PE42 Robotic partial nephrectomy for clinical stage T1 tumors: Experience in 165 cases

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Introduction & Objectives: We present the outcomes of robotic partial nephrectomy (RAPN) procedures.

Materials & Methods: Overall, 165 patients who underwent RAPN by 4 robotic surgeons (TE, MDB, YK and AEC) were included. Radius, Exo/Endophytic, Nearness, Anterior/Posterior, Location (R.E.N.A.L.) nephrometry and PADUA scores of patients were calculated by radiologic imaging methods including computed tomography (CT) and/or magnetic resonance imaging (MRI). Intraoperative and perioperative (0-30 days) complications were evaluated according to modified Clavien classification.

Results: Mean patient age was 52.1±12.4 years. Mean preoperative tumor size was 30.9±12.7 (10-69) mm. Mean pathologic tumor size was 27.4±12.3 (9-67) mm. R.E.N.A.L. nephrometry and PADUA scores were 5.9±1.3 and 7.2±1.3, respectively. Median console time was 143.1±52.7 (50-330) minutes. Mean estimated blood loss was 194.6±127.7 (10-1500) cc. Mean warm ischemia time was 12.7±10.8 (0-40) minutes. No intraoperative complication was identified in any patient. Minor complications during perioperative period were identified in 6 patients (drop in hemoglobin, n=4 and paralytic ileus, n=2 that were managed conservatively with medical treatment and transfusion). Median duration of hospital stay was 3.6±1.1 (2-8) days. Renal artery clamping was performed in 78 (47.2%) patients. Of the patients with zero ischemia RAPN (n=87, 52.8%), mean preoperative and pathological tumor sizes were 25.9±11.9 (10-69) mm and 23.1±11.2 (9-65) mm, respectively. Final pathology was confirmed in 131 (79.3%) malignant conditions. Surgical margins were positive in 10 (6%) patients. Of the malignant lesions, 128 (77.5%) were renal cell carcinoma (RCC) (clear cell, n=82; papillary cell, n=23; chromophobe cell, n=17; RCC with leiomyomatosis stroma, n=2, unclassified type, n=2; translocation type, n=1; and cystic, n=1). 1 patient had mucinous tubular and spindle cell carcinoma of the kidney. 1 had tubulocystic carcinoma. 1 had metastatis of leoimyomatozis. Final pathology revealed benign conditions in 34 (20.7%) patients (oncocytoma, n=18; angiomyolipoma, n=11; papillary epithelial hyperplasia, n=2; fibroadipose tissue, n=1; and multilocular cystic renal neoplasia, n=2). During a mean follow-up period of 35±19.1 (6-100) months, no local recurrence or distant metastasis was detected.

Conclusions: RAPN can be performed safely with excellent surgical and oncological outcomes in T1 kidney tumors.