Domande estratte nn. 2 e 3

AVVISO PUBBLICO, PER TITOLI E COLLOQUIO, PER L'ASSUNZIONE A TEMPO DET. 2 RISORSE NEL PROFILO DI COLLABORATORE PROFESSIONALE DI RICERCA, CATEGORIA D, CON LAUREA TRIENNALE IN INFERMIERISTICA (L/SNT/1) DA ASSEGNARE ALLA UOC UROLOGIA DELL'ISTITUTO REGINA ELENA- PROGETTO CODICE (GR)-202112373396, FINANZIATO DAL MINISTERO DELLA SALUTE

DOMANDE PROVA TECNICA

1. Cosa è un Trial Clinico Randomizzato e cosa si intende per processo di randomizzazione?

2. Cosa è una nefrectomia parziale robotica off-clamp e quale è il possibile vantaggio nell'evitare il clampaggio dell'ilo renale?

3. Cosa sono il RENAL score, il Charson Comorbidity Index ed il SIB score e quale è la loro rilevanza per uno studio clinico sulle nefrectomie parziali?

ROMA - Istituti Fisioterapici Ospitalieri -

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DOMANDE INFORMATICA

1. COS'È WORD?
2. COS'È UN DATABASE?
3. CHE COS'È EXCEL

Domande estratte nn. 2 e 3

cancers

MDPI

Article

Sutureless Purely Off-Clamp Robot-assisted Partial Nephrectomy: Avoiding Renorrhaphy Does Not Jeopardize Surgical and Functional Outcomes

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Simple Summary: Suturing the kidney after tumor excision can be omitted most of the time, without increasing the risks of complications or jeopardizing renal function.

Abstract: To compare outcomes of sutureless (SL) vs. renorrhaphy (RR) off-clamp robotic partial nephrectomy (ocRPN), we retrospectively analyzed procedures performed at our center, from January 2017 to April 2021, for cT1-2N0M0 renal masses. All the patients with a minimum follow-up < 1 month were excluded from the analysis. The trifecta rate defined surgical quality. Any worsening from chronic kidney disease (CKD) I-II to ≧ IIIa (from IIIa to ≧ IIIb, and from IIIb to ≧ IV) was considered as significant stage migration (sCKDsm). A 1:1 propensity score-matched (PSM) analysis minimized baseline imbalances between SL and RR cohorts in terms of age, gender, ASA score, baseline estimated glomerular filtration rate (eGFR), tumor size, and RENAL score. Logistic regression analyses identified predictors of trifecta achievement. Kaplan–Meier (KM) analysis assessed the impact of RR on significant chronic kidney disease sCKDsm-free survival (SMFS), while Cox regression analyses identified its predictors. Overall, 531 patients were included, with a median tumor size of 3.5 cm (IQR: 2.7–5); 70 (13%) presented with a cT2 mass. An SL approach was pursued in 180 cases, but 10 needed conversion to RR. After PSM analysis, patients receiving SL showed a higher trifecta rate (94% vs. 84%; $p = 0.007$). SMFS probabilities were comparable at KM analysis (log-rank = 0.69). Age (OR: 0.97; 95%CI: 0.95–0.99; $p = 0.01$), a RENAL score ≧ 10 (OR: 0.29; 95%CI: 0.15–0.57; $p < 0.001$), and RR (OR: 0.34; 95%CI: 0.17–0.67; $p = 0.002$) were independent predictors of trifecta achievement. Age (OR: 1.04; 95%CI: 1.003–1.07; $p = 0.03$) and baseline eGFR (OR: 0.99; 95%CI: 0.97–0.99; $p = 0.05$) independently predicted sCKDsm. Compared to RR, our experience seems to show that the SL approach significantly increased the probabilities of achieving the trifecta in the observed group of cases.

Keywords: partial nephrectomy; renorrhaphy; sutureless; renal function; renal cancer

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1. Introduction

[Over the last decades, the improvement and spread of nephron-sparing surgery (NSS) techniques, together with the increasing trend in the use of robot-assisted partial nephrectomy (RAPN) for the treatment of renal masses, led to the adoption of radical nephrectomy for cT1 renal masses to less than 10%, especially in high volume centers [1].

However, despite the efforts to preserve long-term renal function and minimize the risk of acute kidney injury, up to 30% of patients with normal preoperative kidney function may experience a decline in estimated glomerular filtration rate (eGFR) to <60 mL/min/1.73 m^2, and up to 10% may have a 50% reduction in renal function after surgery [2]. Thus, the search

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for innovative techniques to improve long-term functional outcomes after nephron-sparing surgery (NSS) is ongoing.

There is grounded evidence that every minute of warm ischemia significantly affects short- and long-term renal function [3]. Selective renal artery clamping [4], early unclamping [5], and off-clamp surgery [6] may help reduce the risk of postoperative renal function impairment. According to limited data, renorrhaphy (RR) may adversely affect functional outcomes, leading to ischemic necrosis of the stitched parenchyma [7,8] and potentially causing pseudoaneurysms and arteriovenous fistulas [9].

Since the pioneering era of minimally invasive PN, we aimed at minimizing ischemia "whenever feasible"; in 2012, we reported the feasibility and safety of *sutureless* [SL] laparoscopic PN for small exophytic renal tumors [10]. This experience shed light on the possibility of simplifying surgical procedures (in selected cases) and optimizing functional outcomes without jeopardizing oncologic results. However, the selection bias of that study limited the employment of the SL approach in intermediate/high nephrometry score renal tumors. In the last decade, we have witnessed the wide spreading of robotic platforms, and RAPN has overcome the laparoscopic approach for the treatment of all renal tumors. In this scenario, we developed a purely off-clamp SL robotic technique that completely avoids both hilar clamping and RR, based on the selective control of feeding arteries during tumor enucleation and the monopolar cauterization of the parenchymal breach to achieve hemostasis. In the present paper, we compare surgical and functional outcomes of patients who underwent purely off-clamp RAPN (ocRAPN), with or without RR, at our institution.

2. Materials and Methods

2.1. Patients and Dataset

After review board approval, our prospectively maintained database was queried for patients who underwent ocRAPN for organ-confined (cT1-2N0M0) renal tumors, from January 2017 onwards. Starting from January 2020, all the NSSs were performed with an SL approach; intraoperative conversion to RR was only deemed necessary in case of renal calyx violation with an obvious urinary leak and/or insufficient hemostasis at the first attempt of coagulation of the parenchymal breach.

The following data were extracted:

1. Age, gender, and race;
2. Baseline American Society of Anesthesiologists (ASA) score;
3. Tumor side, clinical size, and surgical complexity (defined according to the R.E.N.A.L. score) [11];
4. Hemostatic technique and eventual conversions from SL to RR;
5. Serum creatinine levels assessed at baseline, at discharge, and 3, 6, and 12 months after surgery. For each timepoint, eGFR was calculated by means of the Chronic Kidney Disease Epidemiology Collaboration formula [12] and the National Kidney Foundation (NKF); chronic kidney disease (CKD) stages were defined accordingly [13]. Based on the NKF recommendations, a >30% reduction in the postoperative eGFR was considered as a "significant renal function deterioration" (sRFD), while any worsening from stages I-II to $\geqq$ IIIa (from IIIa to $\geqq$ IIIb, and from IIIb to $\geqq$ IV) was defined as "significant CKD stage migration" (sCKDsm) [14,15];
6. Postoperative complications (stratified according to the Clavien–Dindo (CD) classification system [16]) and length of hospital stay (LOS);
7. Perioperative outcomes combined into our previously published trifecta (negative surgical margins, no CD $\geqq$ 3 complications, and no sRFD) to assess surgical quality [14].
8. Final histology;
9. Functional outcomes at last available follow-up.

2.2. Perioperative Care and Surgical Technique

All the procedures were performed by one single experienced robotic surgeon (G.S.). The surgical technique for conventional ocRPN with RR was previously described [17], and