Treatment of recto-vesical fistula by transanal endoscopic microsurgery approach

Ann. Ital. Chir., 2015 86: 456-458
pii: S0003469X15024070

Giancarlo D'Ambrosio, Gianfrancesco Intini, Andrea Picchetto, Salvatore Campo, Andrea Balla, Silvia Quaresima, Alessandro M. Paganini, Emanuele Lezoche

Department of General Surgery, Surgical Specialties and Organ Transplantation "Paride Stefanini", Sapienza University of Rome, Italy.

Treatment of rectovesical fistula by transanal endoscopic microsurgery approach

INTRODUCTION: *Rectovesical Fistula (RVF) is a rare major surgery complication. Despite different techniques have been proposed as yet there is still no standard treatment. Transanal Endoscopic Microsurgery provides a magnified three-dimensional vision and it is less invasive than the traditional surgical procedure used in RVF treatment.*
MATERIALS AND METHODS: *A 62 years-old man, who developed a rectovesical fistula after laparoscopic radical prostatectomy, underwent TEM-assisted RVF repair by full-thickness excision and both bladder and rectal wall suture. The patients had a temporary ileostomy*
RESULTS: *The patient could ambulate on day one, was fed on day three and was discharged on day 10 with the indwelling bladder catheter left in place. The ileostomy was taken down and the catheter removed three months later when colonoscopy and cystoscopy showed no rvf recurrence.*
DISCUSSION AND CONCLUSIONS: *From 2004, only ten cases of TEM-assisted treatment of RVF are reported with three recurrences and good results even in patients who had already undergone previous surgical attempts. TEM is safe and effective. It provides a tension free suture line on healthy tissue with adequate hemostasis and it may be a good alternative in the treatment of rectovesical fistula.*

KEY WORDS: Endoscopic Surgery, Microsurgery, Recto-vesical Fistula, Transanal Endoscopic

Introduction

RVF is a complication of prostatic and rectal cancer surgery, pelvic irradiation, HIFU, brachytherapy and IBD. Conservative approaches are seldom successful and most patients will eventually require surgery.
The transanal approach is not often used for treating this condition, but it is less invasive and it offers many advantages.

Materials and Methods

The patient, a 62-years-old man with no significant morbidities, underwent neoadjuvant radio-chemotherapy for prostatic cancer followed by laparoscopic radical prostatectomy in July 2013 at another institution.
On postoperative day six he was transferred to our department, after the appearance of retroperitoneal phlegmon, leukocytosis (WBC 22,61 x 10^3/μL) and subcutaneous emphysema.
The gastrografin© enema showed the presence of a rectovesical fistula. The first attempt to treatment was the placement of an indwelling bladder catheter and of a temporary ileostomy, which favored the improvement of the clinical symptoms.
After three months the patient still had signs of urinary infection documented by urine culture. A rectoscopy demonstrated persistence of the fistula located at 4 cm from the anal verge. To confirm the diagnosis methylene blue was injected inside the fistula during endoscopy

Pervenuto in Redazione Aprile 2015. Accettato per la pubblicazione Giugno 2015
Correspondence to: Gianfrancesco Intini, Department of General Surgery, Surgical Specialties and Organ Transplantation "Paride Stefanini", Sapienza University of Rome, Italy. (e-mail: gianfrancesco.intini@gmail.com)

and passed through the bladder catheter. A fistulography was then performed in order to evaluate the fistula size. The patient was placed on the operative table in a lithotomy position under general anesthesia. At operation, the first step was a cystoscopy in order to identify the bladder side orifice and a small stent was introduced through the fistula. Full-thickness excision of the rectal wall was performed by TEM to remove the scar tissue around the fistula, until the bladder muscular layer was identified and the stent was removed. Then the bladder wall was sutured by TEM and the rectal wall was finally closed with a double semi-continuous suture line. The rectum was filled with gauzes and drained by a transanal Foley catheter, as previously described [1].

Results

The operative time was 150 minutes, including cystoscopy time and placement of the catheter through the fistula. The patient was able to resume ambulation and oral feeding on the first day after surgery; the rectal gauzes and transanal Foley catheter were removed on P.O. day three.

The urinary infection due to the fistula was treated with specific antibiotic therapy (Ciproxin®, Bayern; Invanz®, Merck Sharp & Dohme; Deflamon®, SPA) with a complete resolution of symptoms. The patient was discharged in good conditions on postoperative day 10 with the bladder catheter left in place.

During follow up the patient had no urinary infection recurrence. Three months later he underwent a gastrografin® enema which showed complete closure of the fistula tract and the absence of extraluminal spillage with no evidence of RVF recurrence. Therefore, it was possible to proceed with closure of ileostomy and with bladder catheter removal.

To date, after one year of follow up, the patient shows no sign of recurrence.

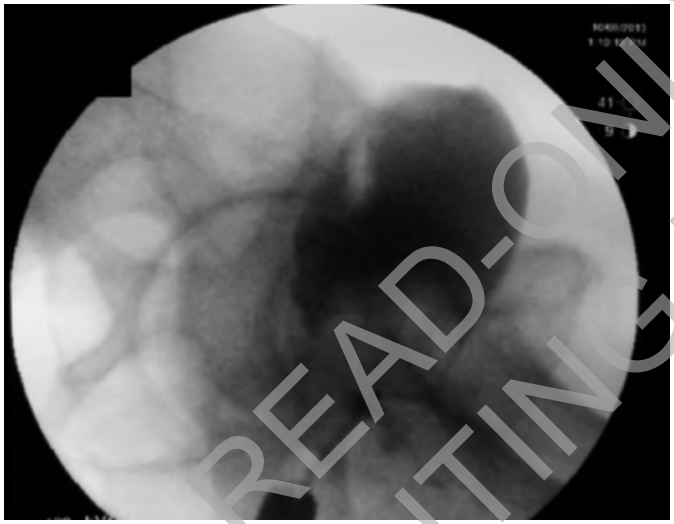

Fig. 1: Fistulography.

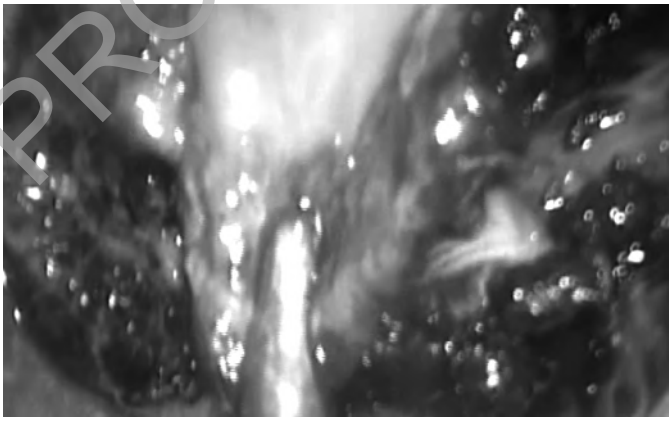

Fig. 3: The healthy margins of resection.

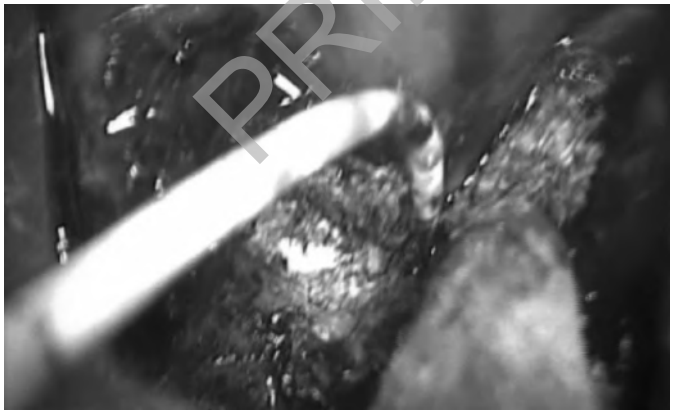

Fig. 2: Excision of sclerotic tissue around the fistula.

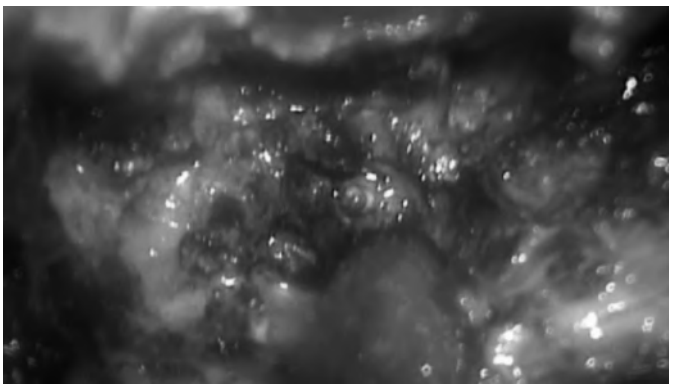

Fig. 4: The fistula on bladder wall.

Discussion and Conclusions

Many different approaches for treating rectourinary fistulas are reported in the literature (transperineal, transsphincteric, transanal, transabdominal) which are usually burdened by high morbidity rates [2,3]. Only few studies reported the transanal approach for treating rectourinary fistulas.
The Transanal Endoscopic Microsurgery, developed by Buess in 1983 [4], is usually indicated for treatment of benign rectal polyps and of rectal tumors at an early stage [5,6]. With the increasing experience TEM may be employed for the surgical treatment of other rectal diseases such of rectovaginal and rectourethral fistulas [7, 8].
Due to its technical characteristics (three-dimensional vision, magnification of the operative field) TEM provides accurate excision of the sclerotic fistula tissue and a clear identification of the bladder and rectal walls. A two layers tension free suture on healthy tissue is then performed. As compared to other techniques, TEM is a "natural orifice approach" with no additional incision (e.g. perineal) which may be very painful.
In the literature only ten cases of rectovesical fistula treated by TEM are reported, with three recurrences and good results even in patients who had already undergone previous surgical attempts [9].
Due to its unique technical features Transanal Endoscopic Microsurgery seems to be a good alternative to traditional methods in the treatment of rectovesical fistula and in our experience it proved to be a safe and effective surgical technique [10].

Riassunto

Introduzione: Le fistole rettovescicali sono una complicanza rara della chirurgia maggiore. Nonostante il corso degli anni siano state proposte diverse tecniche chirurgiche, non vi è ancora un trattamento standard e riconosciuto. La Transanal Endoscopic Microsurgery (TEM) permette di operare in un campo operatorio magnificato e tridimensionale; inoltre è una tecnica meno invasiva rispetto agli approcci tradizionali usati nel trattamento delle fistole rettovescicali.
Materiali e Metodi: Abbiamo sottoposto ad intervento chirurgico di riparazione mediante TEM un uomo di 62 anni, portatore di ileostomia, il quale ha sviluppato una fistola rettovescicale dopo prostatectomia radicale laparoscopica. L'intervento ha previsto l'escissione a tutto spessore del tessuto sclerotico intorno alla fistola e la sutura della parete vescicale e della parete del retto.
Risultati: Il paziente ha ripreso la deambulazione in prima giornata; è stato in grado di alimentarsi in terza giornata ed è stato dimesso in decima giornata con il catetere vescicale in sede. Tre mesi dopo una colonscopia e una cistoscopia hanno dimostrato l'assenza di recidiva e la ricanalizzazione intestinale è stata, quindi, ripristinata tramite intervento di chiusura di ileostomia e il catetere vescicale è stato rimosso.
Discussione e Conlusioni: In Letteratura, dal 2004 a oggi, sono stati riportati solo dieci casi di trattamento di fistula rettovescicale, mediante TEM, con tre casi di recidiva. Sono stati riportati buoni risultati anche nei pazienti che avevano già subito precedenti tentativi di riparazione chirurgica. La TEM si è dimostrata essere sicura ed efficace; permette l'esito di una linea di sutura priva di tensione su tessuto sano con emostasi adeguata e sembra essere un'ottima alternativa, rispetto alle metodiche tradizionali, nel trattamento delle fistole rettovescicali.

References

1. Paganini AM, Balla A, Lezoche E, et al.: *Tricks to decrease the suture line dehiscence rate during endoluminal loco-regional resection (ELRR) by transanal endoscopic microsurgery (TEM).* Surg Endosc, 2014.

2. Hechenbleikner EM, Buckley JC, Wick EC: *Acquired rectourethral fistulas in adults: A systematic review of surgical repair techniques and outcomes.* Dis Colon Rectum, 2013; 56(3):374-83.

3. Choi JH, Jeon BG, Choi SG, et al.: *Rectourethral fistula: systemic review of and experiences with various surgical treatment methods.* Ann Coloproctol, 2014; 30(1):35-41.

4. Buess G, Theiss R, Hutterer F, et al.: *Transanal endoscopic surgery of the rectum. Testing a new method in animal experiment.* Leber Magen Darm, 1983; 13: 73-77.

5. Buess G, Kipfmüller K, Ibald R, et al.: *Clinical results of transanal endoscopic microsurgery.* 1988; 2(4):245-50.

6. Lezoche E, Baldarelli M, Lezoche G, et al.: *Randomized clinical trial of Endoluminal Locoregional Resection versus laparoscopic Total Mesorectal Excision for T2 rectal cancer after neoadjuvant therapy.* Br J Surg 2012; 99(9):1211-218.

7. D'Ambrosio G, Paganini AM, Lezoche E et al.: *Minimally invasive treatment of rectovaginal fistula.* Surg Endosc, 2012; 26(2):546-50.

8. Wilbert DM, Buess G, Bichler KH: *Combined endoscopic closure of rectourethral fistula.* J Urol, 1996; 155(1):256-58.

9. Kanehira E, Tanida T, Kamei A, et al.: *Transanal endoscopic microsurgery for surgical repair of rectovesical fistula following radical prostatectomy.* Surg Endosc, 2014.

10. D'Ambrosio G, Balla A, Mattei F: *Quality of Life after Endoluminal Loco-Regional Resection (ELRR) by Transanal Endoscopic Microsurgery (TEM).* Ann Ital Chir, 2015; 86:56-60.