

1077 **Catastrophic Acute Right Ventricular Failure and Cardiac Arrest Following Scalp Hyaluronic Acid Filler Injection: Successful Rescue with VA-ECMO**

Seung Hyun Kim¹

¹ Division of Cardiology, Department of Internal Medicine, University of Soonchunhyang, Korea

Non-thrombotic pulmonary embolism following cosmetic filler injection is a rare but potentially catastrophic complication. We report a case of acute right ventricular failure and subsequent cardiac arrest following scalp filler injection, successfully managed with mechanical circulatory support. A 40-year-old man with no medical history other than obstructive sleep apnea developed dyspnea after a 200mL cosmetic hyaluronic acid filler injection into the scalp. Upon arrival at the emergency department, the patient presented in shock with a drowsy mental status, a blood pressure of 83/64 mmHg, and a heart rate of 83 bpm. A 12-lead electrocardiogram showed ST-segment elevation in leads V1–V3 and ST-segment depression in leads III and aVF. Transthoracic echocardiography revealed a D-shaped left ventricle, marked right atrial and right ventricular enlargement, and right ventricular free wall hypokinesia. To investigate the cause of acute right ventricular failure, coronary angiography and right heart catheterization were performed. Coronary angiography showed no obstructive epicardial coronary artery disease. Right heart catheterization demonstrated pre-capillary pulmonary hypertension, with a mean pulmonary artery pressure of 34 mmHg, a mean pulmonary arterial wedge pressure of 7 mmHg, and a pulmonary vascular resistance of 12 Wood units. Computed tomography showed no evidence of pulmonary thromboembolism but revealed subtle central ground glass opacities. Considering the temporal relationship and the exclusion of thrombotic pulmonary embolism and right ventricular infarction, hyaluronic acid-induced non-thrombotic pulmonary embolism was strongly suspected. Milrinone and vasopressor support were initiated acute right ventricular failure. However, two hours later, the patient developed cardiac arrest attributed to refractory right ventricular failure, prompting the initiation of venoarterial extracorporeal membrane oxygenation. In the absence of an established specific therapy for hyaluronic acid-induced non-thrombotic pulmonary embolism, supportive care was continued. Following improvement in right ventricular function, the patient was successfully weaned from venoarterial extracorporeal membrane oxygenation and decannulated on hospital day 11.