

min (65.5–94), with a median percent decrease of 7.5% (+1.1/–12.4). Only one patient experienced a newly onset stage 3b CKD.

**Conclusions:** ICG preoperative marking of endophytic renal tumor represents a useful tool for a quick intraoperative identification of the mass. Under NIFI a real-time control of deep resection margins during tumor enucleation/enucleoresection is feasible. Perioperative complications rate was negligible, with excellent oncologic and renal functional outcomes at 1-yr follow-up.

#### SC194 Liquid biopsy in clear cell renal cell carcinoma: urinary miR-210-3p as emerging specific biomarker

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**Introduction:** The most common subtype of renal cell carcinoma (RCC) is clear cell RCC (ccRCC) that accounts for 70–80% of all renal malignancies. To date, no useful markers are available in clinical practice for early diagnosis and for optimal patient stratification. MicroRNAs, a class of small non-coding RNA, are emerging as promising molecules in the management of urological tumors suggesting the possibility of using them as non-invasive biomarkers. The aim of this study is to evaluate whether miR-210-3p may be an accurate non invasive diagnostic and prognostic biomarker for ccRCC patients.

**Materials and methods:** This study includes a cohort of 21 ccRCC cases underwent radical or partial nephrectomy. We analyzed by RTqPCR miR-210-3p levels in neoplastic and healthy tissues and in urine specimens collected at surgery and during follow-up visits (from 3 to 24 months) of all ccRCC cases, of which 18 disease-free patients and a small subgroup presenting metastatic progression. Urine samples were also collected from 16 healthy donors with similar demographic features. The specimens were frozen within 30 minutes from collection and stored at  $-80^{\circ}\text{C}$  until RNA extraction and microRNA expression analysis.

**Results:** miR-210-3p was upregulated in ccRCC frozen tissues compared to matched normal counterparts. Next, we evidenced that miR-210-3p resulted significantly up-regulated in urine specimens collected from ccRCC patients at the time of surgery, compared to healthy samples. Of note, miR-210-3p levels resulted significantly reduced in urine samples from disease-free patients during follow-up, compared to the baseline levels (time of surgery). In a small subgroup of patients presenting metastases, the urine levels of miR-210-3p increased and, interestingly, again decreased when responding to medical treatments.

**Conclusions:** This pilot study highlights the relevance of secreted miR-210-3p as powerful non invasive diagnostic and prognostic biomarker for ccRCC patients, with potential clinical applications from diagnosis to treatment.

#### SC195 Describing long-term functional and oncologic outcomes of robot-assisted partial nephrectomy: the roma score

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**Introduction:** The goal of nephron sparing surgery (NSS) is achieving a durable cancer control while preserving good renal function and

ensuring a long-life expectancy. We assessed the predictive role of a newly defined trifecta after robot-assisted partial nephrectomy (RAPN) on a comprehensive outcomes assessment (Roma's), including the following outcomes: no Recurrence, no Overall Mortality, absence of estimated glomerular filtration rate (GFR) significant reduction.

**Materials and methods:** A multicenter database including 2105 patients was queried for patients with non-metastatic renal masses who underwent RPN at the 8 participating institutions within the study period (September 2006 – September 2017). Baseline demographic, clinical, pathologic, perioperative, oncologic and functional outcomes data were collected. The newly defined trifecta included: negative margins, no severe complications (Clavien Dindo  $\geq 3$ ), and  $\leq 30\%$  postoperative eGFR reduction [according to the National Kidney Foundation and the US Food and Drug Administration]. Consequently, the Roma's included no Recurrences, no Overall Mortality and baseline estimated GFR not significantly reduced (defined as absence of newly onset Chronic Kidney Disease stage IIIa or IV–V when baseline eGFR was  $\geq$  or  $< 60$  mL/min/1.73 m<sup>2</sup>) respectively. Chi square and Student t test were used to compare categorical and continuous variables, respectively. When one of the three Roma's outcomes was observed, the follow-up was censored.

Kaplan-Meier method was performed to investigate the predictive role of Trifecta on Roma's achievement. Survival outcomes were computed at 12, 24, 36, 48, 60 months after surgery and the log-rank test was applied to assess statistical significance between groups.

**Results:** Overall, 1434 patients were included in the analysis (Table 1). Trifecta was achieved in 1185 (83%) patients. Roma's was achieved by 1192 (83%) patients: they were significantly younger ( $p < 0.001$ ), thinner ( $p = 0.002$ ), with lower American Society of Anesthesiologists scores ( $p < 0.001$ ), higher baseline eGFR ( $p < 0.001$ ), and less complex tumors ( $p = 0.001$ ). On Kaplan-Meier analysis (Figure 1), Trifecta was significantly associated with a higher probability of achieving the Romas ( $p < 0.001$ ); in a stratified analysis trifecta was significantly associated with Romas either when RAPN was performed in elective ( $p < 0.001$ ) or in imperative settings ( $p < 0.046$ ).

**Conclusions:** The newly defined Romas provides a comprehensive summary of long-term outcomes after NSS. Achieving the newly defined Trifecta in the perioperative setting is a significant predictor of maintaining successful outcomes during follow-up.

#### SC196 15 years outcomes of laparoscopic partial nephrectomy: single center experience

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**Introduction:** although robotic surgery is gaining acceptance, laparoscopic partial nephrectomy (LPN) still remains a viable options to treat patients with cT1-2N0 renal tumors. To minimize ischemic injury to the healthy parenchyma, we pioneered the off-clamp approach and first proposed the preoperative superselective embolization of tumor vessels (SETV)1 in order to decrease intraoperative bleeding. We herein present long term oncologic and functional outcomes after 15 years of LPN.

**Materials and methods:** Our prospectively maintained institutional database was queried for patients undergone off-clamp LRP with or without SETV before October 2004. Baseline demographic, clinical, pathologic surgical and survival data were collected. Patients with clear cell (ccRCC) and non-clear cell renal cell carcinomas (non-ccRCC) were stratified into risk groups according to the Mayo Clinic Risk Stratification System (MCRSS)2 and the University of California Integrated Staging System (UCISS)3, respectively. Kaplan-Meier (KM) method was performed to evaluate group-specific oncologic outcomes, computed at 5, 10, and 15 years after surgery; the log rank test