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Moving Forward: Objectifying Criteria for Partial Nephrectomy

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While partial nephrectomy is an established standard for treatment of localized RCC, it remains largely underutilized. In a recent review of the NCDB, researchers noted only 27% of over 92,000 patients with clinical T1 disease underwent nephron sparing approaches in 2005¹. Moreover, the lure of laparoscopy and its more routine use in radical nephrectomy at times “justifies” overutilization of nephron wasting techniques despite the recognized implications on GFR and implications of chronic kidney disease².

Among those who perform complex renal surgery, the ability to reduce a herniated tumor in the renal sinus may be known. Failure to recognize this phenomenon, however, may classify a central tumor as not “partial-able” and thereby validate nephrectomy.

Here we describe the concept of a tissue “ball valve” -- a notion familiar to most urologists who often refer to a median prostatic lobe “ball-valving” into the bladder outlet. We believe our description affords a conceptual construct of a tumor being rotated or released during resection out of a central point (i.e. renal sinus) into which it has herniated. The technique described in this manuscript is applicable to both the open and the minimally-invasive approach.

To date, the anatomic characteristics that render a tumor amendable to partial nephrectomy are overly subjective. Masses that may routinely undergo partial nephrectomy at one institution may be deemed inappropriate at another. We have recently reported on the R.E.N.A.L – nephrometry score as a common language to objectify the anatomical complexities of renal masses in a simple, structured, and reproducible fashion³. Details and examples are available at www.nephrometry.com. We invite your feedback and suggestions.

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