

Laparoscopic proctocolectomy: Analysis of long term complications.

Case report



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Paolo Del Rio, Nicoletta Sianesi, Maria Francesca Arcuri, Cinzia Papadia*

Azienda Ospedaliero Universitaria di Parma, Clinica Chirurgica e Trapianti d'Organo, Parma, Italy

**Azienda Ospedaliero Universitaria di Parma, Unità operativa di Gastroenterologia, Parma, Italy*

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Surgery can be a permanent treatment for ulcerative colitis. The correct surgical procedure is a total proctocolectomy and ileo anal J pouch anastomosis (IPAA). This procedure is feasible also in laparoscopic approach after a correct learning curve. Pouchitis, pouch complications, intestinal occlusion, infertility are the most common long term complications. We present a case of a 37 year old man treated with laparoscopic proctocolectomy and followed at 18 months.

KEY WORDS: Infertility, Laparoscopic proctocolectomy, Pouch, pouchitis, Ulcerative colitis

Introduction

Indications for elective surgery in ulcerative colitis are mainly related to two situations: failure of medical management or intolerance to long term immunomodulator's therapy and patients with colon dysplasia or adenocarcinoma. Surgery can be regarded as a permanent cure with indication to a total proctocolectomy and ileoanal J pouch anastomosis (IPAA). The literature has shown that this procedure is feasible also with a laparoscopic approach, thanks to the adoption of evolving technologies and the acquirement of advanced laparoscopic skills by teams that use laparoscopic techniques for colon surgery ¹.

We present the case of a patient with ulcerative colitis, treated with laparoscopic surgery, with follow up at 16 months from surgery, to consider the complications related to the procedure also through personal experience and recent literature review.

Case report

It concerns the case of a 37 year old man, with a 20 years history of ulcerative colitis, who regularly attended an endoscopic surveillance program. During the last endoscopic control multiple biopsies ² showed the presence of high grade dysplasia at transverse colon, descending colon and sigmoid colon. The following CT abdominal scanning, performed on 3.19.2009 resulted in: "Stiffening of the colonic wall with submucosal thickening and attenuation of the wall; eccentric wall thickening producing lumen narrowing extending for 5 cm from the mesenteric border of the left colon, with mesenteric retraction extending for 8 cm; absence of significative focal damage within spleen, kidneys and pancreas".

Considering the patient's clinical history, the results of the biopsies and the CT scanning report, the patient was considered eligible for laparoscopic total proctocolectomy (Fig. 1, 2), and was treated with an ileo-pouch anastomosis (IPAA) and Brooke ileostomy.

Postoperative course was uneventful, with regular resumption of oral intake and discharge 9 days after surgery. Histological report: "Macroscopic description: presence of colon and rectum measuring 81 cm in length with a smooth surface nodule, measuring 6.5x2

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Correspondence to: Prof. Paolo Del Rio, Università degli studi di Parma, Clinica Chirurgica e trapianti d'Organo, Via Gramsci 14, 43100 Parma Italy (e-mail:paolo.delrio@unipr.it).

cm, 16 cm far from the distal margin. On cut section swelling of the submucosa and apparent involvement of the muscular layer below. At 51, 5 cm from the anal margin presence of a nodular mass measuring 1, 5 cm in transverse diameter, of whitish colour, that on cut section appears to be constituted by white and fatty like tissue, seemingly invading the muscular layer. The remaining mucosa at 22 cm from the proximal margin appears to be irregular, with haemorrhagic aspect, without apparent raised or thickened areas. The proximal section presents better preserved placcations with protruding areas, measuring at most 1 cm in diameter, covered with undamaged mucosa.

Microscopic description: presence of intestinal type mucinous adenocarcinoma (G3), invading deeply into pericolic fat, with lymph node metastasis (1/33); presence of three more tumour areas of intestinal type adenocarcinoma (G3), with no mucinous features, infiltrating full thickness the muscle layer, at variable distance, in descending colon; no lymphatic invasion (69 of 69). Ileal wall segment free of tumor. Scleroatrophic appendix."

The patient was treated with adjuvant chemotherapy: 6 cycles with 5 fluorouracil and folinic acid. The post-operative course was characterized, 6 months after surgery, by an episode of intestinal subocclusion that needed hospitalization at the Operative Unit of Gastroenterology. Spontaneous remission followed. Eight months after surgery, a CT scanning of the thorax and abdomen was performed, not showing any relevant pathologic finding.

A small bowel series was also performed, showing a moderate air-fluid level near to the stomy. As small bowel canalization was preserved, the patient was subjected to the closure of the ileostomy with GIA 75 mm. A CT scanning of the thorax and abdomen performed 2 months after the last surgical procedure, didn't show any pathologic findings.

Discussion

Indications for surgery in ulcerative colitis are codificated: 1) failure of medical management or intolerance to long term immunomodulator's therapy; 2) colon dysplasia or adenocarcinoma, found on screening biopsy. It's well know that 25-30% of ulcerative colitis patients will require surgery at some time during their illness, if medical treatment fails³⁻⁵.

Surgery provides a permanent cure for ulcerative colitis and is substantially less expensive in the long time than maintaining immunomodulator therapy. The risk of cancer in patient with ulcerative colitis increases is related to the time of first diagnosis (2% after 10 years, 8% after 20 years, 18% after 30 years).

Surgery has been shown to improve patient's quality of life removing not only the need of medical therapy to treat the symptoms, but also the risk of acute outbreaks. Indications for surgical treatment are related to the elective indications previously mentioned, but there are also indications for emergency in ulcerative colitis, mainly related to: intestinal perforation, colonic bleeding refractory to medical management, toxic megacolon and all the condition of water and electrolyte disorders associated to the complications of ulcerative colitis^{2, 3, 5}.

Midterm complications impairing operated patient's psychophisic wellness are mainly related to episodes of bowel obstruction in 13-35% of the patients treated with ileo pouch anastomosis (IPAA). One of the most common long term complication is pouchitis⁶, an idiopathic chronic inflammatory disease that may occur in the ileal pouch after restorative proctocolctomy with ileal pouch-anal anastomosis. The diagnosis is suggested by variable clinical symptoms including intestinal bleeding, abdominal cramping, fecal urgency, tenesmus, incontinence and fever.

A clinical suspect of pouchitis should be ideally confirmed by endoscopy and mucosal biopsy. Histological



Fig. 1: Proctocolectomy after laproscopic surgical procedure.

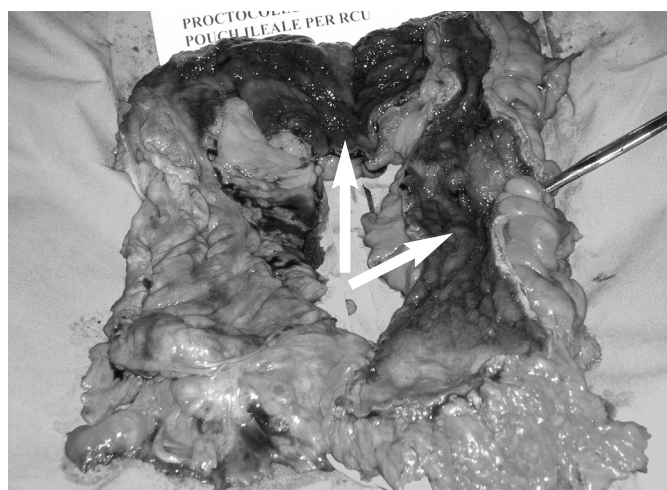


Fig. 2: Proctocolectomy opened with highlighted the carcinomatous zone.

examination can show mucosal changes that may include: neutrophil infiltration, mucosal ulceration, granularity, villous atrophy, crypt hyperplasia and chronic inflammatory cell infiltration.

Pouchitis seems to be related mostly to the changes of the primary function of the terminal ileum, from absorption to storage, and to the associated bacterial overgrowth⁷. General pouch-related complications have been reported, that may compromise the outcome of the procedure, such as pelvic sepsis, responsible in 50% of the cases, pouch dysfunction, small volume reservoir and another clinical condition that is the pouch vaginal fistula.

It occurs in 2, 6-16% of females undergoing restorative proctocolectomy. Increased infertility in women has been reported after ileal pouch anal anastomosis (IPAA), defined as the inability to conceive after one year of unprotected sexual intercourse.

A recent metanalysis⁸ confirmed this data, even if the reason is not completely associated to ulcerative colitis, but it may be due to complications related to surgical procedure potentially increasing the risk of adhesions⁹ with infertility associated to anastomotic leak in hand made anastomoses versus stapled anastomoses. A laparoscopic approach could possibly decrease the rate of infertility, due to the less tissue manipulation but further studies are required. Recent studies, yet to be confirmed, didn't show significant differences in this regard¹⁰, while differences are reported in terms of mean operative length of stay and resumption of oral intake¹¹.

Riassunto

La chirurgia può rappresentare il trattamento definitivo della rettocolite ulcerosa. La procedura chirurgica corretta è rappresentata dalla proctocolectomia totale seguita dall'anastomosi con l'ano di una pouch ileale ad J (APIA).

Questo intervento è realizzabile anche con un approccio laparoscopico dopo un adeguato periodo di apprendimento. Pouchiti, complicazioni caratteristiche della pouch, occlusione intestinale, infertilità sono le più frequenti complicazioni a lungo termine.

Viene presentato il caso di un uomo di 37 anni trattato con una proctocolectomia laparoscopica e seguito per 18 mesi.

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