Letter to the Editor
Prostate cancer

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The Need of Systematic Biopsies for the Appropriate Management of Localized Prostate Cancer

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Multifocality is a characteristic of prostate cancer (PCa); however, its aggressiveness seems primarily defined by the index lesion [1]. Currently, systematic biopsies (SBs) are poorly regarded due to their over-detection of insignificant PCa and the increase in side effects associated with the extensive number of punctures [2]. The low rate of significant PCa detected only in SBs remains the reason why they are still recommended [3]. Active surveillance (AS) is a well-established management for low-risk localized PCa, whereas focal therapy (FT) is gaining evidence as an appropriate treatment for intermediate-favorable risk localized PCa. These management approaches minimize the side effects of whole prostate gland treatments; however, accurate selection of candidates is essential for ensuring good oncological outcomes [2].

We sought to determine whether solely relying transperineal-fusion targeted biopsies (TBs) would be sufficient for the appropriate selection of ideal candidates for AS and FT. Given the absence of evidence to address this question, we conducted a retrospective analysis of the pathology findings on SBs, also performed via the transperineal route. This retrospective study included 123 males with localized PCa who were considered candidates for AS and FT, based solely on the pathology report of TBs. These candidates constituted 35.8% of the 343 PCa cases detected among 460 suspected PCa males who underwent transperineal prostate biopsies between January 1, 2021 and December 31, 2022 at the Creu Blanca reference center in Barcelona, Spain. Pre-biopsy 3-Tesla biparametric magnetic resonance imaging (MRI) (Verio 3.0 T; Siemens Inc.) was conducted for segmentation of suspicious lesions and expert radiologist reclassified extern multiparametric MRIs to prostate imaging-report and data system v.2.1. Two to 15-core transperineal MRI-transrectal ultrasound (TRUS) fusion mapping-TBs and 12-core transperineal TRUS-guided SBs were performed using the Artemis™ platform (Eigen). This review received approval from the VH Ethics Committee (PRAG02-2021). The informed consent was waived.

Among the 123 selected cases localized PCa, based solely on the TBs pathology findings, 50 (14.6%) with low-risk (grade group [GG] 1) were identified as ideal candidates for AS [2], while 73 (21.3%) with intermediate-favorable risk (GG 2) were identified as candidates

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for FT according to the criteria of the London Imperial College [4]. Within the group of candidates for AS, a single GG 3 tumor detected in ipsilateral SBs contraindicated this management (2.0%). Among candidates for FT, 15 GG 2 tumors (20.5%) were identified in SBs, with 8 in ipsilateral SBs (11.0%) and 7 in contralateral SBs (9.6%). Two GG 3 tumors (2.8%) were identified in SBs, one in ipsilateral SBs and another in contralateral SBs. Additionally, one GG 4 tumor (1.4%) was identified in ipsilateral SBs. These data suggest that, within the context of transperineal mapping-TBs conducted with the Artemis™ platform, ipsilateral SBs were needed for the 100% selection of ideal candidates for AS, while both ipsilateral and contralateral SBs were required for the appropriate selection of candidates for FT. Based on the findings of ipsilateral SBs, hemi-ablation of prostate gland would be the appropriate treatment in 11.0% of candidates for FT, while FT would be rejected as appropriate treatment in 13.8% of candidates, based on the pathology findings in contralateral SBs.

Limitations of this study include its retrospective design and the strict indication for AS. Recently, a predictive model for selecting candidates for FT without incorporating the finding in SBs has been developed, but it exhibits an insufficient 90% sensitivity [5]. We conclude that pathology findings from SBs seem necessary for the appropriate management of localized PCa.

Conflict of Interest

The authors have nothing to disclose.

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Author Contribution

Conceptualization: JM, VC. Data curation: NP, VC. Formal analysis: JM. Investigation: JM. Methodology: JM. Supervision: VC. Validation: VC. Writing – original draft: JM. Writing – review & editing: NP, VC.

REFERENCES

1. Ahmed HU. The index lesion and the origin of prostate cancer. N Engl J Med 2009;361:1704-6.
2. Mottet N, Cornford P, van den Bergh RCN, Briers E, Eberli D, De Meerleer G, et al. EAU-EANM-ESTRO-ESUR-ISUP-SIOG guidelines on prostate cancer. EAU; 2023.
3. Morote J, Picola N, Muñoz-Rodriguez J, Paesano N, Ruiz-Plazas X, Muñoz-Rivero MV, et al. A diagnostic accuracy study of targeted and systematic biopsies to detect clinically significant prostate cancer, including a model for the partial omission of systematic biopsies. Cancers (Basel) 2023;15:4543.
4. Jaipuria J, Ahmed HU. Clinical and pathologic characteristics to select patients for focal therapy or partial gland ablation of nonmetastatic prostate cancer. Curr Opin Urol 2022;32:224-30.
5. Mjaess G, Peltier A, Roche JB, Lievore E, Lacetera V, Chiacchio G, et al. A novel nomogram to identify candidates for focal therapy among patients with localized prostate cancer diagnosed via magnetic resonance imaging-targeted and systematic biopsies: a European multicenter study. Eur Urol Focus 2023;9:992-9.