Ileoanal Anastomosis: Medium and Long Term

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Abstract

Total coloproctectomy with ileoanal anastomosis (AIA) is the standard surgical treatment for ulcerative colitis UC) and familial adenomatous polyposis (FAP). Early complications are dominated by small bowel obstruction and anastomotic fistulas. The pouchitis, non-specific inflammation of the reservoir, is the most frequent complication in the long term.

In this work, and through three cases of pouchitis and a case of anastomotic stenosis and fistulas, we focus on the different epidemiological, clinical, endoscopic and therapeutic aspects of these conditions.

Keywords: Coloproctectomy; Ileoanal Anastomosis; FAP; Pouchitis; Stenosis; Fistulas

Abbreviations

FAP: Familial Adenomatous Polyposis; UC: Ulcerative Colitis; PDAI: Pouchitis Disease Activity Index; Qof: Quality of Life; MR enterography: Magnetic Resonance Enterography; DRE: Digital Rectal Examination

Introduction

The total coloproctectomy followed by an ileoanal anastomosis on J reservoir (IAA) described in 1978 [1] is currently the standard treatment for UC and FAP [2,3]. The functional results of the AIA are, in most patients the quality of life (Qof) after this intervention is satisfactory [4]. However, there is risk of complications that can be early, dominated by small bowel obstruction, stenosis and anastomotic fistulas. The pouchitis, non-specific inflammation of the reservoir, is the most frequent complication in the long term.

Materials and Methods

We collected through a retro and prospective study all the patients followed in our department for UC or FAP and having benefited from a total coloproctectomy with ileoanal anastomosis. The activity of pouchitis was evaluated from the objective and reproducible score: the Pouchitis Disease Activity Index (PDAI). This score includes 18 points calculated from 3 separate scales evaluating clinical symptoms, endoscopic and histological data. The diagnosis of active pouchitis is defined by a PDAI > 7 and a pouchitis in remission by a score < 7. For anastomotic stenosis, the diagnosis was established by rectoscopy with biopsy and MR enterography.

Case Report and Results

Among 510 patients followed for UC, 07 patients had a total coloproctectomy with IAA. Acute pouchitis was observed in 03 patients with UC; male, median age 58 years. The symptoms are dominated by the increase of frequency and the urgency of the stool in 02 patients, a rectal syndrome in 01 patients, a fecal incontinence in 01 diseases. Two patients had an acute pouchitis evolving less than 4 weeks. Only

one patient had chronic pouchitis. The endoscopic signs are identical to those of the UC, characterized by a mucous erythema, a friable mucosa, granular with a diminution of the vascularization, bleeding easily with the contact in the three patients. Histology confirmed the diagnosis of pouchitis in a single patient with a typical infiltration of polymorphic pouchitis rich in neutrophils. PDAI was greater than 7 in all patients. Clinical, endoscopic and histological data have made it possible to rule out other diagnoses (Cuffitis, infectious causes, stenosis of the reservoir) and to retain the diagnosis of pouchitis. The three patients received medical treatment with ciprofloxacin 500mg x 2 for 15 days, with a significant decrease in overall PDAI with clinical, and endoscopic remission. The evolution was marked by the absence of recurrence of the pouchitis in the three patients with a decline of 1 year.

Among 04 patients operated for FAP and having benefited from an AIAR, 01 only patient had presented in the immediate postoperative two episodes of intestinal occlusions with anastomotic fistulas, requiring an operative intervention with restoration of continuity. Three years after the patient had presented spontaneously resolving clinical sub-acute intestinal occlusion whose morphological examination (MR enterography) showed to anastomotic thickening, endoscopically there is anastomotic stricture not allowing rectal intubation with normal mucosa on behalf whose biopsies were in favor of non-specific interstitial stomatitis, the diagnosis of benign stenosis was retained, and treated by dilatation, with good evolution.

Discussion

The total coloproctectomy followed by an ileoanal anastomosis on J reservoir IAA described in 1978 [1] is currently the standard treatment for UC and FAP [2,3]. The functional results of the AIA are, in most patients, of good quality and the quality of life after this intervention is satisfactory [4]. However, there is the risk of complications that can be early, dominated by small bowel obstruction, stenosis and anastomotic fistulas. The pouchitis, non-specific inflammation of the reservoir, is the most frequent complication in the long run.

Pouchitis

Pouchitis, defined as non-specific inflammation of the ileal reservoir made during IAA, is however a frequent complication remote intervention [5]. Incidence rates vary across studies from 10% to 59%. The first episode of pouchitis occurs in most patients in the year following the restoration of continuity, although some patients have their first flare only later [6].

Many pathophysiological hypotheses of this complication observed globally in 20 to 30% of AIA cases for UC versus 3 to 14% of IAAs for FAP [7,8] have been advanced to explain the occurrence pouchitis. The most common are: the occurrence of microbial overgrowth due to faecal stasis in the reservoir; ischemia of the reservoir resulting in ischemia of the mucosa; the resurgence of intestinal inflammation is that there has been confused with Crohn's disease or it is a relapse of RCH. The truth is that its pathophysiology remains obscure [8].

Clinical diagnosis: Pouchitis was initially defined as an increase in stool frequency, sometimes associated with rectal bleeding, urgency, episodes of incontinence, abdominal cramps, general malaise or fever; these symptoms should be present for a minimum of two days and respond promptly to treatment with metronidazole) [8,9]. Endoscopic diagnosis: In case of pouchitis, the mucosa of the reservoir has an oedematous, irregular, fragile, hemorrhagic aspect with a hypovascularization and small superficial ulcerations; Importantly, the mucosa of the terminal ileum above the reservoir is normal [10]. This aspect simulates well-shaped ulcerations that observed in UC.

Histological diagnosis: After restoration of continuity by closing the ileostomy in case of AIA, the ileal mucosa takes the appearance of a colonic mucosa. Thus, villous atrophy, crypt hyperplasia and chronic inflammation of the lamina propria [11,12] occur.

A definition taking into account the clinical, endoscopic and histological criteria is necessary to carry the diagnosis of pouchitis. The pouchitis is acute when the symptoms last less than 4 weeks, and chronic or refractory if beyond. In the case of refractory pouchitis, several differential diagnoses must be eliminated: infectious origin by carrying out a stool culture and biopsies of the reservoir, in particular to exclude a cytomegalovirus superinfection [13]; fistula, anastomotic stenosis or improper configuration of the pouch by opacification

of the reservoir; also we can eliminate Crohn's disease by performing abdominal CT scan or MR enterography to detect inflammatory abscess or phlegmon near the reservoir [14]. The "cuffitis" can simulate pouchitis. Its related to inflammation of the rectal flap left following the suture with the mechanical stapler. Antibiotic treatment became the first-line treatment of acute infection. Metronidazole is the most widely used, with most patients responding rapidly to 1g - 1.5 g/day.

Anastomotic fistula

Short term

Immediate post-operative, the risk of anastomotic fistula depends on the type anastomosis and its consequences can be multiple, with varying degrees of severity. It is possible that a minimal anastomotic fistula is asymptomatic and uncovered accidentally, the anastomotic fistula can also be revealed by pelvic sepsis, starting from abscess requiring antibiotic therapy, with or without drainage (transanal or radiological), to postoperative peritonitis requiring urgent surgical intervention

Long term

Despite all the conservative medical and surgical measures, some patients develop a chronic anastomotic fistula, especially in 1 to 5% of colorectal anastomosis low or coloanal 3 - 5, which may be asymptomatic or responsible for abdominal pain, recurrent pelvic abscess and poor functional outcomes.

Anastomotic stenosis

It is necessary to differentiate the immediate stenoses from the later fibrous stenosis. The first are the most frequent. They are diagnosed during a systematic proctological examination or in the context of defecation disorders. This is usually a simple diaphragm that will be easily dilated during digital rectal examination DRE or with dilators usually used. A diameter of 15 mm is sufficient. This proctological examination should be carried out systematically during the closure of the possible ileostomy of protection. Indeed, the stenosis is almost constant when the IAA has been out of action for several weeks. Late stenosis is found in 10% of cases. They seem more frequent after manual IAA than after mechanical AIA (12% versus 4% in the Mayo Clinic series) [15]. They are usually associated with anastomotic fibrosis, which is itself favored by perioperative or postoperative difficulties, sepsis or Crohn's disease context. Here again iterative mechanical expansions can be effective. In case of failure or recurrence too early, a vaginoplasty showed its effectiveness by producing radiographic points on the anastomosis [16].

Occlusions

Small bowel obstruction is the most common complication after AIA. There are two types of occlusion:

1. Occlusions occurring during the period when stomas (ileostomy or ileocolostomy) are still in place;
2. Occlusions related to postoperative adhesions after stoma closure or in patients who did not have a protective stoma.

Conclusion

Total coloproctectomy with ileoanal anastomosis is a complex and cumbersome procedure with specific morbidity. However, these complications are becoming better known and tolerated. In addition, despite these complications, the rate of loss of the reservoir and sphincter dysfunction remains low, estimated at less than 5%.

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