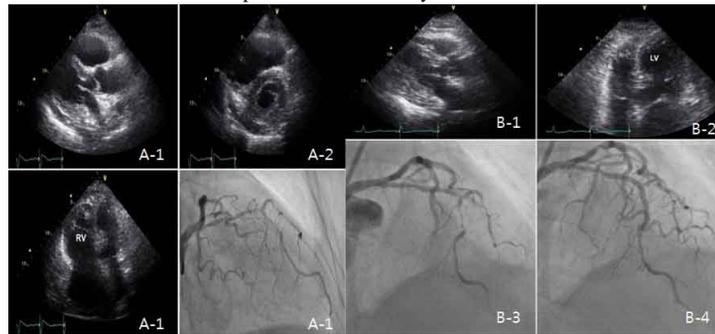


Fat embolism with bi-ventricular heart failure

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Background: Fat embolism is a life-threatening complication in patients with orthopedic trauma or surgery, especially long bone fractures. It is caused by a massive release of fat into the circulation. The diagnosis of fat embolism is made by clinical features alone with no specific laboratory findings. Fat embolism has no specific treatment and requires supportive care, although it can be prevented by early fixation of bone fractures. We report that a case had fat embolism after orthopedic surgery, somehow had bi-ventricular heart failure also. **Case:** A 74-year-old female patient was transferred from other hospital due to significant hypoxemia and tachycardia. She underwent orthopedic surgery (intramedullary nailing) of left femur intertrochanteric fracture 2 days ago. Transthoracic Echocardiography (TTE) showed relatively preserved left ventricular (LV) systolic function, but severe right ventricular (RV) dysfunction and RV enlargement (D-shaped LV). Chest CT angiography showed no evidence of pulmonary thromboembolism. We performed coronary angiography because of Q wave on ECG and cardiac enzyme elevation. Coronary angiogram showed significant stenosis at mid LAD (Figure A). She underwent mechanical ventilation and venoarterial ECMO because of hypoxemia despite optimal oxygenation. Initially we did not perform percutaneous coronary intervention (PCI) for this patient, because main cause of hypoxemic respiratory failure was associated RV failure, suggestive of fat embolism rather than myocardial ischemia. Two days later after ECMO support, follow-up TTE showed markedly improved RV systolic function due to RV decompression and functional recovery, but LV dysfunction with ischemic insult of LAD territory was appeared. And so we performed PCI for mLAD lesion (Figure B). After PCI, ECMO and ventilator weaning was done without neurologic complication. Follow-up TTE showed normalization of chamber size and remarkable improvement of both ventricular systolic function. **Conclusion:** Severe forms of fat embolism cause impedance to right ventricular ejection, with eventual right heart failure. Ang it can be coexist with left failure when pateints had a coronary disease.



An right atrial mass in middle-aged woman: intravenous leiomyomatosis with intracardiac extension

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Intravenous leiomyomatosis (IVL) with intracardiac extension is a rare disease characterized by growth of a benign uterine tumor that extends into the cardiac chambers through the venous system. In this case, we report a middle-aged woman who had a history of resection of recurrent uterine leiomyoma. She visited with a syncope due to intracardiac mass which was swinging from right atrium to right ventricle. After several evaluations, the cardiac mass might not be originated from intracardiac cavity, but the mass was extended from inferior vena cava. So the patient was suspected with IVL with intracardiac extension and underwent one-staged surgery with resection of the cardiac and intracaval tumors. The results of the present study indicated that clinicians should consider intracardiac leiomyomatosis when evaluating women with a right atrial mass, especially those with a history of uterine leiomyomas.

