

Reply to letter to the editor: "Predicting long-term mortality after acute pulmonary embolism: One issue, multiple faces"

To the Editor,

We appreciate the valuable comments on our study (1). As stated, early mortality after acute pulmonary embolism (PE) can be predicted using well-documented prognostic scores, including the original and simplified versions of the PE severity index (PESI) (2, 3). However, the data on long-term mortality are scarce (4). Due to the lack of such scoring for the late mortality after acute PE, we investigated the value of both versions of the PESI to predict long-term mortality in acute PE patients. Thus, our results reflect the usability of the PESI as an option to evaluate the long-term mortality after acute PE.

We strongly agree that various clinical or laboratory findings and comorbidities are related to the late mortality in patients with acute PE. The echocardiographic findings are well-documented prognostic factors that should be evaluated according to the algorithms for the management of acute PE (5). We also admit that renal functions or electrolyte imbalances and the history of chronic kidney disease were demonstrated as prognostic factors in the long-term follow-up of patients with acute PE (6-8). However, in this retrospective study, we focused mainly on the PESI predictors and several additional comorbidities, including diabetes mellitus, hypertension, coronary artery disease, and atrial fibrillation. Thus, we could not present other parameters owing to the study's design.

Our study included patients with acute PE diagnosed in a university hospital, which is also a referral center for cancer patients. The results pointed out the predictive role of cancer and several other comorbidities, including heart failure and chronic lung disease, among the PESI predictors for long-term mortality. In addition to its natural course, we agree that cancer may also be associated with mortality owing to recurrent PE (9). Future follow-up studies may document this parameter.

In conclusion, the long-term mortality in patients with acute PE is related to numerous parameters. Our study documented that the PESI may detect a high risk for late mortality based on comorbidities. A more comprehensive range of parameters may be evaluated in prospective cohort studies to develop a prognostic scoring system for late mortality after acute PE.

REFERENCES

1. Sandal A, Korkmaz ET, Aksu F, Köksal D, Toros Selçuk Z, Demir AU, et al. Performance of pulmonary embolism severity index in predicting long-term mortality after acute pulmonary embolism. *Anatol J Cardiol* 2021; 25: 544-54. [Crossref]
2. Aujesky D, Obrosky DS, Stone RA, Auble TE, Perrier A, Cornuz J, et al. Derivation and validation of a prognostic model for pulmonary embolism. *Am J Respir Crit Care Med* 2005; 172: 1041-6. [Crossref]
3. Jiménez D, Aujesky D, Moores L, Gómez V, Lobo JL, Uresandi F, et al.; RIETE Investigators. Simplification of the pulmonary embolism severity index for prognostication in patients with acute symptomatic pulmonary embolism. *Arch Intern Med* 2010; 170: 1383-9. [Crossref]
4. Gupta R, Fortman DD, Morgenstern DR, Cooper CJ. Short- and Long-term Mortality Risk After Acute Pulmonary Embolism. *Curr Cardiol Rep* 2018; 20: 135. [Crossref]



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LETTER TO THE EDITOR REPLY

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5. Konstantinides SV, Meyer G, Becattini C, Bueno H, Geersing GJ, Harjola VP, et al.; ESC Scientific Document Group. 2019 ESC Guidelines for the diagnosis and management of acute pulmonary embolism developed in collaboration with the European Respiratory Society (ERS). *Eur Heart J* 2020; 41: 543-603. [\[Crossref\]](#)
6. Ćibietis V, Kigitoviča D, Vītola B, Strautmane S, Skride A. Glomerular Filtration Rate as a Prognostic Factor for Long-Term Mortality after Acute Pulmonary Embolism. *Med Princ Pract* 2019; 28: 264-72. [\[Crossref\]](#)
7. Scherz N, Labarère J, Méan M, Ibrahim SA, Fine MJ, Aujesky D. Prognostic importance of hyponatremia in patients with acute pulmonary embolism. *Am J Respir Crit Care Med* 2010; 182: 1178-83. [\[Crossref\]](#)
8. Kumar G, Sakhuja A, Taneja A, Majumdar T, Patel J, Whittle J, et al.; Milwaukee Initiative in Critical Care Outcomes Research (MICCOR) Group of Investigators. Pulmonary embolism in patients with CKD and ESRD. *Clin J Am Soc Nephrol* 2012; 7: 1584-90. [\[Crossref\]](#)
9. Chee CE, Ashrani AA, Marks RS, Petterson TM, Bailey KR, Melton LJ 3rd, et al. Predictors of venous thromboembolism recurrence and bleeding among active cancer patients: a population-based cohort study. *Blood* 2014; 123: 3972-8. [\[Crossref\]](#)