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ANTICOAGULATION THERAPY VS CLINICAL SURVEILLANCE IN ISOLATED SUBSEGMENTAL PULMONARY EMBOLISM: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Introduction. Isolated subsegmental pulmonary embolism (iSSPE) is being diagnosed with increasing frequency, but its optimal treatment remains uncertain.

Objectives. This systematic review and meta-analysis aimed to investigate the efficacy and safety of anticoagulation versus clinical surveillance for the management of iSSPE.

Methods. The Medline and EMBASE databases were searched up to April 2025 for all studies that compared anticoagulation therapy against clinical surveillance in patients with iSSPE. Clinical outcomes included venous thromboembolism (VTE) recurrence, bleeding complications and all-cause mortality. Pooled risk ratios (RRs) and 95% Confidence Intervals (CI) were estimated by random-effects model.

Results. Eight observational studies reported data on VTE recurrence, encompassing 674 patients. The risk of VTE recurrence did not differ statistically significantly between anticoagulated and non-anticoagulated patients (RR 0.61, 95% CI 0.28-1.35, I² = 0%). Conversely, nine studies reported data on safety outcomes, encompassing 862 patients. The incidence of any bleeding complication was higher in anticoagulated patients compared with those managed by clinical surveillance (RR 3.10, 95% CI 1.39-6.88, I² = 0%). A similar association was observed when the analysis was restricted to major bleeding events. Finally, all-cause mortality did not differ statistically significantly between the two groups (RR 0.70, 95% CI 0.44-1.12, I² = 45%).

Conclusions. Available evidence does not support a net clinical benefit from routine anticoagulation in patients with iSSPE.