Letter – Can micro-ultrasound be the new first-choice test for patients with a suspicion of prostate cancer?

RE: Comparison of micro-ultrasound and multiparametric magnetic resonance imaging for prostate cancer, *CUAJ*, Jan 2021 (with author reply)

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We read with great interest the article by Klotz et al discussing high-resolution micro-ultrasound and multiparametric magentic resonace imaging (mpMRI) for prostate cancer detection, recently published in the *Canadian Urological Association Journal*.[1] We would like to congratulate the authors on the honest analysis of their multicentric data; it is always difficult to retrieve scientific information from many centers, which almost always use different protocols when managing patients. We have become strong supporters of micro-ultrasound and we believe this new technology has the potential to become the first-level test for patients with a clinical suspicion of prostate cancer.

Our initial experience has been similar to that reported by Klotz et al[1] and we would like to respectfully make a few suggestions. The first is that the value of mpMRI is significantly related to the technological level of the machine and of the setting used when studying the prostate. In our country, almost every center offering mpMRI, in general, would accept to perform a multiparametric test to study a patient with a suspicion of prostate cancer. As a consequence, we unfortunately still see mpMRI tests done with old machines that are unable to produce top-quality images.[2] Even more important, in everyday practice, the value of the radiologist appears to be more than critical. At a tertiary academic center like ours, with more than 600 mpMRI of the prostate done each year using a top-notch technology, urologists still see significant inter-observer variability among our radiologists. We think these issues should be considered when analyzing data coming from 11 different sites

Second, as recognized by the authors, all those who received a biopsy had been previously evaluated with a mpMRI and the information coming from this test was available at the time of biopsy. This is a major bias that should be considered but it still represents the classic scenario: most patients receiving a prostatic biopsy after micro-ultrasound have also been studied with mpMRI.

Third, sites A and C played a significant role in true- and false-negatives following MS and it would be interesting to assess possible differences in their study protocol.

Time and experience will tell if micro-ultrasound of the prostate is the new first-choice test for patients with a suspicion of prostate cancer. As urologists, we should all be enthusiastically involved in this new endeavour.

References

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Author reply

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We appreciate the supportive comments from our Italian colleagues, and it is reassuring that their experience to date has mirrored the collective results reported in this paper. We agree that while mpMRI is a tremendous advance in imaging prostate cancer, it has significant limitations related to technical quality, interpretation, inter-observer variability, accessibility, and cost. We acknowledged in the study that the pre-ultrasound review of the MRI may have biased the results of the transrectal ultrasound-

guided biopsies positively. While MRI and micro-ultrasound are likely to be complementary, a key question is how well micro-ultrasound performs as a single test with respect to identifying significant cancer. This will require results from studies blinded to the MRI result. Two such studies have been reported since our publication, with comparable results,[1,2] and larger, multicenter, blinded studies are ongoing. Another clinical trial model being considered is a large, randomized study of MRI-targeted biopsy vs. Micro-ultrasound-targeted biopsy for the diagnosis of prostate cancer. We agree wholeheartedly that this novel technology represents an important opportunity for urologists interested in prostate cancer imaging and biopsy, and warrants further evaluation.

References

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