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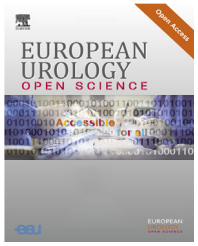

European Association of Urology

Letter to the Editor

Re: Hazem Orabi, Lauren Howard, Christopher L. Amling, et al. Red Blood Cell Distribution Width Is Associated with All-cause Mortality but Not Adverse Cancer-specific Outcomes in Men with Clinically Localized Prostate Cancer Treated with Radical Prostatectomy: Findings Based on a Multicenter Shared Equal Access Regional Cancer Hospital Registry. Eur Urol Open Sci 2022;37:106–12

The Challenges of Pooled Data from Complete Blood Cell Counts in Clinical Research

I read with interest the paper by Orabi et al. [1] recently published in *European Urology Open Science*. Papers such as this one, which are appearing with increasing frequency in the urology literature, demonstrate the potential uses of complete blood cell count (CBC)-derived data in disease diagnosis, outcome prediction, and risk stratification. Since CBC is one of the clinical laboratory tests most commonly ordered and is available in nearly all clinical settings at a low price point, the findings from studies such as the one reported by Orabi et al. have potential for broad implementation. I would like to add some additional technical comments about the red blood cell distribution width (RDW) and its use in clinical studies that may be especially pertinent for studies such as this one that use data pooled from multiple laboratories.

RDW is reported by all hematology instruments in clinical use and is expressed as the standard distribution (RDW-SD) or coefficient of variation (RDW-CV) for the red blood cell histogram. Several preanalytical variables may impact RDW and be a source of bias, including storage time, storage temperature, tube type, and transport conditions [2–8]. In addition, there is a lack of harmonization for RDW reporting by different instrument manufacturers [9]. Therefore, it is important for individual clinical laboratories to define RDW reference ranges rather than use ranges reported in the literature in order to minimize the impact of these sources of bias.

Studies that pool data from several sources may be prone to issues regarding biases in CBC-derived data. Although higher statistical power and potential greater generalizability are advantages, the reliability of the data may be problematic if there is significant heterogeneity in preanalytical and analytical variables [10]. Since RDW is susceptible to these biases, it is important for researchers to address these variables when designing their studies. I thank Orabi et al for their potentially impactful study and would welcome a response from them that addresses the technological aspects of their work.

***Conflicts of interest*:** The author has nothing to disclose.

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