

Robot yardımcı laparoskopik radikal prostatektomi operasyonu esnasında gelişen üreter yaralanması: Olgu sunumu

Ureteral injury during robotic-assisted laparoscopic radical prostatectomy: Case report

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Özet

Üreter yaralanması literatürde açık, laparoskopik ve özellikle robotik radikal prostatektomi esnasında nadir olarak bildirilen bir komplikasyondur. Bu gibi bir yaralanma için risk faktörleri; aşırı adezyon, geçirilmiş prostat rezeksiyonu, zor posterior diseksiyon, büyük median lob, geçirilmiş pelvik cerrahi ve pelvik radyasyon ve genişletilmiş lenfadenektomi yapılmasını içerir. Komplet distal üreter yaralanması olduğunda, üretero-üretostomi ve üreteroneostomi robotik radikal prostatektomi esnasındaki üreter yaralanması için standart tedavi olarak kabul edilebilir. Biz bu olgumuzda robotik radikal prostatektomi esnasında üretero-üretostomi ile başarılı şekilde tedavi edilen sağ komplet distal üreter yaralanmasını sunmaktayız.

Anahtar Kelimeler: üreteral yaralanma, radikal prostatektomi, robotik cerrahi, üretero-üretostomi, üreteral reimplantasyon

Abstract

Ureteral injury during open, laparoscopic and especially robotic prostatectomy was reported as a rare complication in series. Potential risk factors for such an injury include excessive adhesions, previous prostate resection, difficult posterior dissection, enlarged median lobes, previous pelvic surgeries and pelvic radiation, and extended lymphadenectomy. While complete distal ureteral injury, uretero-ureterostomy and ureteroneocystostomy may be regarded as standard management for ureteral injury during robotic radical prostatectomy. We report on this case of a right complete distal ureteral injury which was successfully treated with uretero-ureterostomy during robotic radical prostatectomy.

Keywords: ureteral injury, radical prostatectomy, robotic surgery, uretero-ureterostomy, ureteral reimplantation

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INTRODUCTION

Robot-assisted radical prostatectomy (RARP) is being used for treatment of patients with clinically localized prostate cancer. Ureteral injuries during prostatectomy may result in urinary fistulae, renal failure, sepsis and death (1). In the laparoscopic literature recognition of this injury intraoperatively has allowed for primary uretero-ureterostomy (2). We presented in this report a right distal ureteral injury during RARP.

CASE REPORT

A 61-year-old man underwent RARP for Gleason 3+3=6 prostatic adenocarcinoma. The patient has no surgical history previously. During posterior dissection of the right vas deference and seminal vesicle, right ureter was transected after being mistaken for the vas deferens (Figure

1A). After recognition of ureteral injury, the ureter was dissected proximally to iliac crossing (Figure 1B). Then, distal and proximal 5 mm sections of ureter was resected and spatulated. With 4-0 vicryl sutures, an uretero-ureterostomy was performed in an interrupted fashion (Figure 1C). After prostatectomy is completed, a 6Fr 28cm D-J stent was replaced to the right ureter from inside the ureteral orifice through the bladder (Figure 1D). Then vesico-urethral anastomosis was completed with 2 barbed sutures in running fashion. A silicone drain was replaced in the space of Retzius for 3 days. The patient had no other perioperative or postoperative complications. After 10 days of the operation the urinary catheter was removed. Four weeks later the D-J stent was removed. After 3 months an excretory urography was performed and demonstrated normal upper tract and drainage (Figure 2). This case's written informed consent was obtained from the patient.

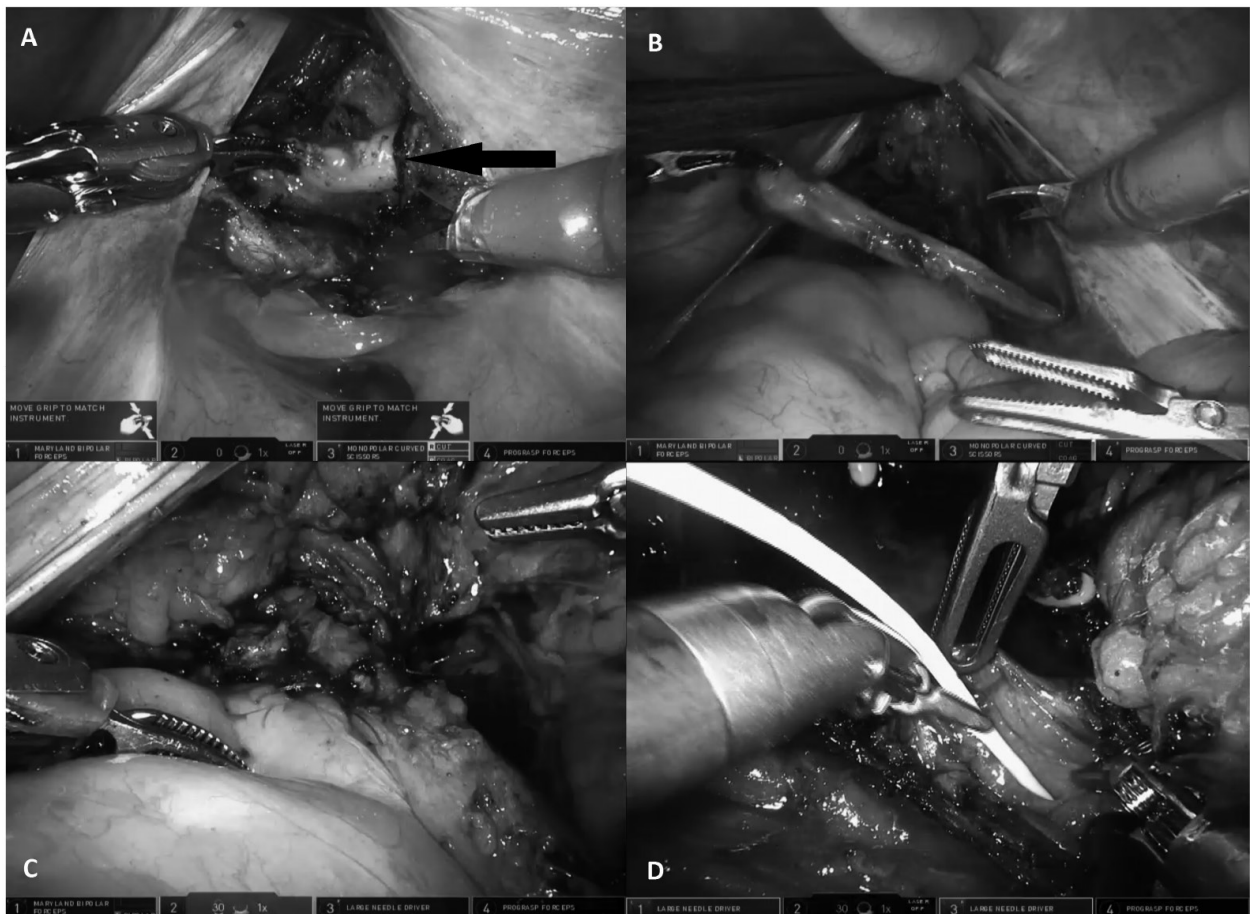


Figure 1. A. The image of right ureter (arrow) and vas deference during posterior dissection. B. Proximally dissected right ureter. C. The image of completed uretero-ureterostomy anastomosis. D. The D-J catheter replacement inside the ureteral orifice through the bladder after prostatectomy is completed.

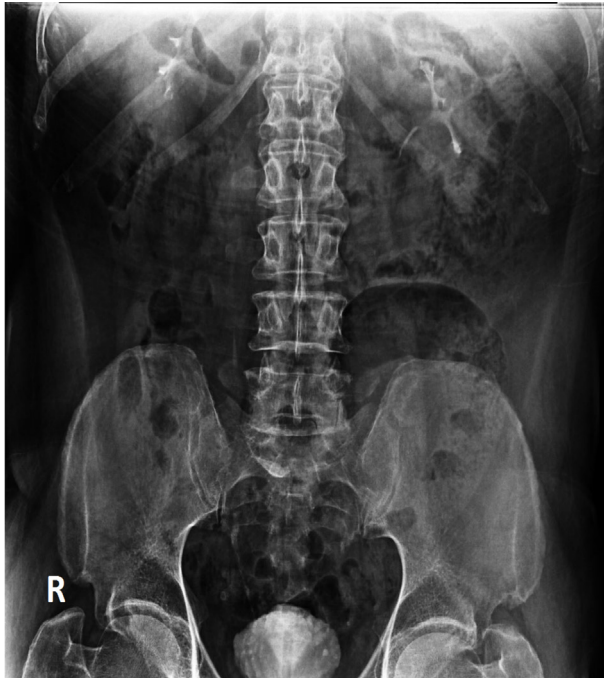


Figure 2. Excretory urography after 3 months.

DISCUSSION

Ureteral injury during open, laparoscopic and especially robotic prostatectomy was reported as a rare complication in series (1-5). Risk factors for ureteral injury during radical prostatectomy include; excessive adhesions, previous prostate resection, difficult posterior dissection, enlarged median lobes, previous pelvic surgeries and pelvic radiation, and extended lymphadenectomy (1,2,4,7).

Guillonnet al.⁽²⁾ reported three ureteral injuries in 576 laparoscopic prostatectomies. One injury occurred during posterior dissection of the vas deference and seminal vesicles. The injury was laparoscopically repaired with an end-to-end primary anastomosis intraoperatively. Two other injuries were reported during lateral vesical peritoneal incision. These two injuries were identified postoperatively. One was treated endourologically with a D-J stent and the other was treated with open ureteral reimplantation.

Lepor et al.⁽⁵⁾ reported one patient with a ureteral ligation in their open retropubic prostatectomy series. They recognized the injury intraoperatively and treated with ureteroneocystostomy. Stolzenburg et al.⁽³⁾ reported two patients with ureteral injuries during endoscopic extra-

peritoneal prostatectomy. One was treated with bilateral D-J stent placement and one with bilateral percutaneous nephrostomy tubes. Hu et al.⁽⁴⁾ reported a ureteral injury during bladder neck dissection in their laparoscopic radical prostatectomy series and that was managed with ureteral reimplantation.

Teber et al.⁽⁷⁾ reported three ureteral injuries including two complete and one partial transection in their laparoscopic radical prostatectomy series. The complete transections occurred during posterior dissection of the bladder neck and seminal vesicles, and the partial transection during an extended lymph node dissection. The two transected ureters were treated with ureteral reimplantation. The partial transection was repaired with intracorporeal sutures.

At the time of our ureteral injury, surgeon had performed over 700 RARP cases, and this is beyond learning curve. Ureteral injury happened in this case because of difficult posterior dissection. There was excessive adhesions around vas deferences and seminal vesicles and maybe because of this the ureter was not following its normal tract. And the ureter was transected being mistaken for the vas deference. Then the injury recognized intraoperatively and repaired with uretero-ureterostomy.

Early identification of small ureteral injuries may be managed with placement of D-J stent or primary repair. If the injury is larger, it will require more complex methods like ureteroneocystostomy or uretero-ureterostomy. Intraoperative identification and early repair of injury reduces postoperative morbidity and may prevent the need for other procedures or surgery (2-4, 6-10).

CONCLUSION

Recognition and repair of ureteral injuries intraoperatively is important for reduction morbidity and further operative interventions. The described case demonstrated that uretero-ureterostomy for ureteral injury during RARP is a feasible procedure, and may be an alternative treatment to other options.

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