Efficacy and safety of tenecteplase with standard anticoagulation therapy versus standard anticoagulation therapy alone for sub massive or intermediate-risk pulmonary embolism: A meta-analysis

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Objectives: To determine the efficacy and safety of tenecteplase with anticoagulation versus anticoagulation alone in patients with intermediate-risk Pulmonary Embolism (PE) in reducing all-cause mortality, respiratory distress requiring Mechanical Ventilation (MV), recurrence of PE and major bleeding episodes.

Design: Meta-analysis including three RCTs.

Setting: Studies included were performed in Italian, German, and American medical centers.

Participants: Inclusion criteria: adult patients diagnosed with PE with RV dysfunction on echocardiogram or CT scan with stable hemodynamic status. Exclusion criteria: hemodynamic instability, history of bleeding, and contraindication to anticoagulants.

Interventions: Weight-based tenecteplase with anticoagulation versus anticoagulation alone.

Main Outcome Measures: Efficacy outcome measures: reduction in all-cause mortality, respiratory distress requiring MV and recurrence of PE; Safety outcome parameter: major bleeding episodes.

Results: There is no statistically significant difference for death from any cause (Z=0.89, p value 0.37), however, there is a trend favoring tenecteplase group (OR 0.65, CI 0.26-1.66). There is also no statistically significant difference for reduction in respiratory distress requiring MV and recurrence of PE, but there is a trend favoring tenecteplase group. In terms of major bleeding, there is a statistically significant difference, favoring placebo (OR 4.91, CI 2.68-8.97).

Conclusion: There is a trend favoring tenecteplase in intermediate-risk PE in terms of all-cause mortality, respiratory distress requiring mechanical ventilation and recurrence of PE, however, with increased rate of major bleeding.

Biography
Lea Arceli G. Porciuncula is at the age of 30 years from St. Luke’s Medical Center, E. Rodriguez Avenue, Quezon City, Philippines. She is currently training as a second year clinical fellow in cardiology in the HB Calleja Heart and Vascular Institute.

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