



Flexible and Navigable Suction Ureteral Access Sheath for Ureteral Stones: A Novel “Çapa” Surgical Technique

ABSTRACT

Objective: The flexible and navigable suction (FANS) ureteral access sheath (UAS) is an optimal innovation for retrograde intrarenal surgery (RIRS), proven to increase stone-free rates while reducing complications and the need for reintervention.¹ This novel study aims to be the first to demonstrate the efficacy and reliability of FANS UAS in the treatment of ureteral stones.

Material and Methods: A 61-year-old male patient presented with left flank pain. A non-contrast computed tomography (CT) scan revealed 4 stones of 9, 8, 6, and 6 mm in the distal ureter. A JJ stent was placed as part of initial management. One month later, the patient underwent ureteroscopy with FANS UAS to manage the ureteral stones.

Results: The operation was successfully completed within 90 minutes. Ureteroscopy was performed using a 9.8 Fr single-use Redpine flexible ureteroscope, which was advanced through an 11/13 Fr, 40 cm FANS UAS. During laser lithotripsy, stone fragments were efficiently aspirated into the FANS UAS, thereby minimizing mucosal trauma. The Post-ureteroscopy lesion scale (PULS) score was recorded as 0.² Following complete stone removal, a 6 Fr JJ stent was placed, and the procedure was completed without complications. A non-contrast CT scan obtained 24 hours postoperatively confirmed a stone-free status. The JJ stent was removed one week later.

Conclusion: The use of FANS UAS in ureteral stone management proved to be safe and effective, facilitating efficient stone clearance without mucosal injury. This novel technique offers a promising adjunct to standard ureteroscopy, particularly in cases requiring precise fragmentation control and low complication risk.

Keywords: Flexible and navigable suction, Minimally invasive urology, Ureteral stones, Ureteroscopy

Data Availability Statement: The data that support the findings of this study are available on request from the corresponding author.

Artificial Intelligence Usage Statement: The authors declared that no Artificial Intelligence Tool was used in the preparation of the manuscript.

Ethics Committee Approval: Ethical approval was not required for this study as it is a single case report. Written informed consent was obtained from the patient for publication of this case report and any accompanying images.

Informed Consent: Verbal and written informed consent was obtained from the patient who agreed to take part in the study.

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Rıfat Burak Ergül¹

M. Fırat Özervarlı¹

Vineet Gauhar²

Steffi Kar- Kei Yuen³

Olivier Traxer⁴

Tzevat Tefik¹

¹Department of Urology, Istanbul University Faculty of Medicine, Istanbul, Türkiye

²Department of Urology, Ng Teng Fong General Hospital, Singapore

³Department of Surgery, SH Ho Urology Centre, The Chinese University of Hong Kong, Hong Kong, China

⁴Department of Urology, Sorbonne University, Tenon Hospital, AP-HP, Paris, France

Corresponding author:

Tzevat Tefik

✉ tzevat.tefik@gmail.com

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Video 1: https://www.youtube.com/watch?v=-L8rG_MVFP4

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