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## PREDICTIVE FACTORS OF SURGICAL COMPLICATION, ISCHEMIA TIME AND TRIFECTA OUTCOME IN CT1B RENAL MASSES. REPORT OF A MULTICENTRIC INTERNATIONAL PROSPECTIVE STUDY

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### Scopo del lavoro

This study reports a multicentre international prospective dataset of NSS performed in cT1b renal tumors. The aim of this study is to compare different approaches in NSS of cT1b renal masses and to analyse predictive factors of surgical complications and trifecta outcomes.

### Materiali e metodi

In this series 262 cases performed in 23 centres were prospectively analysed. Patients were treated in low and high volume centres (defined as < or ≥ 50 per year NSS). Trifecta was defined as simultaneous ischemia and high volume centres (defined as < or ≥ 50 per year NSS). Trifecta was defined as simultaneous ischemia

### Risultati

A median clinical tumor diameter of 5 (4.4-5.5) cm was reported. 36.6% lesions presented a 25 min ischemia time. Surgical complications were 17.9%, surgical Clavien 2 and 3 were 9.2% and 5.0%, respectively. Positive surgical margin were registered 6.9% of patients. Trifecta was achieved 58% of patients. Open approach was performed in 37.8% of cases, video laparoscopic approach (VLP) in 21.8% of cases and robotic approach (RAPN) in 40.4% of cases. Three groups presented similar preoperative features. Open, VLP and RAPN were performed in high-volume centres in 61.6%, 93.0% and 100% of cases, respectively, p=0.001. Three groups presented significant difference in ischemia time values (16 (14-20) vs 24 (20-28) vs 22 (18-27) mins, respectively. P=0,01). A significant difference in medical complications was found between three groups (13.1% vs 1.8% vs 1.9%, p>0,001). No significant difference was found between three groups in overall, clavien 2 and 3 surgical complications, positive surgical margins, preoperative-3rd day delta haemoglobin and eGFR. At uni and multivariate analysis mediorenal location (OR 2.90, p 0.001) and estimated blood loss (EBL) (OR 1.0, p 0.001) were predictive factors of overall surgical complication. At univariate analysis, significant factors for trifecta negative outcome were endophytical growth pattern (p=0.04) and high EBL (p

### Discussione

NSS seems a feasible technique for cT1b renal masses, but it still presents a high rate of surgical complications. A minimally invasive (both VLP and robot assisted) approach can be used in experienced centres, without risk of complication and low term renal function impairment. High bleeding during the procedure and mediorenal lesions are predictive factors of surgical complications. High bleeding and endophytical lesion are predictive factors of trifecta negative outcome.

### Conclusioni

This paper has the worship of a simultaneous comparison of outcomes in different approaches in NSS in cT1b renal masses.

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## RENAL FUNCTION IMPAIRMENT AFTER NEPHRON SPARING SURGERY OR RADICAL NEPHRECTOMY IN PATIENTS WITH A SMALL RENAL MASS AND NORMAL PREOPERATIVE RENAL FUNCTION

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### Scopo del lavoro

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.

### Materiali e metodi

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≥60 milliliters per minute per 1.73 m2). Descriptive, 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.

### Risultati

Mean patient age resulted 60.6 years (median 62). Mean body mass index resulted 26 kg/m2. Overall, 20.0% and 9.9% of the patients had uncontrolled hypertension or diabetes, respectively. CCI resulted 0-1 in 71.9% of the patients. 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

### Discussione

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.

### Conclusioni

Also after accounting for clinical characteristics, comorbidities and cardiovascular risk at diagnosis, NSS significantly decrease the risk of RFI relative to RN.