

P095 Clinical outcomes of robot-assisted laparoscopic partial nephrectomy: Lessons learnt from 221 cases

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Introduction & Objectives: Robot-assisted laparoscopic partial nephrectomy (RALPN) is a viable, minimal access alternative to LPN, with a shorter learning curve. Indications of partial nephrectomy have been extended beyond the conventional use, by robotic assistance. In this study, we assessed the intermediate outcomes of RALPN.

Materials & Methods: The ambispective observational study included all patients with renal masses who underwent RALPN from November 2014 (time of introduction of Robotic facility) to September 2018. Preoperative evaluation included serum laboratory studies, estimated glomerular filtration rate (eGFR) and CT or MRI. Staging and RENAL nephrometry score (RNS) was recorded. Perioperative outcomes including operative time (OT), estimated blood loss (EBL), warm ischaemia time (WIT), transfusion need, length of stay (LOS), the incidence of acute kidney injury (AKI) and complications by Clavien Dindo classification were noted. Postoperative parameters like histopathology, change in eGFR and recurrence if any was recorded. Triecta outcomes were defined as WIT < 30 min, no complications and negative surgical margin.

Results: RALPN was performed in 221 patients. Male:female - 131:90, mean age - 50.85 ± 13.06 years, right:left = 109:107, two bilateral, 1 renal allograft. Mean BMI was 25.18 ± 3.34 kg/m². Mean tumor size was 3.94 ± 1.67 cm. Median follow up was 23 months (4-48 months). Majority of masses were detected incidentally (53%). 79.6% of masses were stage T1a and T1b. 86.4% of the patients were malignant with clear cell carcinoma being the most common variant (74.2%). Tumour margin was positive in 4 cases. Mean OT was 151.3 ± 49.86 minutes. Mean WIT was 24.92 ± 9.51 minutes. Mean EBL was 167.92 ± 173.70 ml. Mean LOS was 6.08 ± 3.14 days. Mean eGFR was 102.52 ± 38.14 ml/min preoperatively, 92.62 ± 36.60 ml/min post-operatively and 94.38 ± 35.93 ml/min at last follow up. However, difference was not clinically significant. 14.4% (32/221) of the patients developed AKI in the postoperative period. 8.1% (18/221) of the patients had CKD upstaging. Mean RNS was 7.18 ± 2.06 (4-12). RNS was found to have strong correlation with EBL (p=0.000) and WIT (p=0.000). Fever was the most common complication in 60/221 (27.14%) of the patients. 138 (62.4%) patients had no complications. Strict Triecta outcomes were achieved in 106 patients (48%). Three (1.3%) out of 221 patients had recurrence. With the use of definition similar to contemporary series the triecta outcomes were achieved in 68.3%.

Conclusions: RALPN has acceptable intermediate-term outcomes. It was also found feasible for complex tumours (T1b and above, hilar and High RNS). The intermediate outcome for eGFR preservation is acceptable. RNS is a good predicting tool for EBL and WIT. Triecta achievement varies with RNS and the definition used. This reflects need for standardisation of definitions of perioperative outcomes.