BJUI, by Pessoa et al. [3] adds to our knowledge on the subject and equips us with a strategy to mitigate some of the errors that are inherent to the standard diagnostic pathway. In the present study, the authors evaluated the role of a single exposure to MRI (and the opportunity that resulted to undertake a targeted biopsy of an MRI-derived abnormality as well as systematic sampling) in 105 men who had been attributed a diagnosis of low-risk prostate cancer – and, as a result, were deemed to be suitable for active surveillance. The authors used prostate imaging reporting and data system (PIRADS) scoring to interpret and communicate MRI risk. In summary, men attributed a low PIRADS score (PIRADS 1–3) had a low probability of being re-classified to a higher risk. In contrast, men attributed PIRADS score 4 or 5 had a probability of 70–100% of being re-classified. The authors calculated a sensitivity of 93% for MRI to predict ‘re-classification’. This equates to a 93% sensitivity to predict the presence of clinically significant disease as re-classification occurred when there was a transition from low-risk to higher-risk disease.

These results concur with those of others who are working in this area [4] and are in line with current recommendations [5]. One observation that is worth highlighting – because it is a current controversy in the field – relates to the utility of the systematic (or semi-random) biopsies as a component of the confirmatory biopsy. Whilst targeted biopsy was superior to systematic biopsy at identifying clinically significant disease, omission of the systematic biopsies would have resulted in five significant cancers being overlooked. The less perfect the targeted biopsy, the greater the reliance on the systematic. In the present study, the lesion generation and the targeting may have been compromised by one or two issues. Using TRUS biopsy as the authors did (as opposed to transperineal biopsy) to access all areas of the prostate is always going to be a challenge. To do so without image registration makes it even harder. To use PIRADS – as opposed to a Likert scale – as a method of interpreting and communicating MRI outputs will, very likely, lead to an under-reporting of the smaller, high-grade lesions [6]. This is because PIRADS 2.0 is triggered by a volume threshold towards the upper end of the scale. Such lesions might be more prevalent in an apparently ‘low-risk’ population such as the one under scrutiny. If this is the case, they will not be identified as ‘targets’ by virtue of a high PIRADS score. As a consequence they cannot be identified by targeting but might be picked up by the random fall of the needles.

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Conflict of Interest
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References

Renal tumour biopsy: let’s talk about it

There has been a marked increase in the incidental diagnosis of small renal masses (SRMs), resulting in overtreatment of benign and indolent lesions. Renal tumour biopsy (RTB) has received increasing attention as a potential tool to help reduce
this overtreatment, with single-institution studies reporting good safety, accuracy, and reliability. One of the purposes of paper by Richard et al. [1], appearing in this issue of BJUI, was to address whether these results of RTB were generalisable across multiple institutions. They evaluated 373 RTBs from 12 centres, reporting an initial diagnostic rate of 87%, with 32% of non-diagnostic RTBs undergoing repeat biopsy, for a combined diagnostic rate of 91%. They reported concordance rates between RTB and surgical pathology of >80% and a RTB complication rate of <1%. The generalisability of these impressive RTB results remains unclear because they were unable to report the numbers of RTB per centre (beyond ‘at least one’) and results were likely driven by a few high-volume centres.

The analysis is not without limitations. The negative predicative value (NPV) of RTB could not be assessed because there was no surgical specimen to confirm a benign RTB diagnosis. A meta-analysis by Patel et al. [2] raised concerns about a non-diagnostic or negative RTB. Of the 14% of patients with a non-diagnostic biopsy, 90% of those subsequently undergoing surgery were found to have cancer. Among patients having surgery, 37% with a negative biopsy who underwent surgical extirpation were found to have cancer on final pathology (NPV 63%). Another limitation of RTBs is that they tend to under grade tumours compared to surgical pathology. Even when using a simplified two-tiered grading system of non-diagnostic results were likely driven by a few high-volume centres.

Despite the limitations of RTB, the fact remains that many renal lesions are over treated, RTB outcomes are improving, and RTB may help guide clinical management. The authors [1] suggest that even a misclassified SRM could probably be managed conservatively over the short term. They recommend that even a benign RTB should be followed with serial imaging and that a repeat RTB should be considered for fast growing lesions. Perhaps the future of RCC diagnosis lies beyond the RTB and includes imaging innovations that can distinguish benign and malignant tumours and spare patients an unnecessary treatment, as well as an unnecessary biopsy. For example, Gorin et al. [4] showed that technetium-99m (99mTc)-sestamibi single-photon emission CT (SPECT)/CT could accurately distinguish renal oncocytomas and hybrid oncocytic/chromophobe tumours from other renal tumour histologies.

Current guidelines already acknowledge the potential role for RTB to guide clinical management in patients willing to accept the known limitations and who have an indeterminate SRM or are considering a range of treatment options such as active surveillance or ablation. We do not need a blanket guideline mandating upfront RTB for all. But we should at least talk about RTB with our patients with SRMs. We owe it to them to be aware of the potential benefits and limitations of RTB and include this in our discussion so they can be involved in the decision.

**Conflicts of Interest**

Dr Craig Rogers and Dr Haider Rahbar have nothing to disclose.

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