

OPEN RESECTION WITHOUT DERIVATIVE STOMA FOR RECTAL CANCER: OUR EXPERIENCE

RESEZIONE ANTERIORE DEL RETTO SENZA STOMIA DI PROTEZIONE NELLA TERAPIA CHIRURGICA DEL CANCRO DEL RETTO: NOSTRA ESPERIENZA

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 **Parole chiave:** resezione anteriore del retto, cancro del retto, stomia di protezione

Abstract

Background: The introduction of laparoscopic resection (LR) for rectal cancer (RC) is going to change the surgical treatment of this disease but at the moment only a few RC are treated by LR. Open surgery (OS) is more and more considered an old and potentially obsolete procedure. Many questions regarding the real advantage of the above-mentioned new technique remain till now unanswered.

Objectives: The aim of this study was to compare the short term results of the metanalysis and of the largest case series considering LR with the results we obtained using a prospective protocol including all consecutive RC treated by OS.

Methods: All patients treated for RC were considered for a prospective protocol whose inclusion criteria were open elective resection without derivate stoma including neoadjuvant therapy, TME technique, low and ultralow anastomoses. Exclusion criteria were urgent surgery, incomplete stapler rings and positive hydropneumatic test. Morbidity, mortality and necessity of a derivative stoma were the parameters considered for the comparison.

Results: Between 1989 and 2011, 323 patients were included in the protocol. We had a 20.6% morbidity rate and 0.65% mortality rate. 22 patients developed an anastomotic fistula (6.8%). Only 9 (2.8%) of these 22 patients, required a derivative stoma.

Conclusions: In our experience OS and LR obtained similar results considering morbidity and mortality rate. The necessity of a derivative stoma in OS is lower than in LR, although the real rate of derivative stoma is not completely evaluated for minimally-invasive surgery in the literature.

Abstract

Introduzione: L'introduzione della tecnica laparoscopia (TL) sta cambiando l'approccio chirurgico del cancro del retto (CR) ma, per il momento, solo una minoranza di CR sono trattati con TL. La chirurgia open (CO) è da alcuni considerata una procedura destinata ad estinguersi. Molte domande riguardanti i veri vantaggi della suddetta nuova tecnica rimangono fino ad ora senza risposta.

Obiettivi: Lo scopo di questo studio era di confrontare i risultati a breve termine delle metanalisi e delle più ampie casistiche ottenute mediante TL con i risultati di un nostro protocollo prospettico che comprendesse tutte i CR consecutivi trattati con CO.

Metodi: Tutti i pazienti trattati per CR sono stati considerati per l'arruolamento in un protocollo prospettico i cui criteri di inclusione erano la resezione elettiva a cielo aperto senza stomia di protezione includendo i casi trattati con terapia neoadiuvante, TME ed un'anastomosi bassa e ultrabassa. I criteri di esclusione erano: l'intervento chirurgico d'urgenza, anelli stapler incompleti e un test idropneumatico positivo. Morbilità, mortalità e la necessità di una stomia derivativa erano i parametri considerati per il confronto.

Risultati: Tra il 1989 e il 2011, 323 pazienti sono stati inclusi nel protocollo. Abbiamo avuto un tasso di morbidità del 20.6% e un tasso di mortalità dello 0.65%. Ventidue pazienti hanno sviluppato una fistola anastomotica (6.8%). Di questi, solo 9 (2.8% su 323 pazienti) hanno richiesto una stomia derivativa.

Conclusioni: Nella nostra esperienza la CO ha ottenuto risultati simili alla TL considerando i tassi di morbidità e mortalità. La necessità di una stomia derivativa in CO è inferiore a quella riportata con TL, sebbene la reale incidenza di una stomia derivativa nella chirurgia mini-invasiva non sia completamente valutata in letteratura.

Background

Open surgery (OS), which is the most used procedure in surgical treatment of rectal cancer (RC), is more and more considered an old technique which in the near future may become obsolete. Laparoscopic resection (LR) has gained growing popularity over the last decade (1). At present, data regarding the percentage of LR on the whole of the surgical procedures performed for RC are still lacking. Many years after the introduction of LR only a minority of patients with RC are treated with this technique. Many possible reasons can justify the poor employment of LR for RC. Most of the data published comparing LR and OS suggest a superiority of the first one in the light of its short term results (2). However, these data do not consider sufficiently the employment rate of derivative stoma (DS). We consider the rate of DS a basic parameter in evaluating short term results of a surgical procedure for RC. The presence of a stoma can cause morbidity and its closure is not a minor procedure, it being burdened by morbidity and mortality (3). A stoma might predispose patients to anastomotic stenosis particularly for mechanical anastomoses. Undoubtedly the presence of a stoma worsens the patients quality of life. On the other hand, the presence of a stoma makes the clinical impact of an anastomotic leak less serious, potentially reducing morbidity and mortality rates. Basically, this is the reason why most authors suggest a large use of this DS, particularly in high-risk anastomoses.

The first aim of this study, comparing short term results of OS with LR, was to analyze the real necessity of a derivative stoma in all RC treated and to evaluate the impact of omitting this DS on morbidity and mortality rates.

Methods

Our prospective study, started in January 1989, included all patients treated until the end of June 2011. The inclusion criteria were all patients with RC (adenocarcinoma between 18 cm from the anal verge and the pectinate line) who underwent elective resection including those treated with total mesorectal excision (TME), neoadjuvant therapy and low and ultralow anastomosis. From 1997 a neoadjuvant therapy was suggested to all T3-T4 and/or N1 patients, staged by TC and endoluminal ultrasound or MR. A median laparotomy was used with complete mobilization of left colonic flexure, ligation of the inferior mesenteric artery 2cm above its origin or after the origin of the left colonic artery. A mechanical termino-terminal anastomosis was used in most cases, reserving double mechanical anastomosis (Knight-Griffen) for ultra-low anastomosis. We positioned a retro-anastomotic drainage tube in all patients. We performed an accurate re-peritonealization with extra-peritonealization of the anastomosis. A nerve-sparing TME procedure was utilized from 1997 in all of the middle and lower rectum and T3-T4 of the upper third. A derivative stoma was omitted in all patients. A fistula or anastomotic dehiscence was suspected when pelvic and/or perineal pain, fever, leucocytosis and fecaloid liquid in the drainage were present. The presence of an anastomotic leak was confirmed by means of an urgent X-ray or endoscopy. We defined a major dehiscence when signs of peritoneal reaction and sepsis were present, regardless of the diameter of the fistula. When a major dehiscence was diagnosed, a transverse colostomy was immediately performed. Less serious clinical cases were defined as minor dehiscence, and a "wait and see" strategy was adopted.

Results

Out of 346 patients operated on for RC between January 1989 and June 2011, 323 (93.7%) fulfilled the inclusion criteria of our protocol. We had 167 males and 156 females aged between 33 and 89 years (average age: 63.8 years). In 102 patients (31.6%) the tumor was located in the upper third of the rectum, in 139 (43%) in the middle third and 82 (25.4%) in the lower third. One hundred and twenty (37.2%) were treated with traditional ARXXXX, 198 (61.3%) with AR and nerve sparing TME and the remaining 5 (1.5%) with abdominoperineal amputation. An intrasphincteric anastomosis was performed in 54 patients (16.7%). Eighty-eight (27.2%) received neoadjuvant therapy. Two patients (0.65%) died in the post-operative period and major post-operative complications developed in 63 patients (20.6%). Twenty-two patients (6.8%) developed an anastomotic dehiscence. Nine of these (2.3 % on 323 patients) were defined as major dehiscence according to the above mentioned criteria. Two of the major dehiscences had been submitted to traditional AR (2/120=1.7%). Four underwent TME (4/198=2%) with double mechanical anastomosis in three (3/89=3.4%). Three received neoadjuvant therapy (3/88=3.4%). All these nine patients with major leaks underwent a protective colostomy within hours of the onset of clinical symptoms. Eight of these 9 patients were discharged within 15 days after colostomy and removal of the pelvic drainage and interruption of the antibiotic therapy. After checking that the anastomosis had healed by means of enema, the colostomy was closed within 4 months in 7 of these patients (77.8%). One patient (11.1%) refused the closure of the colostomy. One patient (11.1% of the patients

with major dehiscences and 0.3 % on the 323 patients) died of the 26th p.o. day due to a multi-organ failure. This patient was 82 years old, ASA III, diabetic and had Dukes stage C cancer. The 13 minor dehiscences (4%) were treated conservatively with antibiotics and enteral feeding, administered using an out-patient regimen. Four of these 13 patients (30.1%) required percutaneous CT-guided drainage of a pelvic abscess.

Discussion and Conclusions

Many randomized controlled trials and few meta-analysis comparing short and long term results of OS and LR were published (4, 5, 6, 7, 8). In summary, LR obtained the same long-term results of OS considering long-term oncologic and functional results (urinary and sexual functions) (9, 10). Therefore, LR is considered an acceptable alternative treatment option to OS for RC (8). The significant differences between these two techniques concern short-term results. Data regarding the use of derivative stoma in LR are still lacking. In our opinion, in evaluating the short-term results, the parameters of paramount importance are mortality and morbidity rates and the quality of life of the post operative period. The presence of a DS has a deep impact in the quality of life. A DS has a serious psychological impact on these patients, which are basically anxious for their oncologic disease, as well as involving not minor management problems. Moreover, the presence of a stoma can cause morbidity by itself, its closure causes morbidity and mortality, it can predispose to anastomotic stenosis particularly for mechanical anastomosis, presumably owing to the temporary loss of the plastic function of fecal transit through the anastomoses. Derivative "temporary" stomas may become definitive with rates of 12.2% (11), 19.2% (12) and 32% (13) in different studies.

The questions which remain not completely unanswered are:

- 1) which is the impact on mortality and morbidity rates of omitting a diffuse use of DS (primary stoma) and reserving its employment only in cases with mayor anastomotic dehiscence (secondary stoma)?
- 2) in which portion of patients is a protective stoma really necessary?

In our experience with OS, the overall morbidity (20.6 %), mortality (0.65%) and anastomotic dehiscence (6.8%) rates are quite similar to those reported in literature with LR (8).

Only one death can be potentially owed to our strategy of omitting primary derivate stoma. This patient was 82 years old, ASA III, diabetic and Dukes C stage cancer. He died on 26th postoperative day due to respiratory complications and cardiocirculatory failure after a major dehiscence developed in which a secondary DS was performed. The influence of septic status due to the dehiscence had a relevant impact on the exitus in this high risk patient.

On the whole, the morbidity and mortality rates were not significantly influenced by omitting primary stomas in our patients. Our results are similar to the best case reported using LR. In our experience the employment of DS was reduced to 2.8% (9 out of 323 patients). This rate is significantly lower than those reported in largest series with LR. In conclusion 314 out of 323 consecutive patients treated by OS for rectal cancer avoided a DS and its important implications on their quality of life. Doubts remain whether our experience can be reproduced in other and larger case series.

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