

Partial Nephrectomy for Tumors Over 4 cms: Oncological, Clinical Outcomes and Assessment of Complication Using a Graded Score

Introduction and Objective: The role of nephron-sparing surgery (NSS) is well established for T1a renal lesions (<4 cm). Renal tumor control achieved by NSS is equivalent to one achieved by Radical Nephrectomy (RN) in appropriately selected patients, offering the benefits of decreased renal insufficiency rate when compared to RN. Recent data for renal tumors > 4 cms have suggested that it might be possible to expand the indication of NSS, with comparable oncological and clinical outcomes. However, NSS for tumors > 4 cms has been associated with a slightly higher rate of complications. The objective is to evaluate the oncological and clinical outcomes of NSS for renal tumor > 4 cms and to assess the complications based in a graded, validated and reproducible scoring system (Clavien score).

Material and Methods: After the approval of the institutional ethic board, we retrospectively identified 214 patients who underwent NSS for renal tumors. Thirty-nine patients had tumors over 4 cms. The study period was from 2002 to 2009. Patients with metastasis at the time of diagnosis, follow-up less than 6 months or with non sporadic tumors were excluded from the study. Continuous and categorical variable were assessed with Mann-Whitney U test and chi-square test, respectively. Kaplan-Meier analysis was used to calculate the overall survival and cancer specific survival rate. The assessment of the complication was done using the Clavien score.

Results: Forty-five tumors were identified in 39 patients. The median age was 61 years \pm 1.7. Median tumor size was 5.2 cms. The surgical indication was imperative in 7 patients (solitary kidney or contralateral atrophic kidney) and elective in 32 (82%). The final pathology report showed that 34 (81.2%) and 5 (18.2%) tumors were malignant and benign, respectively. After a mean follow-up of 35.8 months (median 34 months), the overall survival rate was 89.7% while none had died from renal tumors. Tumor recurrence was detected in 2 patients (5.9%). There were 18 complications in 14 patients (35.9%) and most of these complications were grade 1-2 (61.1%).

Conclusion: NSS for tumors >4 cm is surgically feasible and has a good oncological outcome. Assessment of the peri-operative complications with the Clavien grading system showed that most of these events are minor in severity (Grade 1-2). Funding: None