



Oncology

Robotic “Side Hole” Technique Placement of Ureteral Stent for Ureteral Lesion



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ABSTRACT

A 67-year-old patient underwent robotic-assisted laparoscopic radical prostatectomy and experienced right ureteral lesion. The laceration was recognized intraoperatively and immediately repaired over the ureteral double J stent. The wire and the stent were first advanced distally to the bladder. Then the wire was pulled with its soft end, cranially through one of the side holes of the proximal end of the stent toward the kidney allowing exact positioning of the stent. Postoperative hospitalization was similar to a classic laparoscopic robotic-assisted prostatectomy. Robotic approach and the “side hole” technique represent an accurate and safe option in case of ureteral laceration management.

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Introduction and objectives

We present a case of laparoscopic robotic-assisted ureteral repair. We propose the robotic approach as an accurate and safe option in case of ureteral laceration management.

Case presentation

A 67-year-old patient undergoing Da Vinci Radical Prostatectomy experienced a lesion at the distal part of the right ureter which was immediately recognized. We placed a 6 Fr double pig tail stent over a 0.038 teflon guidewire. The wire was placed first and advanced distally through the cut ureter. The stent was advanced until the distal end was in the bladder. Then the wire was pulled and placed with its soft end, cranially through one of the side holes of the proximal end of the stent toward the kidney. The tip of the wire was then placed in a retrograde fashion in the renal pelvis allowing exact positioning of the stent. Four interrupted 4-0 vicryl stitches were placed on the cut ureter until the lumen was closed. We then reflected the overlying peritoneum to

isolate the repair. Postoperative hospitalization was similar to a classic laparoscopic robotic-assisted prostatectomy and the patient was discharged home on postoperative day 1. Patient's pain was mild after surgery and he required short term of analgesics and antibiotic prophylaxis. The estimated blood loss was <200 mL. Patient was allowed to rise, drink and eat liberally on postoperative day 1 (POD) one and he was discharged home on the same day. One month later, the ureteral stent was removed by flexible cystoscopy. The CT-Scan performed 3 months later showed no stricture and no hydronephrosis.

Discussion and conclusions

The incidence of ureteral injuries varies between 0.1% and 30%, according to the type of the open surgery.¹ There is still a lack of data about ureteral lesions during laparoscopic or robotic surgeries. A recent national analysis of Packiam et al showed that the minimally invasive approach for hysterectomy is an independent risk factor for iatrogenic ureteral injuries.² Ureteral lesions are often considered a complication of gynecological and urological surgery due to the anatomic proximity of bladder, prostate, and reproductive organs to the pelvic ureter and they are much less likely to be recognized intraoperatively when compared with bladder injuries. Only one-third from the ureteral iatrogenic injuries are usually recognized intraoperatively¹ and significant sequelae derive from the delay in diagnosis.³ In spite of the high

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risk of ureteral complication during the pelvic surgery, the number of papers discussing laparoscopic or robotic repair are small because traditionally, ureteral lesions were treated by laparotomy. We believe that a minimally invasive surgeon should be able to repair the ureteral lesion laparoscopically or robotically. Minimally invasive surgery using the robotic system is a safe and feasible procedure to treat the iatrogenic ureteral lesions especially when the laceration is intraoperatively recognized and immediately repaired. The easiest way to repair the laceration is using a double J stent and the data from the literature confirm that outcome of lacerations treated by a suture over a stent is superior to stenting only.⁴ We consider the robotic approach as an accurate and safe option in case of ureteral laceration management. The “side hole” technique represents an easy trick to place the ureteral stent correctly.

Informed consent

Informed consent was obtained from the patient included in the study.

Conflict of interest

Author CF, Author VP, Author FS, Author EL and Author MB declare that they have no conflict of interest.

Appendix A. Supplementary data

Supplementary data related to this article can be found at <http://dx.doi.org/10.1016/j.eucr.2016.08.007>.

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