Abstract: P511

Risk stratification of patients with acute pulmonary embolism and a low-moderate risk as per PESI score

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Introduction
The risk stratification of patients with acute pulmonary embolism (EP) has implications in their short-term management. Patients with a low-moderate risk of adverse events can be candidates to an early discharge and continuation of anticoagulation on an ambulatory basis or to a shorter in-hospital monitorization, however this should be a risk-adjusted decision. This further stratification ideally would be performed through simple and inexpensive markers, easily accessible in the daily practice.

Purpose
To identify, in patients with acute EP and a PESI score =105, the predictors of 30-day mortality, not included in that score.

Methods
Retrospective cohort study of consecutive hospitalized patients with acute EP and a PESI score =105, admitted between January 2012 and December 2016. Patients with haematologic or infectious diseases were excluded. The demographic, lab, electrocardiographic and echocardiographic data were collected and analysed as predictors of 30-day mortality.

Results
84 patients with acute EP and a PESI score =105 were included (age 63±16 years, 34.5% men). Mean PESI score was 79±17 (low risk) and the 30-day mortality was 6.0% (n=5).

Patients who died were older (73±8 vs 62±16 years old, p=0.034); had higher PESI score (103±2 vs 77±16, p<0.0001), percentage of active cancer (40.0% vs 3.8%, p=0.027), neutrophil counts (8.8±1.8x10⁹/L vs 6.1±2.2x10⁹/L, p=0.029), neutrophil to lymphocyte ratio (NLR; 9.7, IQR 6.0-15.8, vs 3.9, IQR 2.5-5.0, p=0.006) and platelets to lymphocyte ratio (PLR; 340.7, IQR 204.7-561.5, vs 126.1, IQR 86.8-164.2, p=0.011) and lower lymphocyte counts (0.9x10⁹/L, IQR 0.6-1.5, vs 1.8x10⁹/L, IQR 1.4-2.3, p=0.018).

In the multivariate analysis, excluding from the model the variables included in PESI score, only RNL was predictor of 30-day mortality (OR 1.19; CI 95%; 1.024-1.390; p=0.023).

ROC curve analysis showed an excellent discriminative capacity for RNL (AUC 0.866, p<0.0005, IC 0.774-0.930), with an optimal cut-off value of 7.5 (sensitivity 80.0%, specificity 94.9%).

Conclusion
The present study showed that the RNL, obtained from a simple complete blood count test on hospital admission, was a predictor of 30-day mortality in patients with acute EP and low-moderate risk according to PESI score. This marker of systemic inflammation warrants further investigation in the risk stratification of acute EP patients, due to its simplicity, widespread availability and the lack of scoring systems to predict the prognosis of these low-moderate risk patients.