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LETTER TO THE EDITOR

Contrast-ing opinions: biparametric versus multiparametric prostate MRI

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Dear Editor,

I note the short communication by Turkbey and Choyke providing a succinct summary of the updated PI-RADS system for prostate MRI acquisition and interpretation in the September-October 2015 issue of *Diagnostic and Interventional Radiology*. (1). An interesting argument has also been presented against the routine use of dynamic contrast-enhanced (DCE) sequences suggested therein for multiparametric magnetic resonance imaging (mpMRI) evaluation of the prostate (2). The "multi" of mpMRI has never been strictly defined but is taken to mean the addition of functional sequence(s) to standard anatomical imaging. In reflecting the evolving diagnostic role of mpMRI, the recently updated Prostate Imaging Reporting and Data System (PIRADS) 2.0 removed the recommendation for routine magnetic resonance spectroscopy and reduced the role of DCE.

The limitations of DCE have been well set out by the authors, namely the cost and its limited specificity. Unlike in breast MRI, DCE curve-typing is limited because most tumors demonstrate a type II curve (3) and a number of benign prostate conditions such as prostatitis and benign prostatic hyperplasia can demonstrate a Type III curve. Essentially the updated recommendations relegate the role of DCE to that of assessment of indeterminate lesions in the peripheral zone, and even then there must be a corresponding abnormality on another sequence. However, before dismissing DCE completely we need to appreciate the advantages it may bring.

Contrast is often essential in the follow-up of patients undergoing ablative focal therapy procedures. Furthermore, DCE has a role to play when there is a technical failure of diffusion-weighted imaging which, aside from known presence of metalwork, may be difficult to prospectively predict. Indeterminate lesions may be seen in up 30% of studies using the old guidelines (4), and it has been suggested that the updated version will increase the tendency of radiologists to call PIRADS-3 lesions (5). In the absence of employing a patient-recall system, or having a supervising radiologist make on-table decisions for giving contrast, these are valid reasons for the routine use of DCE.

At our institution we use DCE (45-minute time slot) for the initial, baseline MRI and biparametric (bp) MRI for follow-up in active surveillance (30 minutes), thus, three patients can be scanned using the latter protocol for every two using the former. Given the increasing demand for prostate MRI, this potentially has a significant impact on work flows aside from the ancillary costs of DCE. The use of bpMRI as a quick "screening" examination in biopsy-naive patients therefore becomes an attractive proposition. However, the current case for bpMRI is based on anecdotal and limited retrospective evaluations; hopefully future prospective randomized studies can help resolve the issue.

References

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