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*Introduction/Aim:* Nephron-sparing surgery (NSS) has become the standard of care for the surgical management of small (<4 cm) and clinically localized renal tumors. Currently, the conservative management of clinically localized renal tumors is increasing over time. The aim of this study was to report a snapshot of the clinical, perioperative and oncological results after NSS for renal tumors in Italy. *Materials and Methods:* We evaluated all patients who underwent conservative surgical treatment for renal tumors, between January 2009 and December 2012, at 19 urological Italian Centers (RECORD project). Preoperative, radiological, intraoperative, post-operative and histopathological data were recorded. Surgical eras (2009 vs. 2012 and year periods 2009-2010 vs. 2011-2012) were compared. *Results:* Globally, 983 patients were evaluated for the final analyses. In the most recent years, patients undergoing NSS were found to be significantly younger ( $p=0.05$ ) than those surgically treated in the first study period, with a significantly higher rate of NSS with relative and imperative indication ( $p<0.001$ ). A higher percentage of procedures for cT1b or cT2 renal tumors was observed in the most recent era ( $p=0.02$ ). Overall, enucleoresection was the most widely adopted technique over time. The open approach (OPN) constantly decreases during years, the laparoscopic approach (LPN) remains approximately constant and the robot-assisted approach (RAPN) increases. In 2012, LPN and RAPN together represented 61.9% of all interventions for cT1b tumors. Overall, 36.3% of patients underwent clampless NSS and its rate constantly increases overtime from 33% in 2009 to 42.4% in 2012. The use of at least one haemostatic agent was recorded in 91.3% of procedures, with a significantly higher utilization in the most recent surgical era ( $p<0.001$ ). Globally, no statistically significant differences among the surgical periods were found in terms of tumor nature and surgical margin status. *Conclusion:* The utilization rate of NSS in Italy is increasing over time, even in elective and more complex cases. RAPN is expanding and OPN constantly decreases. A higher awareness of Italian surgeons towards functional results is witnessed in RECORD1 study, confirmed by the increasing use of clampless procedures. This study confirms the expanding use of haemostatics.

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#### PREDICTIVE FACTORS OF POSITIVE SURGICAL MARGIN IN NEPHRON-SPARING SURGERY. A PROSPECTIVE MULTICENTER ITALIAN STUDY (THE RECORD1 PROJECT)

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*Introduction/Aim:* Surgical margins represent an oncological short-term surrogate outcome of nephron-sparing surgery (NSS). The aim of this study was to analyze predictive factors of positive surgical margin in a multicenter prospective study of NSS in Italy (RECORD Project). *Materials and Methods:* 1,075 patients treated with NSS, between January 2009 and December 2012, were evaluated. A univariate and a multivariate logistic regression of perioperative variables for positive surgical margin (PSM) were performed. *Results:* PSM, compared to negative surgical margins (NSM), were associated with a higher mean age of patients (65.5 vs. 61.8,  $p=0.02$ ), a relative and absolute indication rate (38.6% vs. 19.7%,  $p=0.002$ ) and polar superior lesions' rate (54.5% vs. 27.5%,  $p=0.01$ ; Table I). Patients treated with mini-invasive (VLP and robot-assisted) approach present lower PSM rate, compared to NSM (13.2% vs. 43.7%,  $p=0.01$ ). At histopathologic examination, extra capsular lesions were higher in PSM, compared to NSM (11.3% vs. 4.0%,  $p=0.02$ ). At multivariate logistic regression, open approach (odds ratio (OR)=2.1, 95% confidence interval (CI)=1.04-4.27,  $p=0.04$ ), polar superior

Table I. PSM, compared to negative surgical margins (NSM), by mean age, lesion site, approach and pathologic T.

Pre-operative data	Univariate analysis				Multivariate analysis				
		NSM		PSM	P	OR	95%CI	P	
Age Mean (SD)		61.8	12.7	65.5	9.9	0.02	-	-	-
Indication, n. (%)	Elective	748	80.3%	27	61.4%	0.002	-	-	-
	Rel/Abs	184	19.7%	17	38.6%				
Lesion site, n. %	Other site	676	72.5%	20	45.5%	0.01	2.89	1.56-5.35	0.001
	Polar superior	256	27.5%	24	54.5%				
Approach, n. (%)	Open	525	56.3%	33	86.8%	0.01	2.11	1.05-4.27	0.04
	Mini-invasive	407	43.7%	5	13.2%				
Pathologic T, n. %	Intracapsular	894	95.9%	39	88.6%	0.02	2.89	1.05-7.90	0.04
	Extracapsular	38	4.1%	5	11.4%				

lesion (OR=2.9, CI=1.56-5.35,  $p=0.01$ ) and pathologic extracapsular lesion (OR=2.9, CI=1.05-7.90,  $p=0.04$ ) were confirmed as significant predictive factors of positive surgical margins. **Conclusion:** Tumor renal site represents an important nephrometric pre-operative characteristic predictive of PSM. Extracapsular lesions are also correlated with a higher risk of PSM. Mini-invasive approach seems to present lower PSM rate for optical magnification; however, these data should be revised assessing similar pre-operative conditions in both approaches.

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**IMPACT OF GENDER IN NEPHRON-SPARING SURGERY: COMPARISON OF PERIOPERATIVE AND PATHOLOGICAL OUTCOMES FROM THE DEFINITIVE RESULTS OF RECORD1 PROJECT**

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**Aim:** The aim of this study was to analyze gender differences in terms of perioperative and pathological features in a multicentre Italian dataset of patients (RECORD Project) undergoing nephron-sparing surgery (NSS). **Materials and Methods:** Overall, 1,055 patients treated with NSS, between January 2009 and December 2012, were evaluated. An evaluation of gender differences of pre-, intra- and postoperative, as well as pathological variables was performed. **Results:** Overall, 630 males and 346 females were analyzed. No significant difference was found between males and females in age at operation (analyzed as continuous and nominal (<75 years and ≥75 years) variable), ECOG score, clinical symptoms at diagnosis, tumor side, tumor growth pattern and localization and, also, number of lesions at radiological evaluation. A significant difference was found between males and females in body mass index (BMI) (26.3 (24.7-28.4) vs. 25.3 (22.5-27.5),  $p<0.001$ ), surgical indication (relative 14.9% vs. 11.9%; absolute 8.8% vs. 3.2%, respectively;  $p=0.001$ ), pre-operative hemoglobin (14.5±1.3 vs. 13.3±1.1,  $p<0.001$ ) and creatinine (1.0±0.5 vs. 0.8±0.2,  $p<0.001$ ). In intra-operative variables, no significant difference was found between the two groups regarding surgical approach (open vs. minimally invasive), technique (standard partial nephrectomy vs. simple enucleation), pedicle clamping and ischemia time. A significant difference was found between