franco, MD, Department of Surgical Oncology, Garibaldi Hospital, Via Palermo 636, Catania, Italy (e-mail: fransalv@simail.it).

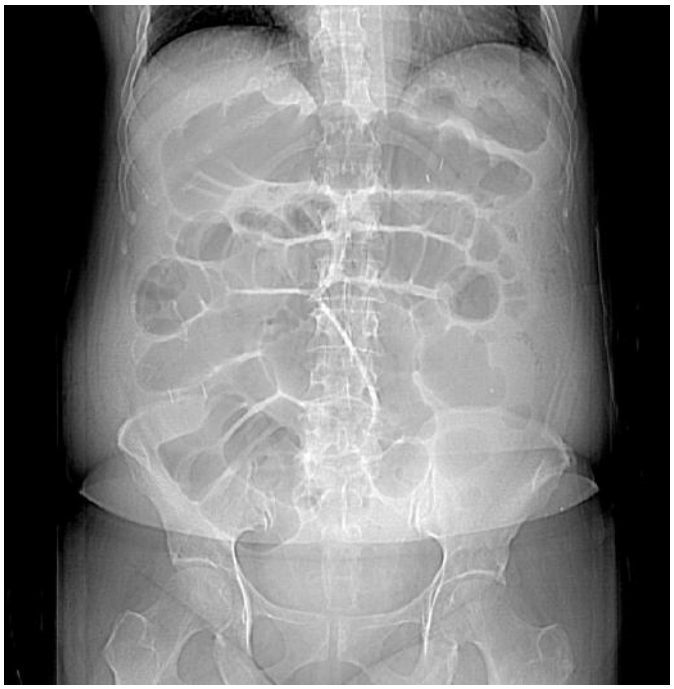

Fig. 1: Distension of the terminal ileum and the entire colon.

discharged home on POD 7. After 5 days, she was readmitted complaining of fever (38, 5°) and inhability to pass gas. On the physical exam the abdomen was distended and bowel sounds were present. An adominal X-ray showed marked distension of the terminal ileum and the entire colon (Fig. 1); rectal contrast (gastrografin) showed a patent anastomosis.
Subsequently, the patient underwent a colonscopy which showed a turgid and edematous mucosa at the anastomosis and reconstructed colon; the histological examination showed modest signs of inflammation. The patient underwent a CT scan of the abdomen which confirmed the presence of marked distension of the terminal ileum, and distension of the large bowel up to the anastomosis where a transition point was appreciaded. Follow up laboratory work showed marked hypokalemia which was correeted. During the hospitalization, the patient was treated with i.v. antibiotics with gradual improvement. Subsequently, the obstruction resolved and the patient became afrebrile and discharged home with a follow up visit in 15 days. At the follow up, the patient complained of repeated nocturnal fever spikes with no chills. The patient was readmitted and showed hypokalemia and anemia (hemoglobin: 6,8 gr/dl) that required a blood transfusion. The port was removed to rule out line sepsis. The cultures showed the presence of strafilococcus epidermidis. The patient improved and was discharged home after 5 days. At follow up outpatient visit the patient complained of alternating episodes of diarrhea and constipation, nausea, and poor appetite;the physical exam showed a distended abdomen. At two month follow up, the patient presented with severe malnutrition and constipation; the physical exam showed a distended abdomen and edema of the lower limbs. A Barium Enema did not show obstruction; however we made the decision to proceed with surgical exploration.
Intraoperative findings: distended loops of large and small bowel without transition point. We performed an ilestomy. The patient was discharged on postoperative day 15 in stable condition. At one month follow up the patient fared well, was afebrile and had complete resolution of obstructed defecation.

Discussion

The anterior resection of the rectum influences the continence as well as the bowel movements. Continence after LAR, it's not only related to the capacity of controlling gas and stool but also to the frequency of bowel movements: an increase in the frequency of bowel movements it's in fact a social problems that is not different from the real incontinence. The reservoir pouch or colon reconstruction gives remarkable advantages; the colon reconstruction needs a longitudinal incision of 8 cm in the antimesenteric part of the colon (3 cm above the anastomosis) and a horizontal suture. A circular stapler (Fig. 2) is used for the colo-anal anastomosis.
Many studies show that the colo-anal anastomosis with a reservoir improves the bowel function and the quality of life. In our case, the presence of obstructed defecation without any mechanical obstruction, make us think that the colon reconstruction determined a mechanism like Hirschsprung or similar to severe constipation with obstruction; the bowel motility stops at the colon reconstruction, thus preventing the progression of the stool. The literature has speculated such mechanism and pointed out how the colon reconstruction or the pouch are unsuitable as a reservoir because they interrupt the progression peristalsis [8]. The stool slows down its progression towards the anus. In our case, this interruption has pre-

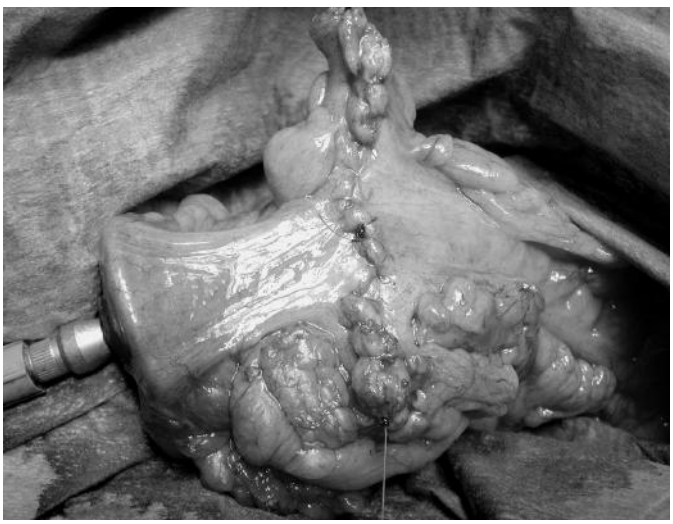

Fig. 2: A circular stapler is used for the colo-anal anastomosis.

vented the normal progression of the stool. In regards to the pouch, is it possible to assume a different functioning of the reconstructed colon related to its length? [9]

Riassunto

OBIETTIVO: Scopo della presente comunicazione è quello di verificare l'impatto che alcune procedure di ricostruzione della continuità intestinale possono apportare sulla funzionalità intestinale e conseguentemente sulla qualità di vita.
MATERIALE DI STUDIO: Viene descritto un caso clinico relativo ad una paziente, affetta da cancro del retto e sottoposta a resezione anteriore del retto con anastomosi coloanale + coloplastica e confezionamento di ileostomia di protezione.
RISULTATI: La paziente, dopo la chiusura della ileostomia ha presentato gravi turbe di canalizzazione. Il confezionamento di una coloplastica ha, quindi, comportato una successiva severa sindrome da ostruita defecazione tale da rendere necessario il ripristino dell'ileostomia.
DISCUSSIONE: Il gold standard nel trattamento chirurgico del carcinoma rettale basso è la resezione anteriore con escissione totale del mesoretto ed anastomosi coloanale. La cosiddetta "sindrome da resezione anteriore" è una conseguenza riconosciuta per questo tipo di interventi. Il confezionamento di un resevoir quali la J-pouch e più recentemente la pouch trasversale (coloplastica) sono procedure adottate per migliorare la qualità di vita dopo resezione anteriore del retto (RAR).
CONCLUSIONE: La presenza di occlusione intestinale senza ostacolo meccanico, ci fa supporre che la coloplastica abbia innescato un meccanismo tipo Hirschsprung o simile alla "stipsi ostruita". La peristalsi si blocca a livello della coloplastica non permettendo la progressione del contenuto intestinale. la coloplastica o la pouch non funzionano in quanto reservoir, in rapporto quindi alla capacità di contenere le feci, ma perché interrompono la peristalsi.

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