Intra-cardiac cement embolism during hip arthroplasty

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Clinical image description

A 92-year-old woman presented to the operating room with a right femoral neck fracture. She had a past medical history significant for atrial fibrillation, coronary artery disease with a history of coronary bypass, severely stenotic aortic valve (area 0.9 cm²), diabetes, dyslipidemia, hypertension and dementia. She underwent general anesthesia with continuous Transesophageal Echocardiographic (TEE) monitoring for a right hemi-arthroplasty. While cementing the prosthesis, small cement emboli were initially seen (ME ascending aorta SAX view) migrating in the pulmonary artery (Figure A*). Subsequently, a large (4 cm) cement embolus was visualized in the right atrium, adhered to the Eustachian valve, an embryonic remnant (Figure B*, supplementary video A). The patient experienced no significant hemodynamic compromise or issue with gas exchange. Given embolization risk and severe potential for harm, intervention may be indicated. Treatment options were discussed but given hemodynamic stability, patient age and comorbidities, the patient was monitored without further intervention.