

Management of Small Renal Masses: Can Registries Answer Some Essential Questions?

The incidence of small renal masses has risen dramatically, but our management is based on a poor level of evidence. For example, evidence for partial nephrectomy, needle ablation and surveillance is largely based on single-center retrospective and large population-based studies. These studies suffer from selection bias due to differences in access to high-quality care and a tendency to offer fitter patients partial nephrectomy. Patients with normal renal function and a small renal mass have an excellent medium-term prognosis regardless of how they are managed (including surveillance), making comparison of treatments difficult.

The only reported randomized controlled trial (RCT) of radical versus partial nephrectomy failed to recruit to target and reported better overall survival in the radical nephrectomy arm, a finding that was not in keeping with expert opinion.¹ This led the authors to state in the discussion that, due to flaws in the study, the data was not to be believed and that partial nephrectomy is the treatment they recommend. This study does not offer much support or hope for future RCT's.

More recently, two RCT's in the UK compared a) partial nephrectomy to needle ablation and b) needle ablation to surveillance. Both unfortunately had to be abandoned when they failed to recruit well.

Recruitment to surgical trials in general is challenging, especially when a patient is referred to a tertiary center and told to expect a specific operation. Most surgeons do not find equipoise a comfortable position to take, especially when expert opinion is strongly biased towards surgical intervention. Thus, there is at present no Level 1 evidence to guide management, apart from the study with the 'wrong data'.¹

A few basic questions remain unanswered, such as the following:

- 1) Is intervention or surveillance preferable in patients with small renal masses, especially for those who are elderly or have severe comorbidities?
- 2) Can needle ablation achieve outcomes equivalent to extirpative surgery with less morbidity?
- 3) How much, if any, healthy renal parenchyma needs to be taken during partial nephrectomy?
- 4) Should biopsies be done prior to treatment of small renal masses?
- 5) Is radical nephrectomy harmful for patients with normal renal function?

Can we ever expect to answer these questions in the absence of randomized trials? Given the degree of selection bias, it is unlikely we will. Randomized trials for small renal masses appear to be as difficult to conduct as for localized prostate cancer. Remember that RCTs do not tend to provide all of the answers to challenging clinical situations. RCTs can suffer from a variety of problems, such as slow recruitment and contamination; moreover, their findings may be dismissed as outdated or met by a collective shrug.

Can registries answer some of these difficult issues regarding small renal masses? Perhaps not all, but some of the smaller issues can be addressed. For example, an Italian consortium has published outcomes from a multicenter registry that address the question of how much parenchyma needs to be removed at partial nephrectomy.² European urologists have teamed up with interventional radiologists to publish outcomes for cryoablation from an international registry.³ While registries cannot provide the same level of evidence as a trial, they tend to accrue data much faster and therefore can publish outcomes that are not out of date by the time they hit the press. When designed well, they can provide enough detail to allow comparisons between groups of patients that large databases cannot.

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1. Van Poppel H, Da Pozzo L, Albrecht W et al. A prospective, randomised EORTC intergroup phase 3 study comparing the oncologic outcome of elective nephron-sparing surgery and radical nephrectomy for low-stage renal cell carcinoma. *Eur Urol* 2011;59(4):543-552.
2. Longo N, Minervini A, Antonelli A et al. Simple enucleation versus standard partial nephrectomy for clinical T1 renal masses: perioperative outcomes based on a matched-pair comparison of 396 patients (RECORD project). *Eur J Surg Oncol* 2014;40(6):762-768.
3. Nielsen TK, Lagerveld BW, Keeley F et al. Oncological outcomes and complication rates after laparoscopic-assisted cryoablation: a European Registry for renal cryoablation (EuRECA) multi-institutional study. *BJU Int* 2016;Aug 4. (Epub ahead of print).