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Editorial Comment

Editorial Comment to Robot-assisted laparoscopic versus open partial nephrectomy in patients with chronic kidney disease: A propensity score-matched comparative analysis of surgical outcomes

Partial nephrectomy (PN) is mandatory for the treatment of clinical T1 renal tumors in patients with chronic kidney disease. In the past decade, robot-assisted PN (RAPN) has been increasingly used for its technical precision in addition to the undebatable benefits of minimally-invasive surgery.

In the present article, Takagi *et al.* analyzed the surgical and functional outcomes of the open and the robotic approach in the setting of patients with pre-existing stage 3 chronic kidney disease by a matched-paired comparison accounting for age, sex, Eastern Cooperative Oncology Group performance status, body mass index, comorbidities, American Society of Anesthesiologists score and tumor nephrometry RENAL score.¹ The authors conclude that the patients undergoing RAPN have a significantly lower rate of overall complications and bleeding, and a higher rate of immediate postoperative renal function (RF) preservation compared with those who underwent open PN, whereas delayed RF recovery 3–6 months after surgery was comparable between the two approaches.

The work joins a chorus of research that suggests RAPN can safely reply the classical open procedure, even in challenging cases as those where the preservation of postoperative RF is of utmost importance. In this clinical setting, avoiding or reducing functional damage related to surgical modifiable parameters plays a fundamental role. In this regard, our understanding about the decline in renal function after PN has advanced considerably, and emerging evidence has showed that the volume of healthy vascularized preserved parenchyma after tumor resection and renorrhaphy along with ischemia time have a significant impact on RF recovery.

Types of resection technique; that is, enucleation and enucleoresection, are just mentioned in this article, but neither were stratified between the two surgical approaches nor analyzed as potential postoperative RF determinants. Indeed, wider resection margins do not lead to improved cancer control, but might affect the quantity of parenchyma preserved and consequently RF.² In this regard, for future studies, we should aim to standardize resection technique definitions through a comprehensive reporting model.³

Partial nephrectomy is not devoid of complications, and the present study confirms the lower morbidity of the robotic approach in comparison with the open counterpart, especially

limiting the low-grade complication rate and thus the overall complication rate, leading to a shorter length of stay and faster recovery.^{4,5} In conclusion, in this clinical setting, according to the study by Takagi *et al.*, RAPN can attain better early postoperative clinical and functional outcomes than open partial nephrectomy. Furthermore, RAPN is a less invasive and safer approach, offering lower intraoperative bleeding and postoperative complications than the open approach in agreement with the current literature on this topic. Further studies are required to confirm the functional benefits of RAPN in comparison with the other approaches adjusting for the several modifiable and unmodifiable factors that have a relevant impact on PN functional outcomes.

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Conflict of interest

None declared.

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