

**Kidney Cancer: Localized IV****Moderated Poster**

Monday, May 19, 2014

1:00 PM-3:00 PM

**MP59-01****NEPHRON SPARING SURGERY DOES NOT DECREASE OTHER-CAUSES MORTALITY RELATIVE TO RADICAL NEPHRECTOMY IN PATIENTS WITH CLINICAL T1A-T1B RENAL MASS: RESULTS FROM A LARGE MULTI-INSTITUTIONAL STUDY**

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**INTRODUCTION AND OBJECTIVES:** Some reports suggested that nephron sparing surgery (NSS) may better protect against other-cause mortality (OCM) when compared with radical nephrectomy (RN) in patients with small renal masses. However, the majority of those studies could not adjust their results for potential selection bias secondary to clinical baseline characteristics of patients. In the current study, we aimed to test the effect of treatment type (NSS vs. RN) after accounting for clinical characteristics, comorbidities and individual cardiovascular risk.

**METHODS:** A multi-institutional collaboration among four European Tertiary Care Centers allowed collecting 2685 patients with a clinical T1a-T1b N0 M0 renal mass. Patients underwent RN (n=1059, 39.4%) or NSS (n=1626, 60.6%) and showed normal estimated glomerular filtration rates (eGFR) before surgery (defined as a pre-operative eGFR $\geq$ 60 milliliters per minute per 1.73 m<sup>2</sup>). Descriptive, univariable and multivariable Cox regression analyses were used to predict the risk of OCM. To adjust for inherent baseline differences among patients, we included as covariates: age, clinical tumor size, gender, presence of hypertension at diagnosis, baseline Charlson comorbidity index (CCI), body mass index and smoker status.

**RESULTS:** Mean follow up period was 76 months (median 61). Mean patient age resulted 60 years (median 62). Mean body mass index resulted 25 kg/m<sup>2</sup>. Overall, 37.2% and 9.4% of the patients had hypertension or diabetes, respectively. CCI resulted 0-1 in 73.2% of the patients.

The 5- and 10-yr OCM rates after nephrectomy were 5.2% and 13.2% for NSS versus 7.4% and 15.1% for RN, respectively (p=0.3). At multivariable analyses, patients who underwent PN showed similar risk to die for OCM compared with their RN-treated counterparts (hazard ratio [HR]: 0.77; 95% confidence interval, 0.48-1.25; p=0.3). Increasing age (HR: 1.12, p<0.001), higher CCI (HR: 1.21, p=0.04) and smoker status (HR: 1.94, p=0.02) resulted independent predictors of OCM.

**CONCLUSIONS:** After correcting for clinical characteristics, comorbidities and cardiovascular risk at diagnosis, NSS does not decrease other-causes mortality relative to RN in patients with clinical T1a-T1b renal masses and a normal kidney function before surgery.

**Source of Funding:** None

**MP59-02****RENAL FUNCTION IMPAIRMENT AFTER NEPHRON SPARING SURGERY OR RADICAL NEPHRECTOMY IN PATIENTS WITH CLINICAL T1A-T1B RENAL MASS AND NORMAL PREOPERATIVE GLOMERULAR FILTRATION RATES: RESULTS FROM A LARGE MULTI-INSTITUTIONAL STUDY**

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**INTRODUCTION AND OBJECTIVES:** Some reports suggested that nephron sparing surgery (NSS) may protect against renal function impairment (RFI) when compared with radical nephrectomy (RN) in patients with small renal masses. In the current study, we aimed to test the effect of treatment type (NSS vs. RN) on prevalence of RFI and renal end-stage kidney disease (ESRD) after accounting for clinical characteristics, comorbidities and individual cardiovascular risk.

**METHODS:** A multi-institutional collaboration among four European Tertiary Care Centers allowed collecting 2024 patients with a clinical T1a-T1b N0 M0 renal mass and complete functional follow-up data. Patients underwent RN (n=765, 37.8%) or NSS (n=1259, 62.2%) and showed normal estimated glomerular filtration rates (eGFR) before surgery (defined as a pre-operative eGFR $\geq$ 60 ml/min/1.73 m<sup>2</sup>). Univariable and multivariable Cox regression analyses predicting RFI were performed. To adjust for inherent baseline differences among patients, we included as covariates: preoperative creatinine, age, clinical tumor size, gender, presence of hypertension or diabetes at diagnosis, baseline Charlson comorbidity index (CCI), body mass index and smoker status.

**RESULTS:** At a mean follow up period of 68.2 months, 81.1% vs. 55.8% patients showed normal renal function after NSS vs. RN, respectively (p<0.001). The prevalence of mild RFI, severe RFI and ESRD resulted 25.3, 1.0% and 2.1%. However, after stratifying for treatment type, the prevalence of mild RFI, severe RFI and ESRD resulted higher in the group of patients treated with RN relative to NSS (39.7 vs. 16.6%, 1.4 vs. 0.8% and 3.0 vs. 1.5%, respectively, p<0.001). At multivariable analyses, patients who underwent PN showed significantly lower risk to harbour RFI compared with their RN-treated counterparts (hazard ratio [HR]: 0.63; 95% confidence interval, 0.44-0.89; p=0.008). Increasing age (HR: 1.06, p<0.001), larger tumors (HR: 1.04, p<0.001), presence of hypertension (HR: 5.39, p=0.006) and presence of diabetes (HR: 1.56, p=0.05) resulted independent predictors of RFI.

**CONCLUSIONS:** Although the risk of severe renal function impairment and ESRD is negligible, up to 30% of the patients with clinical T1a-T1b renal masses and a normal preoperative kidney function harbour mild RFI after surgery. Also after accounting for clinical characteristics, comorbidities and cardiovascular risk at diagnosis, NSS significantly decrease the risk of RFI relative to RN.

**Source of Funding:** None

**MP59-03****RENAL TISSUE ABLATION PRODUCED WITH WST-11 VASCULAR TARGETED PHOTODYNAMIC THERAPY: SAFETY ASSESSMENT, HISTOPATHOLOGIC AND RADIOGRAPHIC ANALYSIS**

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**INTRODUCTION AND OBJECTIVES:** Vascular targeted photodynamic therapy (VTP) with WST-11 is a focal therapy modality with many potential advantages over existing thermal and non-thermal