Effects of catheter-directed therapy for pulmonary embolism on pulmonary artery systolic pressure and PaO2/FiO2

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Topic(s):
Intervention

Background: Pulmonary embolism (PE) is the third global cause of cardiovascular death. Treatment of high-risk cases and selected intermediate-risk cases is based on systemic thrombolysis, which can be inconvenient in patients with a contraindications for thrombolysis. Catheter-directed therapies are emerging as an alternative for treatment when there is an increased bleeding risk.

Methods: One-center retrospective study of patients with high or intermediate-high risk PE with contraindications for systemic thrombolysis. Catheter directed rheolytic thrombectomy or mechanical thrombectomy was performed, assessing its effect on clinical variables, pulmonary artery systolic pressure (PASP), PaO2/FiO2, and the occurrence of complications.

Results: In 12 patients with PE treated with catheter-directed therapy, we observed a mean increase of the PaO2/FiO2 of 62 mm Hg (p = 0.013), as well mean reduction in the PASP of 13 mm Hg (p < 0.001), as can be observed in the figure. As complications, there was one case of hemoptysis, and two of hemolysis, with an in-hospital mortality of 16.7%.

Conclusion: Catheter-directed therapy in patients with high or intermediate-high risk PE is a feasible option when there are contraindications for thrombolysis or there is a high bleeding risk. It has been shown to improve surrogate endpoints as PASP and right to left ventricle ratio in other studies, although data on mortality from a randomized trial is lacking.