

# Veno-arterial extracorporeal membrane oxygenation and embolectomy in massive pulmonary thromboembolism

Tętniczo-żylne pozaustrojowe utlenowanie krwi i embolektomia w masywnej zatorowości płucnej

Jus Ksela<sup>1</sup>, Rihard Knafelj<sup>2</sup>, Maja Sostaric<sup>1</sup>, Marko Noc<sup>1</sup>

<sup>1</sup>Department of Cardiovascular Surgery, University Medical Centre, Ljubljana, Slovenia

<sup>2</sup>Centre for Intensive Internal Medicine, University Medical Centre, Ljubljana, Slovenia

A 44-year-old man with varicose syndrome presented after collapse followed by refractory cardiac arrest. Advanced cardiac life support was started, and due to suspected massive pulmonary thromboembolism, intravenous recombinant tissue plasminogen activator — rt-PA (Actylise, Boehringer Ingelheim, Germany) was administered. After 40 min of resuscitation, spontaneous circulation was re-established, but profound circulatory shock with recurrent cardiac arrests persisted. The patient was transferred to catheterisation laboratory for percutaneous implantation of veno-arterial extracorporeal membrane oxygenation (VA ECMO) (Cardiohelp, Maquet Getinge group). A 21 Fr short cannula was inserted through the right femoral artery with the tip at the aortic bifurcation, an 8 Fr 11 cm anterograde sheath for ipsilateral limb perfusion, and a 25 Fr long venous cannula through the right femoral vein with the tip at the right atrium. With 3.5 L/min of ECMO flow, haemodynamic stabilisation was achieved and the patient was immediately transferred for pulmonary computed tomography angiography, which showed that except for the right upper segment, pulmonary circulation was essentially obstructed (Fig. 1A). Immediate surgical embolectomy was performed and two large thrombotic columns were removed from the left and right pulmonary arteries (Fig. 1B). The postoperative course was unremarkable and the patient was discharged without any neurological sequel despite more than 40 min of refractory cardiac arrest.



**Figure 1.** Pulmonary computed tomography angiography showing complete obstruction of left side and large part of right side of pulmonary circulation (A, arrows). Corresponding thrombotic columns were removed by immediate surgical embolectomy from left and right pulmonary arteries (B)

**Address for correspondence:**

Prof. Marko Noc, Centre for Intensive Internal Medicine, University Medical Centre, Zaloska 7, 1000 Ljubljana, Slovenia, e-mail: marko.noc@mf.uni-lj.si

**Conflict of interest:** none declared

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