

VIDEO ABSTRACT

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Laparoscopic calyceal diverticulectomy

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Calyceal diverticulum are cystic cavities within renal parenchyma lined by nonsecretory epithelium and communicating with the collecting system via a narrow channel. Usually they are asymptomatic and under one centimeter. The indications of surgical treatment are usually the symptomatic ones (hematuria, pain, infection), in most cases associated with the calculi. The development of minimally invasive approaches like laparoscopy is by displaying traditionally invasive approaches.

We described a laparoscopic technique for the definitive management of a symptomatic calyceal diverticula.

We presented a clinical case of a 24-year-old female who arrived to the emergency department with left flank pain and fever. The ultrasound and computed tomography (CT) showed a large upper pole renal abscess. Percutaneous abscess drainage was performed. An antegrade pyelography confirmed a large upper pole calyceal diverticulum with a narrow neck.

A four trocar transperitoneal laparoscopic calyceal diverticulectomy was performed in a right lateral decubitus position.

The first step was the insertion of a straight ureteral stent in the lithotomy position. A retrograde pyelography was then performed to confirm the diagnosis. After medial mobilization of the colon, the Gerota's fascia was incised and the kidney fat was removed.

Kidney dissection was then performed in order to identify the upper pole diverticulum, which was then incised. The cavity was unroofed and its base was exposed revealing the small stones, which afterwards were removed. The narrow neck was identified after instillation of saline solution through the ureteral stent. We closed the neck with a 3/0 absorbable suture and confirmed the correct closure. Then the diverticulum base was fulgurated. Renal parenchyma was approximated with a continuous absorbable suture fixed by hem-o-lok clips. Afterwards, the suture was covered with a Gerota's flap. A Jackson Pratt drainage was placed.

The CT on day three demonstrated the resolution of the diverticulum and no evidence of recurrent disease. The laparoscopic approach to symptomatic calyceal diverticula represents an effective minimally invasive modality for the definitive management of diverticula and the complete clearance of the lithiasis. Patient selection is mandatory. We recommend laparoscopic diverticulectomy in large diverticula, thin renal parenchyma or unsuccessful, impossible management with other approaches.

CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

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