

**PD29-03****DOES AN UNEXPECTED FINAL PATHOLOGY OF PT3A RENAL CARCINOMA UNDERMINE CANCER CONTROL IN CLINICALLY T1N0M0 PATIENTS WHO WERE INITIALLY TREATED WITH NEPHRON SPARING SURGERY?**

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**INTRODUCTION AND OBJECTIVES:** Patients with clinical cT1abN0M0 renal cancers treated with radical nephrectomy (RN) or nephron sparing surgery (NSS) occasionally have unexpected microscopic invasion of renal vein and/or perirenal/sinus fat (pT3a) on final pathological assessment. There is no data available, in this setting, to judge if NSS might have undermined the cancer control relative to RN.

**METHODS:** As part of an international multi-institutional collaboration, clinical cT1abN0M0 RCC cases that harboured pT3a disease at final pathology were identified. Patients with multifocal, bilateral or metastatic disease were excluded. Univariable and multivariable Cox regression analyses were used to test the effect of treatment type (NSS vs. RN) on metastases-free survival and cancer-specific survival rates. Bootstrapping was used to decrease the degree of model overfitting.

**RESULTS:** Overall, 273 RCC patients with a clinically-defined diagnosis of cT1abN0M0 [cT1aN0M0 (n=107, 39.2%), cT1bN0M0 (n=166, 60.8%)] harboured pT3a disease at final pathology. pT3a was defined for the presence of microscopic perirenal and/or sinus fat invasion (79.2%), microscopic renal vein invasion (12.7%) or both entities (8.1%). Patients were treated with either NSS (n=71, 26%) or RN (n=202, 74%). Median age was 67y (IQR 58-74). Median clinical tumor size resulted 5cm (IQR 3.1-6.0). Fuhrman grade was 1-2 vs. 3-4 in 159 (58.2%) vs. 114 (41.8%) cases, respectively. Necrosis and sarcomatoid features were recorded in 33% and 2% of patients, respectively. After a mean follow-up of 53 months, metastases-free survival resulted 90.5 vs. 86.5 vs. 77.8% at 1 vs. 2 vs. 5 years after surgery. Cancer-specific survival was 96.5 vs. 90.1 vs. 82.5%, respectively. At multivariable analyses, clinical tumor size (HR 1.6, 95%CI 1.2-2.1, p=0.002), high Fuhrman grade (HR 2.3, 95%CI 1.2-4.5, p=0.01) and presence of sarcomatoid features (HR 4.3 95%CI 1.3-15.2, p=0.02) resulted independent predictors of metastatic progression. Type of surgery (NSS vs. RN) was not an independent predictor status of either metastasis-free survival (p=0.4) or cancer-specific mortality (p=0.3).

**CONCLUSIONS:** Utilising a large multi-institutional cohort of RCC patients, the current study represents the first attempt to define whether NSS might undermine cancer control when an unanticipated pT3a disease is finally found at final pathology. In this specific scenario, despite the presence of unexpected non-organ confined disease, NSS does not seem to jeopardize cancer control.

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**PD29-04****NATIONAL UTILIZATION OF RETROPERITONEAL LYMPH NODE DISSECTION AMONG PATIENTS WITH KIDNEY CANCER AND CLINICAL LYMPHADENOPATHY UNDERGOING NEPHRECTOMY**

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**INTRODUCTION AND OBJECTIVES:** The benefit of retroperitoneal lymph node dissection (RPLND) among patients with locally

advanced kidney cancer and clinical lymphadenopathy (cN+) disease remains controversial. Several studies have suggested a therapeutic and staging benefit to performing RPLND at the time of radical nephrectomy (RN). We sought to assess temporal trends in RPLND, and to identify patient and hospital factors associated with its use among patients with non-metastatic cN+ kidney cancer.

**METHODS:** Using the National Cancer Database (NCDB), we identified patients with renal cell carcinoma (RCC) with regional lymph node metastasis but without distant metastasis (T1-4 cN1 M0) who underwent radical nephrectomy from 2001 to 2011. The primary outcome was performance of concomitant RPLND at the time of RN. Multivariable logistic regression was used to identify clinicopathologic and hospital characteristics associated with performance of RPLND at the time of RN. A two-sample t-test was used to compare the mean number of lymph nodes removed by hospital type.

**RESULTS:** Of a total 1853 patients undergoing RN for cN+ RCC, 1444 (78%) underwent RPLND and 409 (22%) did not. Time trend analysis showed an increase in the proportion of patients undergoing RPLND over time, from 77% in 2001 to 82% in 2011, p=0.001 for the overall trend. On multivariable analysis, factors associated with RPLND were private health insurance (OR: 2.22; 95% CI: 1.46-3.39, p<0.001) and Medicaid (OR: 2.08; 95% CI 1.11-3.92, p=0.02) compared to Medicare, and treatment at an academic center compared to community hospitals (OR: 1.59; 95% CI: 1.23-2.08, p<0.001). The mean number of lymph nodes removed during RPLND was higher when done at academic centers compared to community hospitals (8.1 vs. 5.0; p<0.001).

**CONCLUSIONS:** Despite the growing evidence that RPLND has a role in the surgical management of locally advanced kidney cancer in the non-metastatic setting, a fifth of patients with clinical lymph node metastasis are not receiving RPLND. Patients undergoing surgery at academic centers, or those who are primarily insured by private insurance or Medicaid, were more likely to have more aggressive surgical treatment. Centralizing surgery to high volume academic medical centers may increase the rates and yield of RPLND for RCC with lymph node metastasis.

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**PD29-05****HEMOSTATIC AGENTS DO NOT REDUCE BLEEDING AFTER ROBOTIC PARTIAL NEPHRECTOMY**

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**INTRODUCTION AND OBJECTIVES:** Hemostasis is critical during robotic partial nephrectomy (RPN). Hemostatic agents (HA) are used empirically to minimize postoperative bleeding, but supporting evidence is lacking. We sought to assess the impact of HA on bleeding after RPN.

**METHODS:** Using our retrospective database, we abstracted data on consecutive patients treated with RPN from 2011 (after the RPN learning curve) to 2015. In 2014, HA use for RPN was stopped due to cost reduction measures. Patients with preoperative hemoglobin < 11 g/dL, estimated blood loss  $\geq$  250 ml, or intraoperative blood transfusion were excluded to avoid confounding from chronic anemia or intraoperative bleeding (n=266). The outcomes were postoperative transfusion and hemoglobin decline prior to transfusion or at the time of the first follow-up visit. The associations between HA use and the outcomes were assessed by univariate and multivariate analyses adjusting for bleeding risk factors. Total inflation-adjusted costs in 2015 were calculated using the US Department of Labor's Consumer Price Index.

**RESULTS:** Of 550 cases, a HA was used in 214 (38.9%). Mean number of agents used per case was 1.4 $\pm$ 0.73, including 67 (12.2%), 48 (8.7%), and 45 (8.2%) cases in which cellulose, gelatin, or fibrin-based HA were used, respectively, and 54 (9.8%) cases in which multiple types of HA were used. Overall, 10 (1.8%) patients were transfused postoperatively, and the median postoperative hemoglobin decline was 2.3 g/dL (IQR 1.5-3.0). On univariate analysis, neither HA