



Flexible Ureteroscopic Guided Laparoscopic Ureteroplasty For The Treatment Of Ureteral Stricture

Agustín Cabrera Santa Cruz ¹, Alexandre Danilovic ^{1,2}, Fabio C. Vicentini ¹, Giovanni S. Marchini ¹, Carlos Batagello ¹, Fabio Torricelli ¹, William C. Nahas ^{1,3}, Eduardo Mazzucchi ¹

¹ Serviço de Urologia, Hospital das Clínicas Universidade de São Paulo - USP, São Paulo, SP, Brasil; ² Hospital Alemão Oswaldo Cruz, São Paulo, SP, Brasil; ³ Divisão de Urologia, Faculdade de Medicina da Universidade de São Paulo - São Paulo, SP, Brasil

ABSTRACT

Introduction: Ureteral stricture is often a consequence of urolithiasis or previous endourological procedures (1-3). Precisely delineating the stricture zone intraoperatively is crucial to minimize ureter shortening and target only the affected tissue (4, 5). Flexible ureteroscopy offers a significant advantage in this regard.

Objective: This video aims to demonstrate the step-by-step technique of flexible ureteroscopic guided laparoscopic ureteroplasty for treating ureteral stricture caused by urolithiasis and prior endourological interventions.

Patient and Methods: We present a case of a 36-year-old male with a history of urolithiasis and unsuccessful endourological treatments, including endoureterotomy and balloon dilation, diagnosed with re-stenosis of the proximal ureter of 1 cm through ureteroscopy and pyelography. He underwent a successful laparoscopic ureteroplasty. While the lead surgeon performed the laparoscopy, an assistant conducted the flexible ureteroscopy. Intraoperatively, using transillumination facilitated by the flexible ureteroscope, we can precisely identify the narrowed area, allowing for resection of only the damaged segment. Subsequently, we perform the end-to-end ureteroplasty, confirming its patency through the seamless passage of the ureteroscope. Upon completion, we employ a fat patch to safeguard the anastomosis.

Results: The patient was discharged on the third postoperative day. Double J stent was removed six weeks after surgery. Symptoms resolved. Renal function improved: eGFR 49 to 67 ml/min. Furthermore, improvement was observed in the DTPA scan, and a decrease in hydronephrosis was noted on the follow-up tomography.

Conclusion: Flexible ureteroscopy effectively identifies the stricture zone in laparoscopic ureteroplasty, enhancing surgical precision and outcomes. This approach is safe, effective, and reproducible, offering a valuable technique in the surgical treatment of ureteral strictures.

CONFLICT OF INTEREST

None declared.

REFERENCES

1. Skolarikos A, Jung H, Neisius A, Petřík A, Somani B, et al. EAU Guidelines on urolithiasis. European Association of Urology. 2024. [Internet]. Available at. <<https://uroweb.org/guidelines/urolithiasis>>. Accessed 10 Apr 2024.
2. Andrade HS, Kaouk JH, Zargar H, Caputo PA, Akca O, Ramirez D, et al. Robotic Ureteroureterostomy for Treatment of a Proximal Ureteric Stricture. *Int Braz J Urol.* 2016;42:1041-2. doi: 10.1590/S1677-5538.IBJU.2015.0249.
3. Menegola C, Tavares PM, Batezini NS, Gorgen ARH, Rosito TE. Laparoscopic ureteroplasty with buccal mucosa graft for long proximal ureteral stenosis: A step by step video. *Int Braz J Urol.* 2020;46:141-2. doi: 10.1590/S1677-5538.IBJU.2018.0830.
4. Chow PM, Hsu JS, Su YR, Chen YS. Intraoperative retrograde ureteroscopy during laparoscopic ureteroureterostomy: Precise localization of the lesion. *Asian J Surg.* 2016;39:253-4. doi: 10.1016/j.asjsur.2013.04.005.
5. Yang W, Tang W, Zheng X, Zhang M, Lu X, Chen Z, et al. Combination of robot-assisted laparoscopy and ureteroscopy for the management of complex ureteral strictures. *BMC Urol.* 2023;23:161. doi: 10.1186/s12894-023-01333-3.

Submitted for publication:
April 28, 2024

Accepted after revision:
April 30, 2024

Published as Ahead of Print:
May 20, 2024

Correspondence address:

Alexandre Danilovic, MD

Hospital das Clínicas,
Universidade de São Paulo - USP
Rua Dr. Enéas de Carvalho Aguiar 255
São Paulo, SP, 05403-000, Brasil
Telephone: + 55 11 2661-8080
E-mail: alexandre.danilovic@gmail.com

ARTICLE INFO

 **Agustin Cabrera**

<https://orcid.org/0009-0001-5701-0459>

Available at: <http://www.int brazjurol.com.br/video-section/20240250> Danilovic et al

Int Braz J Urol. 2024; 50 (Video #8): 507-8