



Delayed presentation of rectourethral fistula following TaTME (transanal total mesorectal excision)

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Dear Sir

Performing transanal total mesorectal excision (TaTME) is, initially, challenging for almost every surgeon, even experienced colorectal surgeons. Some authors suggest a minimum of 30–40 cases to complete the learning curve and become confident with the surgical technique, for surgeons who are already well trained in minimally invasive surgery [1].

Moreover, major complications have been reported following TaTME [2]. We describe a case of urethral injury with delayed presentation following TaTME in an 87-year-old male (body mass index 30.12 kg/m²) with a past medical history significant for hypertension, hypercholesterolemia, chronic obstructive pulmonary disease, and benign prostatic hypertrophy. He underwent a TaTME with diverting ileostomy due to a low rectal adenocarcinoma on December 2017.

The procedure was a standard TaTME with a difficult anterior plane related to an uncommon acute angle between the anal canal and a large hypertrophic prostate. The procedure ended with a transanal stapled end-to-end colorectal anastomosis. The patient's postoperative course was uneventful, and he was discharged on postoperative day 10 in good clinical condition.

Thirty days after surgery, he presented to the emergency room complaining of anuria for 3 days and clear fluid

discharge from the anus. His renal function tests were normal (creatinine 0.74 mg/dl), but urine emission was both from the urethra and anus. Computed tomography (CT) scan images showed that the tip of a catheter placed in the emergency room was not in the urethra, but in the rectum, due to the presence of a rectourethral fistula, and there was no evidence of urine collection in the pelvis. The day after retrograde cystography documented a rectourethral fistula (Fig. 1). Urethroscopy was performed showing a wide rectourethral fistula (approximately 5 mm) with evidence of two metallic clips from the staple line of the colorectal anastomosis. Under endoscopic guidance, urologists placed a Foley catheter 16 ch in the bladder. The patient was discharged 2 days after the procedure in good clinical condition with a urinary catheter in place, good kidney function, and no urine loss from the anus.

The urinary catheter was removed 4 months later because of increasing burning and pain. The patient continued to urinate for the most part through the urethra and minimally through the anus. His stool was eliminated through the ileostomy. Urine leakage through the anus progressively decreased, as shown at follow-up 15 months after surgery. The patient reported just occasional leakage of a few drops of urine through the anus, and cystography showed a significant reduction in the fistula dimensions (Fig. 2), with almost complete resolution.

TaTME is the latest “solution to some old problems” in rectal cancer surgery, to quote Heald [3]. This technique provides good pathological outcomes in terms of involvement of the circumferential and distal resection margins, and TME quality. Long-term outcomes are awaited [4]. However, the literature offers us a list of important complications of TaTME surgery, such as sidewall damage, bleeding, urethral injuries, bladder injuries, pneumatosis of the retroperitoneum, and pelvic autonomic nerve injuries. An anonymous survey conducted during a North American cadaveric hands-on course revealed that 20% of the surgeons had at least one urethral injury during the surgery [5].

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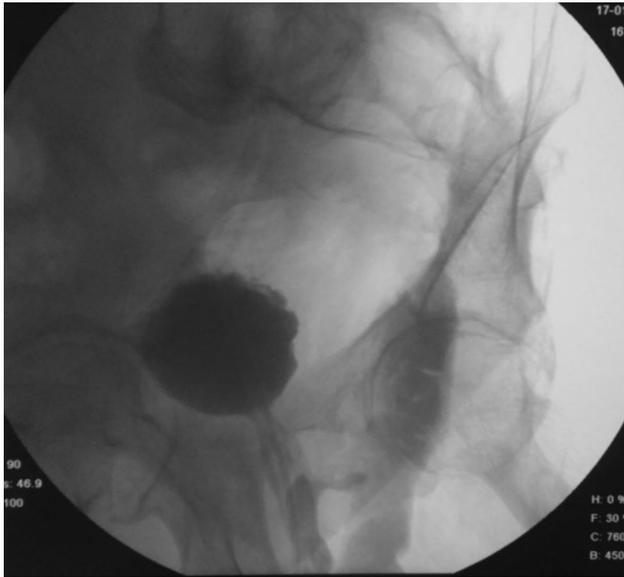


Fig. 1 Retrograde cystography 31 days after TaTME showing rectourethral fistula

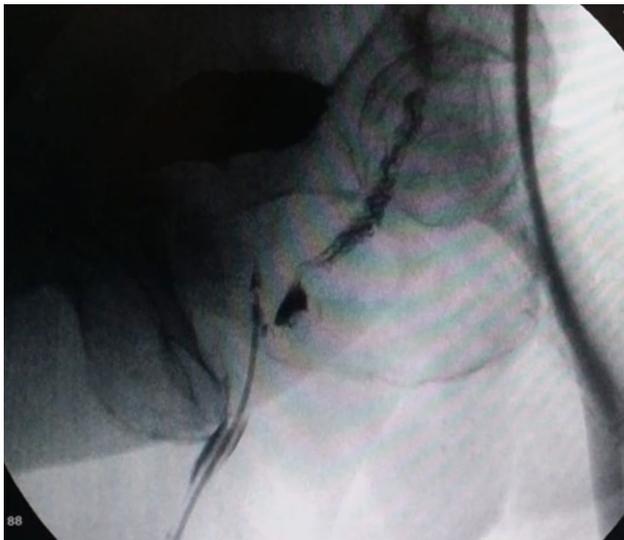


Fig. 2 Retrograde cystography 15 months after TaTME showing a significant reduction in fistula size

In our case, the urethral lesion did not occur, as usual, during the dissection but appeared 30 days after the surgery. The video-recorded surgical procedure (routinely done for every TaTME in our institution) showed that the surgeon had opted for deeper dissection in the anterior plane, probably related to the position of the prostate, and possible thinning

of the urethra. The following transanal stapled anastomosis could have incorporated the thin urethral tissue into the staple line. Furthermore, urethroscopy showed an interruption in the prostatic urethra and evidence of the metallic clips of the previous anastomosis.

Apart from anuria, the patient did not present with signs and symptoms of urethral injury such as urinary tract infection, fever, urinoma, abdominal pain, nausea, and vomiting. Moreover, there were no signs of inflammation upon endoscopic inspection.

Based on our experience, we strongly recommend adequate training in TaTME and a careful dissection in the anterior plane, especially in male patients. Furthermore, it is very important to be extremely careful during reconstruction in TaTME surgery, especially in male patients with benign prostatic hypertrophy and/or irradiated pelvises.

Compliance with ethical standards

Conflict of interest The authors declare that they have no conflict of interest.

Ethical approval This article does not contain any studies with human participants or animals performed by any of the authors.

Informed consent For this type of study formal consent is not required.

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