LETTER TO THE EDITOR EDİTÖRE MEKTUP

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Editorial Comment for Evaluation of the Diagnostic Value of PSA Derivatives and MpMRI in the Detection of Prostate Cancer: A Retrospective Study

Prostat Kanseri Tespitinde PSA Türevlerinin ve MpMRI'nin Tanısal Değerinin Değerlendirilmesi: Retrospektif Çalışma İsimli Makale için Editör Yorumu

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Dear Editor,

I congratulate the authors for their study titled "Evaluation of the Diagnostic Value of PSA Derivatives and MpMRI in the Detection of Prostate Cancer: A Retrospective Study". This study is very valuable for our clinical practice as it reminds us of the importance of prostate specific antigen (PSA)-derived parameters to decide prostate biopsy in patients who have high PSA levels.

The aim of the present study was to re-evaluate the role and significance of suspicious lesions on multiparametric magnetic resonance imaging (MpMRI) and the fPSA/tPSA ratio in the estimation of prostate cancer. The considered cutoff point of fPSA/tPSA in suspicious of prostate cancer was ≤0.15. Additionally, the relationship between the fPSA/tPSA ratios and Prostate Imaging-Reporting and Data System (PI-RADS) scores was studied. The results indicated that the fPSA/tPSA ratio was significantly lower in PI-RADS-4 and 5 lesions than in PI-RADS-3 lesions. The authors concluded that the fPSA/PSA ratio is important in deciding whether to perform a prostatic biopsy in patients who have total PSA values between 4-10 ng/dl. Prostate cancer was found to be more likely in patients with a PI-RADS score above 3 and a free/total PSA below 0.15.[1]

In the last 50 years, serum PSA value has commonly been used in the detection and follow-up of prostate cancer even if serum PSA value is an organ-specific, not a disease-specific test. There are multiple factors which effect serum PSA value including catheterizations, cystoscopy, aggressive digital rectal examinations, ejaculation, cycling, and prostatic diseases like inflammation, benign prostatic hyperplasia (BPH) and cancer. Therefore, there is always uncertainty in making the decision to perform a prostatic biopsy in men who have high PSA levels. To minimize this situation of uncertainty, some PSA de-

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rived measurements such as free to total PSA ratio, PSA density, PSA density of transition zone, and PSA velocity for early detection of prostate cancer in addition to total serum PSA level have been developed.[2] Not all of these PSA measurements are 100% accurate in the diagnosis of prostatic cancer.

MpMRI has been widely used in our clinical practice in recent years in the detection of prostate cancer. When PI-RADS category 3, 4 or 5 lesions in MpMRI are seen, the decision to perform a prostate biopsy can be made easily. In men with high serum PSA levels, it is difficult to decide on performing prostate biopsy when PI-RADS category 1 and 2 lesions on MpMRI are seen. In these cases, serum PSA measurements including total PSA value, free to total PSA ratio and PSA density in combination with Mp prostate MRI should also be considered in decision for prostate biopsy.[3,4] Although there is no clear cutoff for the free PSA/total PSA ratio to distinguish BPH from prostate cancer, a higher risk of developing prostate cancer was found in the patients with a lower free/total PSA ratio. It has been shown that the risk of prostate cancer is higher when the free/total PSA ratio is below 10%, and the risk of prostate cancer is very low when the free/total PSA ratio is above 25%.[5] The American Cancer Society also recommends prostate biopsy for men who have a free to total PSA ratio less than 10%.[6] This ratio should be a key factor when considering whether to perform initial or repeat biopsy for patients with high PSA levels but PI-RADS category of 1 or 2 on MpMRI. The problems for PSA density (PSAD) are the lack of a standard method for measuring prostate volume and an operator dependent measurement. In spite of these limitations, the cut-off value of PSAD, which is widely used in deciding to perform a biopsy, is 0.15 ng/mL.[7]

Some clinically significant prostate cancers may be missed by MpMRI alone.[8] Klotz et al. showed that the negative predictive value of MpMRI was 85% in a randomized multicenter prospective study. The authors pointed out that systematic biopsy should be performed even if MpMRI is negative, especially in patients with high risk of clinically significant PCA regarding to clinical parameters.[9]

Therefore, in order to make a decision to perform a prostate biopsy in patients with persistently elevated PSA levels, it is very important to consider PSA-derived measurements such as PSAD and free/total PSA ratio, in addition to MpMRI findings. I personally believe that decision of prostate biopsy for the patients with a high PSA level and PI-RADS category of 1 or 2 should be made according to free to total PSA ratio and/or PSAD value.

Sincerely yours.

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Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions

This study is entirely author's own work and no other author contribution.

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