The „rendezvous” technique as a solution to a complex case of bladder stone grafted on a transfixing sling

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Abstract

In particular surgical situations, the technique of simultaneous laparoendoscopic approach of the cholecysticcholedochal lithiasis by the so called „rendez-vous” technique is extremely useful in the successful resolution of some very challenging cases for the surgical team. The technique was also borrowed in urology during the endoscopic interventions on the upper urinary system. We present the case of a female patient with long term urinary history in which we imagined a particular adaptation of this technique in order to successfully solve this case.

Keywords: bladder stone; double endoscopic approach; „rendezvous” technique; transfixing sling

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Introduction

In particular surgical situations, the technique of simultaneous laparoendoscopic approach of the cholecysticcholedochal lithiasis by the so called „rendez-vous” technique is extremely useful in the successful resolution of some very challenging cases for the surgical team.

This technique, described by Cavinia, Franceschi and Sidoti in the study „Laparoendoscopic „Rendezvous”: a New Techiqe in the Choledocholithiasis Treatment” published in 1998 in the Journal of Hepato-Gastroenterology, consists in a standard laparoscopic cholecystectomy with an intraoperative cholangiography and endoscopic sphincterectomy on a guide surgical wire transcystically passed if the bile duct is inhabited by gallstones. (1)

The technique was also borrowed in urology during the endoscopic interventions on the upper urinary system. Therefore, a series of authors like D. Yates et alii publish in 2009 in BJUI an article which describes the application of this technique in the combined antegrade and retrograde resolution of some complicated iatrogenic ureteric strictures by employing the techniques of retroperitoneal endoscopic bypass. (2). This article is preceded by the one published by Macri et alii in 2005 in Clinical Radiology in which the authors reach the conclusion that the rendez-vous technique increases the rate of success during the antegrade setting of the ureteric stent from 78,6 to 88,09%. (3)

Materials and method

We thus bring into discussion the case of a 55-year-old female patient which comes to our clinic with a symptomatology of the lower urinary system: pronounced dysuria, pollakiuria, intermittent episodes of haematuria, unintentional loss of urine.

From the patient's personal medical history we recall a series of interventions in the urogynecological area: in February 2009, a total hysterectomy with a bilateral adnexectomy by abdominal approach for fibromatous uterus, this surgery being followed after 3 weeks by a retropubic ureteric suspension by vaginal approach for unintentional loss of urine.

Postoperatively, the patient's evolution is slow, the unintentional loss of urine being persistent, in fact a permanent incontinency.

In August 2009, the diagnosis of vesicovaginal fistula is established (a fistular opening on the anterior vaginal wall colposcopically objectified). The cistoscopy reveals the vesical cervix and the interureteral crest highly ascended, respectively a fibrosclerotic block subsidiary to the fitting of the sling, block which fixes the urinary bladder in a retrovesical position. Doctors decide and the surgical treatment is completed by operating the vesicovaginal fistula through the abdomen in August 2009, with a relatively good subsequent evolution until 2013, when stoking symptoms occurs with a gradual exacerbation, so that in September 2013 the patient is referred to a urology department where she is by ultrasound and later cistoscopy diagnosed with a bladder stone for which endoscopic lithotripsy is practiced (a stone of 5 cm).

In October 2014, the patient develops a lithiasic relapse. This time the etiologic basis of the bladder stone is identified – a calculus grafted on a foreign body for which the endoscopic lithotripsy of the calculus is also done without acting on the foreign body.

At this moment, the patient comes to our clinic with a pronounced urgency, obvious dysuria, persistent urinary infections. The plain film and IVU objectify an image suspected of being a stone in the urinary bladder, without affecting the upper urinary tract.

The endoscopic examination reveals an anterior scarred vaginal wall, the cystoscopy disclosing the presence of a penetrating sling at the lateral aspect of the bladder with a stone developed on the level of the sling. The bladder mucous had an inflammatory condition, slightly bleeding.

An endoscopic intervention is considered as being pertinent given the patient's medical history (two surgeries carried out through the abdomen), the presence of the scars and the adhesions would have made the transvesical approach difficult.

The main goal of this intervention is represented by the exclusion of the transfixing sling from the urinary bladder. The uretrovesical endoscopic approach allows only the partial fragmentation of the stone, the medical team not being able to use tools for manipulating and transecting the sling at sight.

Therefore, one decides to adapt the „rendez-vous” technique with a double approach, endoscopically through the uretrovesical area and percutaneously through the suprapubian area. The transection of the sling at the two points of penetration into the urinary bladder is carried out and the fragmentation of the stone grafted on the sling respectively. At the end one perform the extraction of the fragments together with the polypropylene matter, followed by the cauterization of the bladder mucosa and the coating of the...
scoured areas.

The protection of the left ureter was necessary by setting a ureteral stent due to the localization of the sling in the proximity of the left ureteral meatus.

We mention that by percutaneous channel we managed to manipulate the stone and matter fragments using special clamps while the uretrovesical channel the transection of the sling was done using the visual control offered by the nephroscope percutaneously introduced into the urinary bladder.

Subsequently, the fragmentation and the extraction of the calculi was completed by using the mechanical lithotripter Punch followed by the cauterization of the bladder mucosa with the roller-ball. Postoperatively, a Foley catheter was kept in place for three weeks. The patient’s evolution was good after the removal of the Foley catheter. No stoking symptoms were observed anymore.

**Fig. 1** Fixing the ureteric stent.
*The percutaneous suprapubian approach of the bladder*

**Fig. 2** Endoscopic image with the visualization of the stone developed on the sling/External image with the visualization of the percutaneous trocar

**Fig. 3** The fluoroscopic control of the percutaneous trocar

### Conclusions

In conclusion, the „rendez-vous“ technique is a feasible therapeutic alternative not only during the interventions of upper urinary tract but also in different types of endoscopic procedures necessary to solve the complex urologic and urogynecological cases which involves elements of the lower urinary tract and the pelviperineal floor.

### References

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