Early rectal cancer: local excision by Trans-anal Endoscopic Microsurgery (T.E.M.)

Ann. Ital. Chir., 2013 84: 437-439
Published online 13 November 2012
pii: S0003469X12020453
www.annitalchir.com

Gennaro Quarto, Luigi Sivero, Giacomo Benassai, Luigi Bucci, Vincenzo Desiato, Stefano Perrotta, Gianluca Benassai, Salvatore Massa

Department of General Geriatrics, Oncological Surgery and Advanced Technology, University of Naples "Federico II", Naples, Italy

Early rectal cancer: local excision by Trans-anal Endoscopic Microsurgery (T.E.M.)

INTRODUCTION: *The microscopic trans-anal surgery is an important application of the mininvasive surgery of the rectum. The evaluation of the linfonodular involvement represents a limit to the conservative procedure.*
PATIENTS AND METHODS: *Between January 2004 to December 2010, 14 patients have been chosen and undergone surgery with mininvasive treatment for primary rectum cancer (early rectal cancer).*
RESULTS: *After a follow-up of about 36 months (8-72) we encountered only one local recurrences on a patient with a T2 lesion, also treated with mininvasive treatment.*
CONCLUSION: *The results obtained by us using the T.E.M. have been all around very encouraging for the treatment of early rectal cancer.*

KEY WORDS: Linfonodular Micrometastasis, Mininvasive Surgery, Rectal Cancer.

Introduction

The Trans-anal Endoscopic Microsurgery, born on an intuition of G. Buess, is older than 25 years. Since 1983 removing lesions trans-anally has been possible thanks to a dedicated instrumentation and an excellent tridimensional visibility of the operative field. The efficacy of the method has made possible the treatment of ever more complex clinical cases, where the treatment of the symptom represents an acceptable result needed being a thorough evaluation for the radical cure of the rectal neoplasms. Therefore the accurate selection of the indications is a field of ample discussions and verifications also about what concerns the efficacy of neo-adjuvant treatments and the rational use of complementary therapies [1-3,5].

Patients and methods

The instrumentation consists of an operative rectoscope, which measures 4 cm in diametre and 12-20 cm in length, hermetically closed by an air-proof component and presenting 4 operative channels. The rectoscopie is fixated on the surgical table by a mechanical arm, while a combined endosurgical unit emits CO_2 in the rectum in order to obtain, under continuous monitoring, a constant pressure of 12-14 mmHg. The stereoscopic optics

Pervenuto in Redazione Settembre 2012. Accettato per la pubblicazione Ottobre 2012
Correspondence to: Prof Gennaro Quarto, Università "Federico II", Dipartimento Universitario di Chirurgia Generale, Geriatrica, Oncologica e Tecnologia Avanzata, Via Sergio Pansini 5, 80131 Napoli (e-mail: gquarto@unina.it)

consent a tridimensional visualization and the reproduction of the images in a monitor.
In the time between January 2004 and December 2010, 14 patients have undergone a mininvasive surgical treatment for early rectal cancer. Ten of them were male and 4 were female. Medium age was 58 years. The selection was based on the following examinations:
– Rigid Rectoscopy, useful for determine the exact height and localization of the lesion;
– Trans-rectal Ultrasonography;
– Colonoscopy or Enema in order to exclude synchronous lesions proximally to the rectum;
– Hepatic Ultrasonography in order to exclude metastases on the liver;
– Abdominal and pelvic CT-scan in order to evaluate a lymphnodal involvement;
–Pelvic MRI.
In all the patients the lesions were contained in the rectal wall (T1), localized posteriorly and less than 2 cm of size. Two [2] of them were evaluated as T2 and therefore treated with neo-adjuvant chemo/radiotherapy and conservative surgery, having categorically declined other conventional surgical treatments. In all cases a total excision of the rectal wall was performed (Full Thickness Excision) including an area of peri-lesional healthy tissue. The operatory specimen is fully considered a total biopsy with absolute necessity of guided re-evaluation by the pathology's result.

Results

In one patient who had undergone a resection judged preoperatively as T1, the final histological exam demonstrated an extended infiltration to the perirectal fatty tissue. An ultra-low anterior resection has been performed with complete removal of the mesorectum and without findings of lymph nodal metastases or residual tumor.
On three [3] patients the diagnosis of T1 adenocarcinoma has been obtained only on definitive histological specimen (cancerized adenomas).
Two patients presented of about 3 cm lesion extended down to the submucosa, both localized on the posterior wall of the rectum and both distant circa 5 cm from the anal margin. The two patients have categorically declined any conventional surgical treatment, consenting only to conservative surgical therapy with neo-adjuvant chemo/radiotherapy, postponing the surgery for about 8 weeks.
Concerning the complications that occurred, there were 2 cases of intra-operative bleeding and 2 retro-rectal abscesses, all treated with conservative surgery.
A 36-months medium (range 8-72) follow-up has been performed. A patient has developed a local relapse 18 months after the surgery, which was also treated conservatively. Four [4] patients have presented colic adenomas, which have been endoscopically removed [15].

Discussion

The criteria of preoperative staging have been through important modifications in the last 10 years with a substantial improvement of the echo-endoscopic techniques which have clearly improved the optimal evaluation of T [4,5,13,14].
The preoperative evaluation of N, instead, represents a real limit for the scheduling of conservative surgeries. As a matter of fact the findings of lymph nodal micrometastases in patients with carcinomas extended to the sole mucosa are ever so frequent and the technique of the sentinel lymph node is hardly feasible in the transanal surgery [10]. Furthermore the biological meaning of the lymph nodal metastasis itself isn't clear yet in the means of its definitive clinical evaluation. The transanal microscopic surgery is very useful in the treatment of the extraperitoneal rectal lesions; this kind of surgery is not only indicated for the neoplastic treatment, but also for the cure of extremely voluminous villous adenomas of the rectum [14]. This technique is very efficient with lesions situated between 4-10 cm from the anal margin, even more if localized on the posterior wall, while the relative mobility of all the instrumentation makes at least complex the treatment of more distant lesions (2-3 cm form the anal margin [7-9]).
The role of the neo-adjuvant therapies is in constant evolution and the possibility of reducing concretely the preoperative volume of the tumor and the eventual lymph nodal involvement opens to the mininvasive microsurgery evermore encouraging perspectives. The patients must be followed-up modularly accordingly to the all-around pathological staging and the type of adverse event that should be prevented, the local or distant relapses and the appearance of further colic neoplasms [11,12,15,16].

Conclusion

The TEM represents a valid surgical procedure for the conservative treatment of the medium and inferior rectal neoplasms and particularly for the early lesions of the rectum. The oncological therapies have assumed a fundamental role on the approach of the rectal tumors, consenting to extend the use of TEM also to advanced lesions (T2), guaranteeing also to this group of patients the reduction of the surgical trauma and the possible alterations of the sphincterial functions.

Riassunto

La chirurgia transanale microscopica è un'importante applicazione della chirurgia mininvasiva del retto. La possibilità di impiegare ottiche tridimensionali, la conservazione della profondità d'immagine e l'impiego di uno

strumentario dedicato ha reso tecnicamente possibile la realizzazione d'interventi chirurgici complessi per via transanale, da escissioni a tutto spessore a resezioni con ricostruzione anastomotica. La valutazione dell'impegno linfonodale rappresenta un limite nell'impostazione degli interventi conservativi, essendo sempre più frequenti le segnalazioni di micrometastasi linfonodali in pazienti con lesioni limitate alla sola mucosa.

Nel periodo compreso tra gennaio 2004 e dicembre 2010, 14 pazienti sono stati selezionati e sottoposti a trattamento chirurgico mininvasivo per carcinoma iniziale del retto (*early rectal cancer*). La stadiazione preoperatoria prevede rettoscopia con strumento rigido, ecografia transrettale, biopsie multiple della lesione, pancolonscopia, ecografia epatica TC addome e pelvi e RM pelvi. 14 i pazienti selezionati all'intervento in questo periodo. 12 T1 e due T2, questi ultimi trattati anche con chemio/radio terapia neoadiuvante e, quindi, chirurgia conservativa. La durata del trattamento chirurgico è di circa 120 minuti, la degenza post operatoria oscilla tra i 3-14 giorni. Piuttosto limitate le complicanze, rappresentate da due casi di sanguinamento intraoperatorio e due casi di ascessi retro-rettali, trattati entrambe con chirurgia conservativa. Abbiamo eseguito un follow up di circa 36mesi (8-72) e si è presentato un'unica recidiva locale in un soggetto con lesione T2 ritrattata anche essa con trattamento mininvasivo. I risultati ottenuti nella nostra esperienza nei confronti della T.E.M. sono nel complesso molto incoraggianti.

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