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Robot-assisted pyelolithotomy for kidney stones more than 2 cm

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Introduction: We are presenting our experience in robot-assisted surgery for kidney stones more than 2 cm.

Methods: Since 2008 we have performed robot-assisted pyelolithotomy in 6 patients with kidney stones more than 2 cm. One patient had a staghorn stone, 2 patients had a large pelvis stone, 3 patients had mixed stone (calyx and pelvis). Mean age was 54 years. BMI 26. The mean surgery time was 96 min, which consisted of 66 min for robotic surgery, 17 min for dockage and 13 min for suturing. We used a simple pelvic incision for stone removing. Only for staghorn case we performed a pyelocaliceal incision. As suture material we used vicryl 3.0.

Results: After surgery 5 patients were stone free. 1 patient with staghorn calculus presented a residual cup stone successfully treated by ESWL. In all cases the kidney was drained with JJ-stent during 15 days postoperatively. No external drainage was left. A bladder catheter was set for 1-2 days. The postoperative periode was uneventfull in all cases. The patients were discharged in 4-6 days.

Conclusion: The robot-assisted pyelolithotomy is feasible and effective option for the treatment of large kidney stones. The advantages of robotic technique consist in possible access to each renal calyx, the manipulation feasibility in intrarenal pelvis or with any anomalies of formation. One more important advantage is no external drainage needed.

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