

Renal tumour scoring systems: How useful are they?

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Partial nephrectomy for renal tumours is a challenging surgical operation, whether performed through the traditional open surgical route, or approached laparoscopically or robotically. Any operation where there is an ablative component, with a reconstructive component, within the confines of renal ischemia with the clock ticking (“every minute counts”), can challenge any urologic surgeon’s skills. There is the risk for perioperative bleeding, blood transfusion, and renal ischemia with prolonged renal hilar clamping. Postoperatively, there are risks of renal pseudo-aneurysm, peri-nephric hematoma, urine leak, kidney non-function from prolonged ischemia, residual tumour from incomplete excision, and perioperative medical morbidity.

Any tools to minimize the risk of intra-operative and postoperative complications from partial nephrectomy are welcome. There has been a proliferation of renal scoring systems, with the PADUA scoring system, RENAL scoring system, Centrality index (C-index),¹⁻³ and recently the RTII score,⁴ and the CSA (contact surface area) score.⁵ These scoring systems attempt to objectively quantify the complexity of renal tumours in preparation for surgery. But which scoring system is better and how useful are they to the urologic surgeon?

Desantis, and colleagues⁶ in this issue of *CUAJ* tackle a comparison of the three most common renal tumour scoring systems by comparing the PADUA, RENAL and C-Index scores in a cohort of patients undergoing partial nephrectomy and correlate with postoperative complications. They have found that tumour size and tumour depth within the kidney are more predictive of complications than other

components of these scoring systems. Further, polar versus mid-kidney location of the tumour appear to have an inverse relationship to perioperative complications. Put together, this data would suggest that these current scoring systems are imperfect, and further work needs to be done to optimize their usefulness. Newer scoring systems, such as the RTII score, assess tumour depth to parenchymal thickness ratio, and the CSA score, assess tumour contact with normal parenchyma, and may be more predictive of renal surgery complexity. Of course, more study and validation is required for these newer scoring systems.

Practically, how many of us use a renal scoring system before surgery? How many of us use a “renal score” in discussion with patients? Most of us “eye-ball” the tumour and give an educated and experienced opinion on the potential complexity and difficulty of surgery. As renal scoring systems are fine-tuned, for now we can rely on the size and depth of the tumour (endophytic component) as objective measures of the complexity of surgery.

Competing interests: Dr. Kapoor is a member of the Speakers bureau for, and has received grants and honoraria from, Pfizer Oncology, GSK Oncology, Novartis Oncology and Amgen. He has also participated in clinical trials within the past 2 years with NCIC, Pfizer, GSK, Novartis and Amgen.

This paper has been peer-reviewed.

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