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OPEN PEER REVIEW

Correlation of Hematological Parameters with Specific Antigen Concentration and Prostate Volume in Benign Prostatic Hyperplasia: A Retrospective-Analytical Study

Arian Karimi Rouzbahani, Firozeh Khosravinia, Samaneh Tahmasebi Ghorabi, Parastoo Baharvand, Behzad Yousefi Yeganeh

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About this report

This open peer review (OPR) report shows the public comments made on this article during peer review, by the reviewers, the associate editor and the editor-in-chief, for every revision round, together with the authors' replies. Comments appear only with the consent of the people who wrote them. Reviewers who chose to sign their report are named; the others are shown as "Referee". Comments are edited for language only, and confidential remarks to the editors are not included.

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1 Original submission

1 comment · 2 Jan 2025

Associate Editor

MAJOR REVISION 2 Jan 2025

Major Revision

2

Revision 1

AUTHORS' RESPONSE TO REVIEWERS

Authors' reply to reviewers

The next pages contain the authors' point-by-point reply to the comments of this revision round, as submitted with the revised manuscript. It is published as the authors wrote it.

Reviewer 1:

After reviewing the manuscript titled “Correlation of hematological parameters with specific antigen concentration and prostate volume in benign prostatic hyperplasia: A retrospective-analytical study” I find that the study addresses an important and relevant topic. The methodology is sound, and the results contribute valuable insights into the field. However, I recommend acceptance of the manuscript contingent upon the authors addressing the following revisions:

Dear Editor and Reviewers,

Thank you for your thorough review of our manuscript titled “Correlation of Hematological Parameters with Specific Antigen Concentration and Prostate Volume in Benign Prostatic Hyperplasia: A Retrospective Analytical Study.” We appreciate the constructive feedback, which has strengthened the paper. Below, we provide a point-by-point response to Reviewer 1's comments, detailing revisions made. All changes are incorporated into the revised manuscript for resubmission.

-Provide a brief explanation of why PSA levels and hematologic parameters are relevant to BPH diagnosis. Include a rationale for focusing on hematologic traits.

We agree this enhances context. We added a paragraph in the Introduction (page 2, lines 55-61) explaining PSA's role in reflecting prostate activity and hematologic parameters' potential as inflammation indicators in BPH. The rationale emphasizes their routine, cost-effective nature for resource-limited settings.

- Explicitly state the primary research question or hypothesis. For instance, is the focus on improving PSA prediction, understanding hematologic impacts, or both?

Thank you for this suggestion. We added a hypothesis statement in the Introduction (page 3, lines 67-72), clarifying the focus on correlations for predictive models and mechanistic insights (both PSA prediction and hematologic impacts).

-Clarify the inclusion and exclusion criteria for patient selection.

The criteria were listed but have been clarified and reformatted for better readability in the Methods section (Inclusion and Exclusion Criteria subsection, page 3, lines 79-84).

-Specify if hematologic parameters were measured uniformly (e.g., timing relative to hospitalization or standard lab protocols).

We added this detail in the Data Collection Instruments subsection (page 3, lines 86-90), noting uniform measurement upon admission using standard automated analyzers.

-Elaborate on statistical methods, particularly the regression techniques and criteria for model selection.

We expanded the Data Analysis subsection (page 4, lines 104-116), detailing regression techniques (stepwise, forward, backward) and selection criteria (maximum R^2, $p<0.05$ for entry/retention, multicollinearity thresholds).

-Mention whether the hematologic data and PSA measurements were validated or cross-checked for accuracy.

We added this in the Procedure subsection (page 4, line 97-100), stating data were cross-checked with original reports.

-Include a statement on ethical approval and informed consent, given that patient records were used.

Ethical approval was mentioned; we added informed consent waiver details in the Procedure subsection (page 4, lines 99-100).

-Provide a clearer description of "specific hematologic traits" with the lowest tolerance and highest variance inflation factor (VIF). Identify the traits explicitly.

We explicitly identified these (neutrophil %, lymphocyte %, RBC count, hemoglobin, hematocrit %) in the Abstract (page 1, lines 13-18) and Results (1-4 subsection, page 12, lines 204-207).

-Highlight why PSA concentration models had higher statistical validity than prostate volume models.

We added explanations in the Abstract (page 1, line 13-18), Results (1-5 subsection, page 13, line 215-220), and Discussion (1-3 subsection, page 15, line 253-256), attributing this to stronger correlations.

-Compare diagnostic and prognostic biomarkers in context of noncoding RNAs with conventional biomarkers in cancer. Including the current understanding of the essential prognostic factors, such as small and long noncoding RNAs and detailed inflammatory and apoptosis pathways can provide a more complete understanding of the role of non-coding RNAs in cancers. PMIDs: 37636026, 37546393, 34562537, 34569616, 38692125, 34520771, 38991456, 36951271, 37414973, 38936094, 34943856, 38341592 and so on.

While our study focuses on BPH (benign), we appreciate the suggestion to broaden biomarker discussion. We added a new subsection (1-4) in Discussion (page 15, lines 257-265), comparing conventional biomarkers with ncRNAs in cancers (citing provided PMIDs as [23-34]), noting roles in

pathways like Wnt/PI3K, apoptosis, and inflammation. This contrasts with our BPH approach but ties to prostate disease spectrum.

- **Use consistent terminology for statistical metrics (e.g., "R^2" instead of "R2") throughout the section.**

We standardized to "R^2" throughout (e.g., Abstract, Results, Discussion, Conclusion).

-The conclusion should temper claims about diagnostic insights with a discussion of limitations.

We tempered claims and referenced limitations in the Conclusion (page 15, lines 273-277).

-**Link the findings to potential clinical applications, such as early diagnosis, patient stratification, or resource optimization.**

We added this in Discussion (1-5 subsection, page 15, lines 266-271).

-Compare findings with previous studies, addressing consistencies or discrepancies.

We expanded comparisons in Discussion (1-1 subsection, page 14, lines 231-247), noting alignments [16,17,21] and potential population-based discrepancies.

-Provide a plausible biological explanation for the observed correlations (e.g., why MCV and platelet count correlate with PSA levels).

We added explanations in Discussion (1-1 subsection, page 14, lines 231-247), linking to inflammation and cytokine pathways.

-Acknowledge potential limitations, such as the retrospective design, single-center data, or unmeasured confounders.

We expanded the Limitations section (page 16, lines 279-281).

Suggest areas for further research, such as prospective validation or the exploration of other hematologic parameters.

We added suggestions in Discussion (1-5 subsection, page 15, lines 270-271).

2 Revision 1

3 comments · 22 Oct 2025 – 9 Nov 2025

Referee 1 Reviewer

ACCEPT 22 Oct 2025

This paper is acceptable for publication.

Associate Editor

ACCEPT 22 Oct 2025

Dear EIC.
Previous errors have been corrected, and there are no further recommendations.

Editor-in-Chief

ACCEPT 9 Nov 2025

Accept