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European Association of Urology

Research Letters

The European Association of Urology Guideline on Renal Cell Carcinoma (RCC) is Not Concise in its Recommendation to Perform Partial Nephrectomy in T1b RCC

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The 2018 European Association of Urology (EAU) guideline on renal cell carcinoma (RCC) states: " . . . since oncological safety ([cancer-specific survival] CSS and [recurrence-free survival] RFS) of partial nephrectomy (PN) has been proven to be similar for radical nephrectomy (RN), PN is the treatment of choice for T1b RCC". Several specific situations are mentioned for which PN is unsuitable (insufficient volume of remaining parenchyma to maintain proper organ function; renal vein thrombosis; unfavourable tumour location [eg, adherence to the renal vessels], and use of anticoagulants). This phrase suggests that PN is the treatment of choice in all other cases of clinical T1b RCC [1].

In a recent case treated in our department, robotic PN was performed in a young female patient with a 4.6-cm tumour in the lower pole of the right kidney. Macroscopically, the tumour was completely removed. The pathology report showed a T3a type 2 papillary RCC with a microscopically positive margin. In the 4 mo following the operation she developed multiple recurrences in Gerota's fascia, in the peritoneum, and in a port track in the abdominal wall.

This recent case has triggered discussions on the arguments for performing PN in this patient with a normal contralateral kidney and no risk factors for renal insufficiency. The procedure was in line with the recommendations of the 2018 EAU guideline on RCC, but the unfavourable outcome was a reason to review the literature on this topic and the evidence underlying these recommendations.

The level of evidence to prove that the oncological safety of PN is similar to that of RN in RCC is modest at best. The only randomised study that compared PN to RN was limited to tumours <5 cm, was underpowered, and showed inferior overall survival for PN with similar CSS [2]. In this trial there were 12 RCC-related deaths: eight in the PN group and four in the RN group. Progression was detected in 12 patients following PN and nine patients following RN. The interpretation of these results has led to cautious acceptance of PN in T1a disease. We want to point to the limitations of this trial as far as T1b RCC is concerned, first because the trial was limited to smaller tumours, second because the trial was underpowered, and third because the oncological results were not identical, although statistically interpreted as similar. Extrapolation of the interpretation of these results to cases with T1b RCC is therefore not appropriate.

Not all patients have a normal contralateral kidney, so there is a benefit of PN in those at risk of developing renal insufficiency and associated diseases. If the oncological outcomes of PN and RN were exactly the same, the better renal function following PN would be expected to translate in an overall survival benefit, which appears to be the underlying assumption in the 2018 EAU guideline on RCC. Observational cohorts have indeed shown superior overall survival for PN in T1a tumours, but not for T1b [3].

Lesions suspicious for RCC are frequently not malignant. Among clinical T1 lesions, approximately 20% are benign [4]. The chances for malignancy increase with size. Frank et al. [5] reported that 77% of T1a lesions were actually malignant, while for T1b lesions this increased to 91%. It is therefore not correct to extrapolate benefits observed following nephron-sparing surgery for T1a lesions to patients with T1b lesions.

For clinical T1b renal lesions, current evidence shows that overall survival following PN and RN is similar [3]. It is important to realise that within this group some patients benefit from PN because of better preservation of kidney function and that this advantage is in equilibrium with the disadvantage of rare malignant cases for which PN fails to result in cure while RN might have accomplished this. The EAU guideline on RCC recommendation to perform PN in clinical suspected cases with T1b RCC implies that an unfavourable oncological outcome is acceptable in some individual cases who could have been cured by RN.

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There is another argument for reluctance to perform PN in T1b RCC. The EAU guideline advises not to perform PN in cases with specific pathology such as medullary RCC. At the same time, the guideline advises against a biopsy in every patient with a clinical suspicion for RCC. How do we know whether this rare pathology may be present?

Of note, the 2017 American Urological Association guideline is more restrictive in its recommendation to perform PN in patients with a suspicion of T1b RCC and advises taking the function of the contralateral kidney into account [6].

We argue that the EAU guideline should not recommend PN in T1b RCC because (1) there is no proof that the oncological results of PN are noninferior to those of RN in this group; (2) there is evidence that the benefit in OS observed in T1a is absent in T1b; and (3) the condition of the contralateral kidney is important in an individual patient and should play a role in the decision to perform PN. We disagree with the statement in the EAU guideline that "In view of the above, and since oncological safety (CSS and RFS) of PN has been proven to be similar for RN, PN is the treatment of choice for T1b RCC . . . .". As explained above, our opinion is that equivalent oncological safety has been shown for suspected T1a but not for T1b RCC. Moreover, we disagree with the recommendation to "Offer partial nephrectomy to patients with T1 tumours" and want to challenge the strength rating of strong, which in our opinion does not reflect the evidence currently available.

In our view, and based on currently available evidence, in patients with a clinical suspicion for T1b RCC, a normal contralateral kidney, and no risk factors for renal insufficiency, RN is at least an equivalent alternative to PN and in some patients it is the better alternative. Results from PN are generally excellent, but rare cases illustrate that the malignant potential of a kidney lesion is very difficult to predict. For optimal results in these patients, we propose that the paragraph on PN in the EAU guideline on RCC should be rephrased.

Conflicts of interest: The authors have nothing to disclose.

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In Peer (Artificial Intelligence) Review We Trust

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