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Two Submassive Pulmonary Emboli Cases Who Received Catheter-Mediated Thrombolytic Therapy

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Introduction: Thrombolytic use in the treatment of acute pulmonary embolism (PE) is controversial. According to observational retrospective studies, thrombolytic therapy is effective in early correction of hemodynamic instability and increases the risk of bleeding. Catheter-mediated thrombolysis is a safer alternative to submassive PE.

Case 1: A 55-year-old male patient presented with dyspnea. On physical examination, the patient was tachypneic (RR: 30) and tachycardic (HR: 130). Saturation in room air was measured at 85%. Pulmonary angiography showed diffuse PE in the pulmonary arteries and segmental branches. Troponin T: 21.4ng/l (N<14) and Pro-BNP: 938 pg/ml (N<125)levels were high. Echocardiography revealed EF 58%, right heart cavities widened, TAPSE: 1.7 cm, right ventricular function normal and pulmonary artery systolic pressure (PABS) as 42mmHg. Anticoagulant treatment was initiated and thrombolytic therapy was planned and hospitalized. The vessel was inserted into the main femoral veins. Pulmonary artery access was performed. Infusion catheters were placed 10 cm long. A total of 0.5 mg/h tPA infusion was initiated from the catheters. Catheters were removed after 18 mg treatment. PABS was measured as 32mmHg on the 1st day. On the 7th day, Troponin T: 6,7ng/l (21) and Pro-BNP: 26,9pg/ml (937) levels were in normal limits. After clinical, laboratory and radiological recovery, the patient was discharged.

Case 2: A 56-year-old female patient presented with dyspnea. On physical examination, the patient was tachycardia (HR: 110) and at the lower limit of his blood pressure (TA 100/60). Saturation in room air was measured at 91%. Pulmonary angiography revealed bilateral PE. Anticoagulant treatment was initiated and thrombolytic therapy was planned and hospitalized. The vessel was inserted into the main femoral arteries. Pulmonary arteries were passed. Thrombus was observed in the main pulmonary arteries and branches in the images taken with contrast. Infusion catheters were placed 10 cm long. Prior to catheters, 0.5 mg/h, then 0.25 mg/h tPA infusion was started. Catheters were removed after 12mg tPA treatment. After clinical, laboratory and radiological recovery, the patient was discharged.

Conclusion: Catheter-mediated thrombolytic therapy in two cases of acute submassive PE, reduced the required tPA dose and provided effective thrombolysis. Catheter-mediated thrombolysis is suitable for use in submassive PE patients with high risk of bleeding.

Keywords: Pulmonary embolism, treatment, catheter-directed thrombolysis