

Procjena rane smrtnosti u plućnoj emboliji: identifikacija stabilnih bolesnika kao kandidata za ambulantno liječenje

Early mortality risk prediction in pulmonary embolism: selecting patients for safe outpatient treatment

 Ivana Jurin,
 Jasmina Čatić,
Jelena Kursar,
 Diana Rudan,
 Irzal Hadžibegović*

Klinička bolnica Dubrava,
Zagreb, Hrvatska

University Hospital Dubrava,
Zagreb, Croatia

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***ADDRESS FOR CORRESPONDENCE:** Irzal Hadžibegović, Klinička bolnica Dubrava, Avenija Gojka Šuška 6, HR-10000 Zagreb, Croatia. / Phone: +385-91-533-3091 / Email: irzalh@gmail.com

ORCID: Ivana Jurin, <https://orcid.org/0000-0002-2637-9691> • Jasmina Čatić, <https://orcid.org/0000-0001-6582-4201>
Diana Rudan, <https://orcid.org/0000-0001-9473-2517> • Irzal Hadžibegović, <https://orcid.org/0000-0002-3768-9134>

Uvod: *Pulmonary embolism severity index* (PESI) dobro predviđa 30-dnevnu smrtnost u bolesnika s plućnom embolijom (PE). Međutim, tražena su poboljšanja prediktivnosti jer ponekad precjenjuje rizik rane smrti u stabilnih bolesnika s PE, osobito u kraćim pojednostavljenim oblicima (sPESI).^{1,2} Cilj je bio procijeniti prediktivnost PESI među našim bolesnicima i istražiti interakciju s drugim mogućim čimbenicima za predviđanje u svrhu poboljšanja stratifikacije bolesnika s niskim rizikom koji bi bili prihvatljivi za ambulantno liječenje.

Bolesnici i metode: Retrospektivna analiza demografskih, kliničkih i laboratorijskih varijabli u 299 odraslih osoba s MSCT-om potvrđenom akutnom PE u jednoj ustanovi tijekom razdoblja od 3 godine s 30-dnevnom smrtnosti kao glavnim ishodom.

Rezultati: Bilo je 19 (6,4%) vrlo nestabilnih bolesnika koji su umrli u roku od 48 sati od prijema i bili su isključeni iz daljnjih analiza. Od preostalih stabilnih bolesnika, 30-dnevna smrtnost bila je 12,1% (34/280). Bilo je 131 bolesnika s PESI <105 i 185 bolesnika s PESI <125 s 30-dnevnom smrtnosti, tim redom od 3,1% i 4,9%. Među svim analiziranim varijablama samo su procjena glomerularne filtracije, koncentracija D-dimera, omjer trombocita i limfocita i širina distribucije volumena eritrocita (RDW) vrijednost pokazali značajan moderacijski učinak na PESI-jem predviđenu smrtnost u multivarijantnoj analizi. Najizraženiji je bio učinak RDW-a na PESI-jem procijenjeni rizik rane smrti: 140/280 (50%) bolesnika identificirano je s PESI <125 i RDW <15% s 30-dnevnom smrtnosti od samo 0,7% (1/140). Osim toga, u prvih 30 dana nije bilo zabilježenih smrti među 97/280 (35%) bolesnika s PESI <105 i RDW <14,5%.

Zaključak: U stabilnih bolesnika s akutnom PE, RDW snažno moderira rizik 30-dnevne smrtnosti procijenjen s PESI-jem. Može se koristiti za poboljšanje točnosti PESI-ja kako bi se identificirao veći udio stabilnih bolesnika koji ispunjavaju uvjete za sigurno ambulantno liječenje i brz i siguran otpust iz hitne službe s odgovarajućom antikoagulacijskom terapijom.

Background: Acute pulmonary embolism (PE) severity index (PESI) well predicts 30-day mortality in PE patients. However, improvements have been advocated because it sometimes overestimates early mortality risk in stable PE patients, especially in shorter simplified forms (sPESI).^{1,2} We aimed to evaluate predictability of PESI in our patients and to explore interaction with other possible prediction tools as a potential improvement in stratifying low risk patients eligible for ambulatory treatment.

Patients and Methods: Retrospective analysis of demographic, clinical and laboratory variables in consecutive 299 adults with MSCT confirmed acute PE admitted to a single institution over a 3-year period with 30-day mortality as a main outcome.

Results: There were 19 (6.4%) severely unstable patients who died within 48 hours and were excluded from further analyses. Among remaining stable patients, 30-day mortality was 12.1% (34/280). There were 131 patients with PESI <105 and 185 patients with PESI <125 with 30-day mortality rates of 3.1% and 4.9%, respectively. Among all variables analyzed, only estimated glomerular filtration rate, D-dimer value, platelet-to-lymphocyte ratio, and red blood cell distribution width (RDW) value showed significant effect on PESI predicted mortality in multivariate regression analysis. RDW moderation of PESI effect on mortality was most notable: there were 140/280 (50%) patients identified with both PESI < 125 and RDW < 15% and a 30-day mortality rate of only 0.7% (1/140). In addition, there were no deaths in the first 30 days among 97/280 (35%) patients with both PESI < 105 and RDW < 14.5%.

Conclusions: In stable acute PE patients RDW strongly moderates 30-day mortality risk associated with PESI. It could be used to improve PESI accuracy and identify a larger proportion of stable patients eligible for safe ambulatory treatment and quick and safe discharge from emergency room with appropriate anticoagulation therapy.

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LITERATURE

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