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Elevated neutrophil-to-lymphocyte ratio is associated with poor outcomes in patients with chronic thromboembolic pulmonary hypertension

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Dear Editor,

We read with great interest the article by Acet Öztürk et al.,^[1] entitled "Elevated neutrophil-to-lymphocyte ratio is associated with poor outcomes in patients with chronic thromboembolic pulmonary hypertension." The article provides valuable insights into prognostic determinants in chronic thromboembolic pulmonary hypertension (CTEPH) based on a long-term, real-world cohort. The authors are to be congratulated for their comprehensive evaluation of inflammatory markers alongside hemodynamic, imaging, and treatment-related variables within a multidisciplinary management framework.

A major strength of this study is the demonstration that the neutrophil-to-lymphocyte ratio (NLR), a simple and widely available inflammatory biomarker, is independently associated with

mortality in patients with CTEPH. This finding is particularly important given that current risk stratification in CTEPH largely relies on invasive hemodynamic measurements and advanced imaging modalities.^[2] The identification of NLR as an independent prognostic factor therefore provides a cost-effective and easily applicable tool that may enhance routine clinical risk assessment.

Another important contribution is the evaluation of baseline and longitudinal B-type natriuretic peptide (BNP) levels.^[1,2] The observed association of both initial BNP values and BNP trajectories during follow-up with mortality highlights the clinical importance of serial biomarker monitoring rather than relying solely on a single baseline measurement. This dynamic approach to risk assessment is consistent with the evolving understanding of pulmonary hypertension as a progressive and heterogeneous disease.

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The study also reinforces the well-established survival benefit of pulmonary endarterectomy (PEA). Patients treated with medical therapy alone exhibited a markedly higher risk of mortality than those who underwent surgical intervention. These findings are consistent with large registry data and previous multicenter studies, confirming that PEA remains the cornerstone of therapy in appropriately selected patients with CTEPH.^[3]

Importantly, the lack of significant differences in baseline echocardiographic and hemodynamic parameters between survivors and nonsurvivors suggests that resting measurements of pulmonary arterial pressure and vascular resistance may have limited prognostic value when considered in isolation.^[1,4] This observation further supports the integration of systemic inflammatory markers, such as NLR, into multidimensional risk stratification models. Although the retrospective, single-center design and limited sample size may restrict generalizability, these limitations are expected in rare disease research and do not diminish the clinical relevance of the findings. On the contrary, the study provides meaningful hypothesis-generating evidence that may guide future prospective, multicenter investigations. Overall, this well-conducted study adds significant value to the current literature by highlighting the prognostic role of NLR, emphasizing the importance of BNP dynamics, and reaffirming the survival benefit of surgical intervention in CTEPH. It also supports the potential integration of simple inflammatory biomarkers into future risk stratification strategies.

Conflicts of Interest

The authors have no conflicts of interest to declare.

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