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Letter to the Editor

Reply to Jeremy Y.C. Teoh, Thomas R.W. Herrmann, and Marek Babjuk's Letter to the Editor re: Valeria Panebianco, Yoshifumi Narumi, Ersan Altun, et al. Multiparametric Magnetic Resonance Imaging for Bladder Cancer: Development of VI-RADS (Vesical Imaging-Reporting and Data System). Eur Urol 2018;74:294–306

We thank Teoh and colleagues for their letter regarding our recent report [1]. They acknowledge that multiparametric magnetic resonance imaging (mpMRI) of the bladder has great potential for staging in urinary bladder cancer (UBC). However, they raise several points regarding the current approach to UBC diagnosis and the possible role of mpMRI.

We recognize, as has been widely demonstrated [2], that diagnosis of UBC is not straightforward. Moreover, for Ta–T1 lesions, there is significant risk of residual disease after initial transurethral resection of bladder tumor (TURBT) [3] and the risk of understaging is not negligible [4]. For these reasons, a second TURBT is strongly recommended after incomplete resection of the lesion, if there is no muscle in the specimen after initial resection, and for T1 tumors [5]. In addition, pathologic staging of radical cystectomy specimens can be challenging, especially when differentiating stages pT2b and pT3a, with important clinical implications [6,7].

Given all the limitations of the current approach to UBC diagnosis, TURBT, and en-bloc resection of bladder tumor (EBRT) in selected cases, remains the gold standard for diagnosis, and no imaging technique alone can justify any radical treatment or chemotherapy without histologic proof [5]. Patient management is based on histopathologic evaluation of TURBT specimens, and therefore any imaging technique aimed at improving the UBC diagnosis pathway should be validated against TURBT and possibly EBRT. We actually believe that the availability of two consecutive diagnostic procedures in all patients deemed at high risk of underdiagnosis and/or residual disease can make validation of the Vesical Imaging-Reporting and Data System (VI-RADS) even more accurate, provided that patients undergo mpMRI before any invasive procedure.

Even though we state that mpMRI should be performed at least 2 wk after TURBT, we would like to highlight that a

recently treated patient is not an ideal candidate for mpMRI. In selected cases, imaging can be helpful for planning repeat TURBT; however, as previously reported [8], the aim of VI-RADS is to generate a score for untreated patients to differentiate Ta–T1 from T2 or higher tumors. If the ability of VI-RADS to identify bladder muscle invasion is confirmed, patients with muscle-invasive bladder cancer (MIBC) could be directed to a diagnostic TURBT to expedite radical treatment whenever possible. Similarly, if the ability of mpMRI to exclude MIBC is established, a proportion of patients could possibly be spared a second TURBT. Furthermore, the aim of VI-RADS is to standardize mpMRI terminology and image acquisition techniques for UBC, reduce inter-reader variability, and improve communication between radiologists and urologists. Furthermore, VI-RADS is a risk assessment tool that should always be used in conjunction with clinical, surgical, and histopathologic diagnostic techniques.

We agree with the authors that mpMRI could also be used to differentiate between Ta and T1 disease because of the important therapeutic implications; however, given the limited spatial resolution of mpMRI, focused studies will be needed to test its potential in this regard. At present, any information attempting to distinguish between different categories of non-muscle-invasive bladder tumor should be interpreted with caution. Probably more relevant is the use of mpMRI in the setting of bladder-sparing trimodal therapy, in which it could help to improve patient selection and subsequent management (ie, by directing endoscopic surgery) and follow-up.

In conclusion, we agree with Teoh and colleagues on the paramount need for high-quality trials aimed at validating the VI-RADS. However, we believe that at present, the most widespread and reliable diagnostic technique for validating any imaging score is TURBT and therefore it cannot be set aside despite its important limitations.

Conflicts of interest: The authors have nothing to disclose.

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