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ENDOSCOPIC ROBOT-ASSISTED SIMPLE ENUCLEATION (ERASE) VS OPEN SIMPLE ENUCLEATION (OSE) FOR THE TREATMENT OF CLINICAL T1 RENAL MASSES: ANALYSIS OF PREDICTORS OF TRIFECTA OUTCOME


Scopo del lavoro
The aim of this study is to analyse the intra and postoperative complications and the predictive factors of Trifecta outcome in patients submitted to ERASE and OSE for clinical T1 renal masses.

Materiali e metodi
Overall 634 cases treated with OSE (n=290) and ERASE (n=344) were prospectively recorded in our department between 2006 and 2014. Trifecta was defined as simultaneous ischemia time <25 min, no surgical complication and negative surgical margin. A univariate analysis and multivariate logistic regression were performed for Trifecta.

Risultati
The two groups were comparable for BMI, comorbidity, tumor side, clinical T score, tumor diameter, surgical indication, preoperative renal function, preoperative hemoglobin and hematocrit. A significant difference was found between the OSE and the ERASE groups in operative time (115 [96-130] vs 150 [120-180] minutes, p<0.0001), pedicle clamping (93.8% vs 69.2%, p<0.0001), es-timated blood loss (EBL) (150 [100-200] vs 100 [100-143] cc, p<0.0001) and intraoperative compli-cations (3.4% vs 1.7%, p=0.02). The two groups were comparable for WIT >=25 min. A significant difference was found between OSE and ERASE in overall (16.6% vs 5.5%, p<0.0001), Clavien 2 (11.7% vs 4.4%, p=0.02) and Clavien 3 (3.1% vs 1.7%, p=0.04) postoperative surgical complications, length of stay (6.0 [5.0-7.0] vs 5.0 [4.0-6.0] days, p<0.0001), preoperative -1st day delta creatinine (0.3 [0.2-0.4] vs 0.15 [0.1-0.2] mg/dl, p<0.0001), positive surgical margins (2.1% vs 1.5%,p=0.04), and Trifecta achievement (73.8% vs 85.5%, p<0.0001). At univariable analysis, a higher median clinical diameter, a higher mean age, a higher median Charlson comorbidity index (CCI), endophytic tumor growth pattern, renal sinus and caliceal dislo-cation of the tumor, a higher median PADUA score and OSE were predictive factors of Trifecta achievement. At multivariable analysis, CCI lost significance (p=0.26), while age (OR: 1.02, IC95%:1.00-1.04, p=0.001), clinical diameter (OR: 1.22, IC: 1.05-1.42, p=0.008), PADUA score (OR: 1.23, IC: 1.07-1.41, p=0.004) and OSE (OR: 1.74, IC: 1.13-2.68, p=0.01) were confirmed predictive factors for Trifecta failure.

Discussione
The ERASE is a feasible and safe technique, which shows a comparable WIT, together with a significantly lower EBL, surgical complications rate, length of stay and a significantly higher Trifecta achievement compared to OSE.

Conclusioni
Age, comorbidity, tumor diameter and PADUA score, in association with surgical approach represent significant predictive factors of Trifecta failure.