Off-label thrombolysis in simultaneous stroke and pulmonary embolism

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Abstract

Stroke and pulmonary embolism (PE) are emergent situations with specific performance guidelines. Their simultaneous occurrence is rare.

We describe a case of a 20-year-old woman, otherwise unremarkable past and familial medical history except for overweight and oral contraceptive use.

She was admitted at the emergency room 45 min after suffering a witnessed seizure. She recovered consciousness but remained with motor aphasia, central facial and right arm paresis, scoring 7 in NIHSS. She was hemodynamically unstable, with low blood pressure and sinus tachycardia and polypnea. She was in hypoxia and respiratory alkalosis and her electrocardiogram in sinus tachycardia showed profound T-wave inversion at DII, DIII, aVF and V1-V5 plus S1Q3T3 pattern. Brain-CT and blood analysis were normal. Pulmonary angio-CT revealed extensive bilateral PE. Intravenous infusion of 100 mg of alteplase over two hours was administered. The patient progressively improved both hemodynamic, respiratory and neurologically, scoring 2 in NIHSS at the end of the treatment.

A transthoracic echocardiogram revealed a patent foramen ovale with an atrial septal aneurysm and a right-to-left shunt. A lower limb Doppler revealed a recent left gastrocnemial and popliteal thrombosis. Unfractionated heparin perfusion was started. A brain-magnetic resonance showed left temporo-parietal infarction.

The two thrombolytic therapy protocols are quite different. In this specific case, the right protocol is not defined in the literature due to its rarity.

Despite its hemorrhagic transformation risk, we opted to treat the most life-threatening condition. Discussing the best therapeutic strategy is an off-label but potentially life-saving approach.