



# Benefit of nephron sparing surgery translates into lower cancer specific mortality in patients with localized renal cell carcinoma

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*Comment on:* Antonelli A, Minervini A, Sandri M, *et al.* Below Safety Limits, Every Unit of Glomerular Filtration Rate Counts: Assessing the Relationship Between Renal Function and Cancer-specific Mortality in Renal Cell Carcinoma. *Eur Urol* 2018;74:661-7.

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National Comprehensive Centre Network (NCCN) (1), as well as European Association of Urology (EAU) (2) guidelines recommend partial nephrectomy (PN) as the treatment of choice for stage T1 renal cell carcinoma (RCC). This recommendation is based on the rationale for maximal renal function preservation, lower risk of cardiovascular events and lower rate of other-cause mortality (OCM) provided by PN, relative to radical nephrectomy (RN) (3-7). Additionally, PN provides equivalent cancer control rates, relative to RN (8).

To date, in surgically treated stage T1-2 RCC patients no direct relationship has been established between renal function preservation and cancer specific mortality (CSM). However, this relationship has been suggested in patients with other primaries, such as oropharyngeal (9), liver (10), breast (11) and urothelial malignancies (10,11). Moreover, evidence has also been proposed for RCC, with no regard to stage disease or surgical treatment type (10). The hypothesis about a direct link between renal function [i.e., estimated glomerular filtration rate (eGFR)] preservation and lower CSM, in the specific context of stage T1-2 RCC, represents the topic of investigation of Antonelli *et al.* (12). The authors indeed were able to confirm an independent relationship between the extent of eGFR preservation and lower CSM, after either PN or RN for stage T1-2 RCC.

To the best of our knowledge, this is the first, large multi-institutional study that investigated this topic specifically in stage T1-2 RCC.

The Antonelli *et al.* results demonstrated a relationship between higher eGFR and lower CSM, where a specific cut-off of 65 mL/min represented the threshold beyond which lower CSM was recorded. These findings are in agreement with those reported by Iff *et al.*, where a cut-off of 60 mL/min represented the threshold beyond which lower CSM was recorded in urothelial cancer and breast cancer patients (11). Antonelli *et al.*, also reported that preoperative eGFR values in excess of 85 mL/min independently predict lower CSM (12). In consequence, patients with preoperative eGFR close to 85 mL/min, might benefit of a nephron sparing surgery not only due to the reduction of functional complications and OCM rates, but also due to a protection from CSM.

Taken together, an even greater emphasis should be placed on renal function preservation, when surgical management on renal cortical tumours is contemplated. However, despite the attractiveness of Antonelli *et al.* findings and their relative novelty (12), further studies attempting to corroborate a direct relationship between renal function impairment and higher CSM rates are warranted, specifically in patients surgically treated for

localized RCC.

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## Footnote

*Conflicts of Interest:* The authors have no conflicts of interest to declare.

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