



Robotic Pyelolithotomy for the Intact Removal of a Complete Staghorn Calculus: A Feasible Approach Even After a Previous Open Pyelolithotomy

Alexander K. Chow and Leslie A. Deane

OBJECTIVE	To describe the steps and technique of a robotic pyelolithotomy for complete removal of a left staghorn stone after a previous open pyelolithotomy.
METHODS	The patient is placed in a left modified flank position with 4 laparoscopic ports placed: 12 mm port for camera paramedian to the left of the midline, 8 mm robotic port left lower quadrant at the level of the umbilicus, 8 mm robotic port midclavicular line 2 finger breaths below the costal margin, 12 mm Airseal assistant port paramedian infraumbilical. The white line of Toldt was incised and the colon was mobilized medially. Anterior Gerota's fascia was opened and tacked to the lateral abdominal wall exposing renal pelvis and parenchyma. An intraoperative ultrasound confirmed the underlying stone. A V-shaped Gil-Vernet pyelolithotomy incision was made and Prograsp forceps were used to manipulate the stone out of the renal pelvis. The collecting system was inspected and irrigated using the robotic lens. The pyelotomy was closed with 4-0 Monocryl suture on a TF needle in 2 lengths of suture, superiorly and inferiorly. Gerota's fascia was closed over the renal pelvis and the kidney was re-retroperitonealized by tacking the colon to the white line of Toldt. The specimen was retrieved through a mini-Pfannenstiel incision via a specimen bag. The patient was discharged on postoperative day 1 and seen in clinic 5 weeks later for stent removal.
CONCLUSIONS	Robotic pyelolithotomy is a minimally invasive alternative that can be offered to patients with complete staghorn stones even after major open stone surgery. However case selection for this approach relies on the stone burden primarily in a dilated renal pelvis with limited calyceal projections. It is imperative to review preoperative imaging to understand the calyceal anatomy and the rotation required to free the stone from the collecting system. UROLOGY 127: 133, 2019. Published by Elsevier Inc.



The video related to this article can be found online at: <https://doi.org/10.1016/j.urology.2019.02.009>.

From the Department of Urology, Rush University Medical Center, Chicago, IL
Address correspondence to: Alexander K. Chow, M.D., Department of Urology, Rush University Medical Center, Rush Professional Office Building, Suite 348, 1725 W Harrison Street, Chicago, IL 60612. E-mail: Alexander_k_chow@rush.edu
Submitted: December 3, 2018, accepted (with revisions): February 12, 2019