

## **Radical Nephrectomy in Patients with Inferior Vena Cava and Renal Vein Involvement: Clinical Outcomes and Assessment of Complications Using a Graded Score**

**Introduction and Objectives:** Renal cell carcinoma (RCC) represents 3-4% of all solid cancer and it has special propensity for invasion of the venous system. RCC invades the inferior cava vein (IVC) in 4 to 10% of the patients. The cornerstone of treatment is aggressive surgical management. The reported 5 year and 10 year overall survival rates are 60 % and 20 %, respectively. There are few reports addressing the complication rates after the surgical intervention in this group of patients. The objective of this study is to report the survival and the complication rates of RCC patients with venous involvement. The perioperative complications assessment was based on the Clavien scoring system.

**Material and Methods:** This is a retrospective single center review of patients who underwent radical nephrectomy for RCC with venous involvement between 2000 and 2010. The institution ethics committee had approved the study. The complications were assessed using the Clavien scoring system. Mann-Whitney U test and chi-square test were used for continuous and categorical variables, respectively. Survival analyses were calculated with Kaplan-Meier method.

**Results:** Twenty-three patients had been identified in our records. The median age of these patients was 68 years ( $\pm 9.72$ ) and the median follow-up was 16.6 months (95% CI: 16.27-39.83). Most of the patients had symptomatic presentation (87%). There were 21 reported complications in 15 patients (65.2%). Most of these complications (80%) were minor (Clavien I-II). There was no intraoperative or postoperative mortality. Nine patients developed metastasis during follow-up (39.1%) and in four of them the metastases were in 2 or more organs. One patient had local recurrence in the renal bed (4.3%). The disease specific survival and overall survival rates are 69.5% and 65.2% respectively.

**Conclusion:** Most of RCC patients with venous system involvement are symptomatic. Approximately one-fifth of these patients develop major complication (Clavien III-IV) postoperatively with very low mortality rate. Funding: None