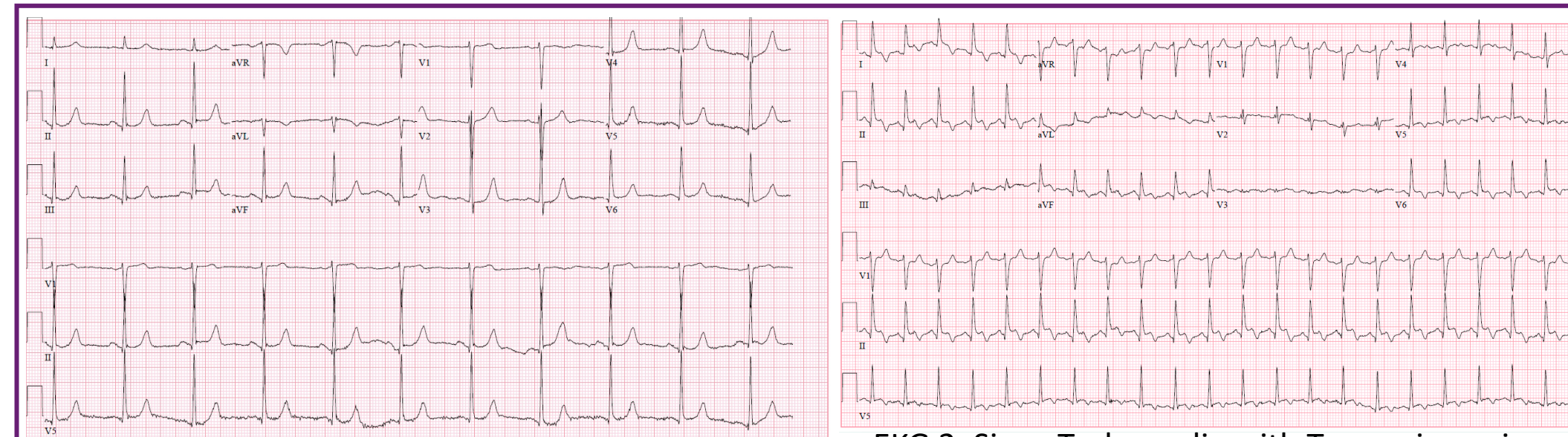


INTRODUCTION

Atrial Fibrillation is a supraventricular arrhythmia characterized by uncoordinated activation of the atria and an irregular ventricular response that can lead to hemodynamic compromise.¹ The initial medical management of atrial fibrillation focuses on pharmacologic considerations for rate and rhythm control along with anticoagulation therapy. When atrial fibrillation is refractory to appropriate pharmacotherapy, ablation procedures can be considered.¹ Electrophysiologic radiofrequency atrial catheter ablation consists of the isolation and destruction of the abnormal foci that are responsible for the arrhythmia. The rate of acute complications from this procedure is relatively low at only 2.9%, the most common of which being vascular complications, followed by cardiac tamponade, pericardial effusion, stroke/transient ischemic attack, and finally pulmonary venous stenosis.² It is imperative that physicians recognize the signs and symptoms of complications from this procedure.

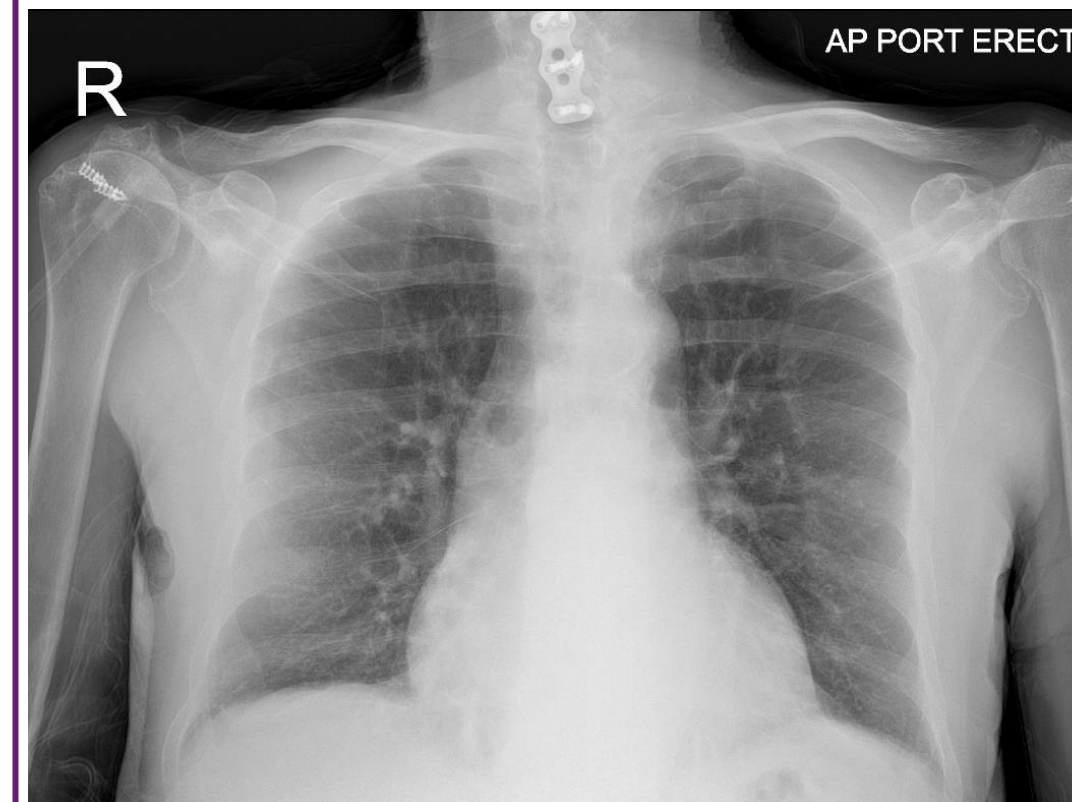
CASE PRESENTATION

71-year-old male with a history of atrial fibrillation (AF) status post AF ablation 21 days prior, systolic congestive heart failure (CHF) E_f 45%, chronic obstructive pulmonary disease (COPD), presented due to shortness of breath with left arm numbness. Patient presented with severe sepsis and acute hypoxic Respiratory failure, SpO₂ <70%. ECG revealed sinus tachycardia of 127bpm with a lateral wall ST-elevation myocardial infarction (STEMI). Patient received heparin 4000 units and aspirin 324mg prior to being transferred for emergent cardiac catheterization. Emergent cardiac catheterization revealed widely patent coronary arteries with no evidence of flow limiting stenosis and a hyperdynamic left ventricular cavity with high apical hypokinesis. Echocardiogram showed moderate pericardial effusion. Approximately 600cc of yellow, foul-smelling fluid was drained from the pericardium. CT scan with contrast revealed anterior esophageal perforation with extravasation of contrast into pericardium.

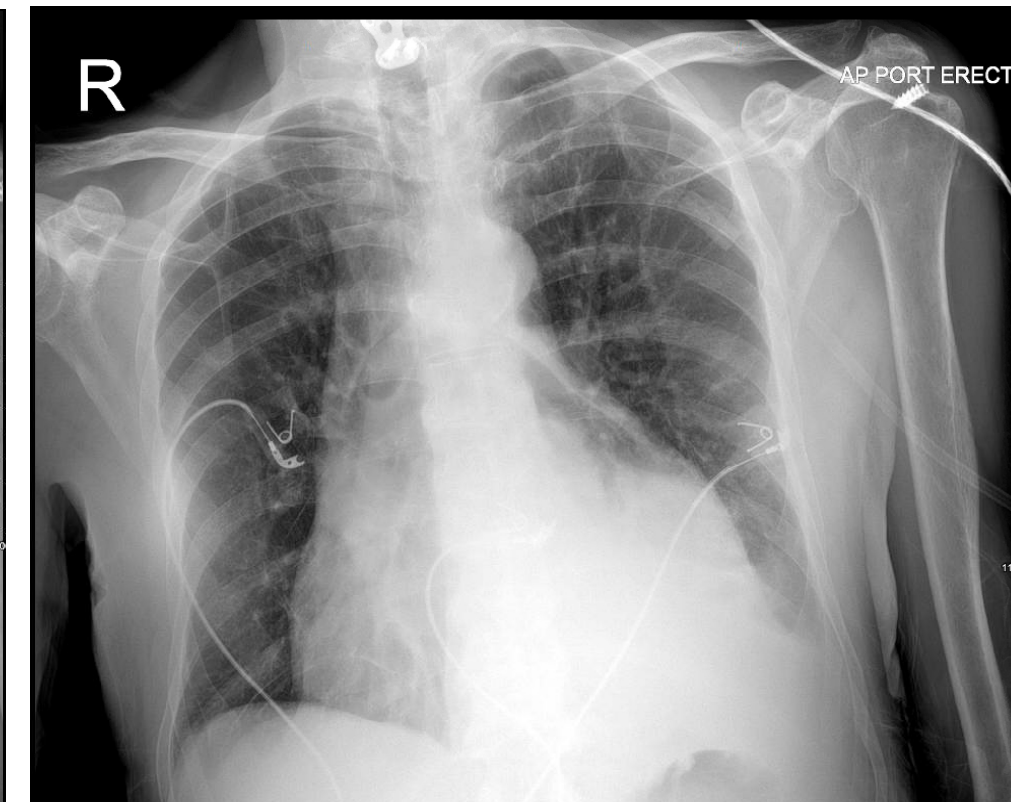


EKG 1. NSR post atrial fibrillation ablation

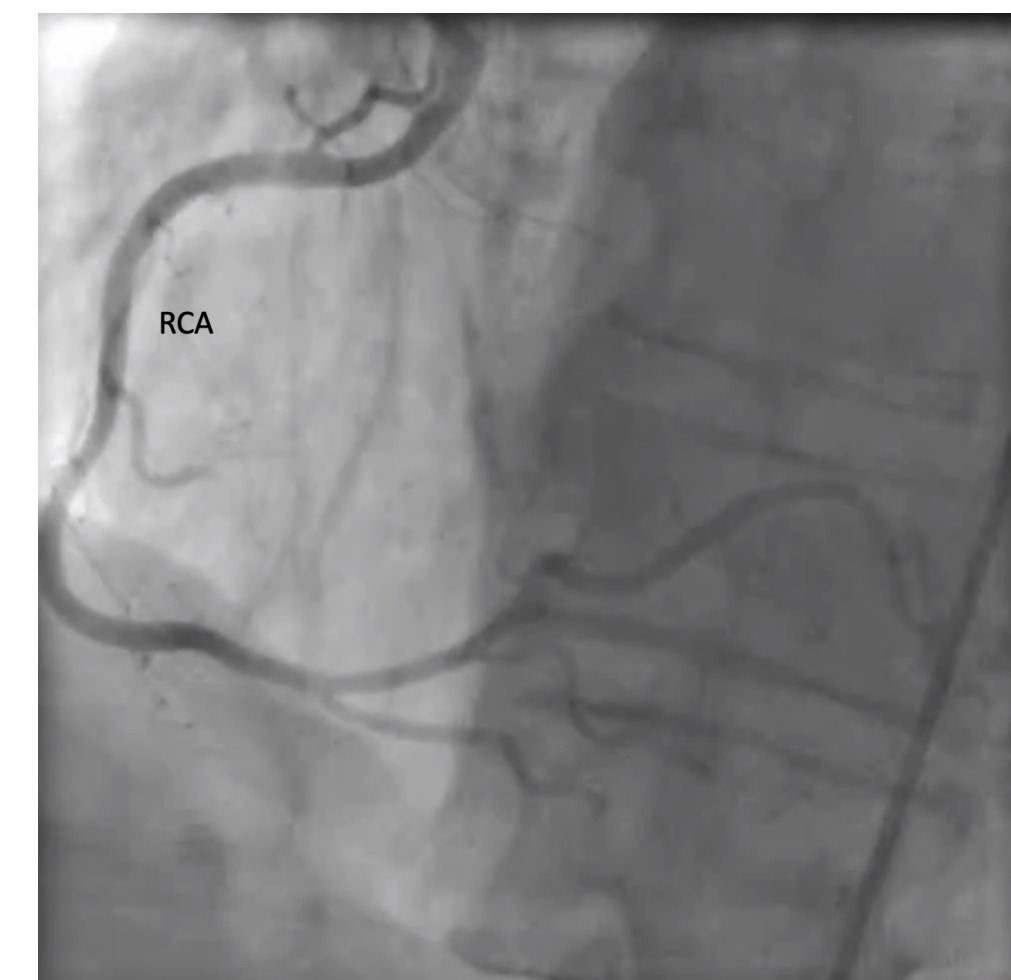
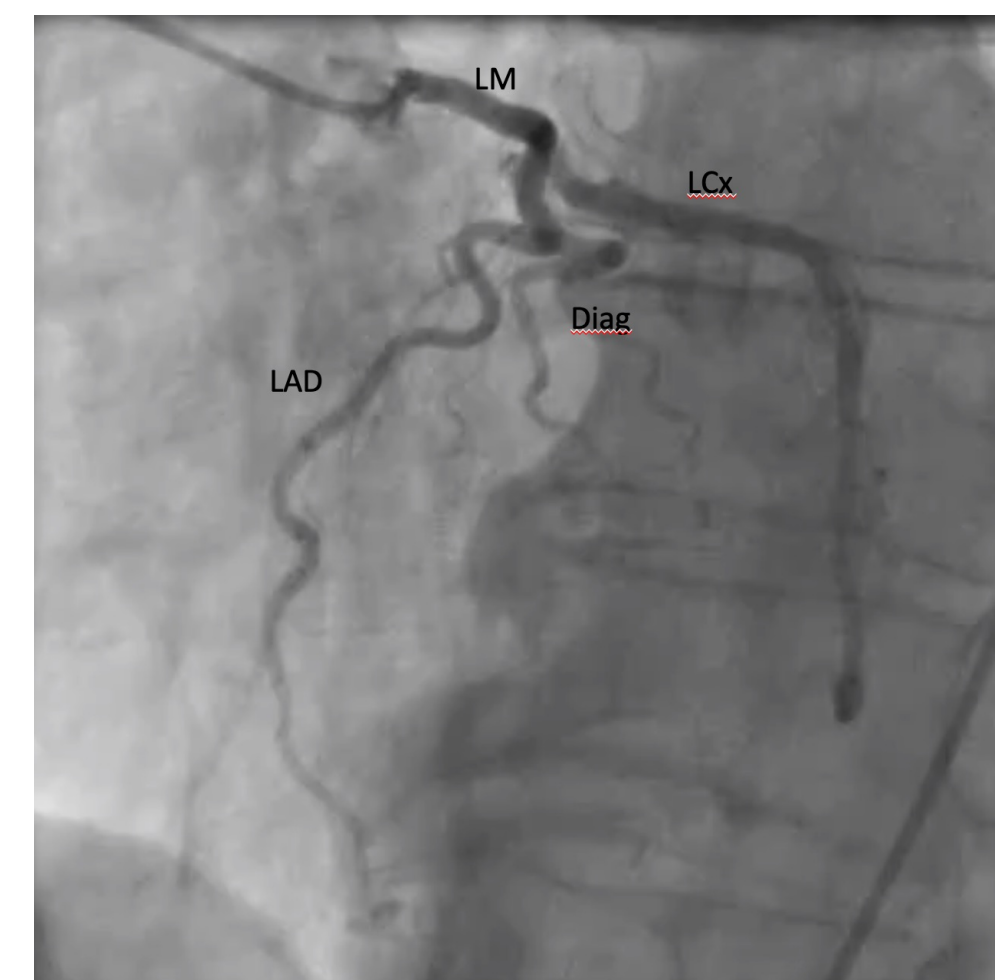
EKG 2. Sinus Tachycardia with T wave inversion, Lateral STEMI



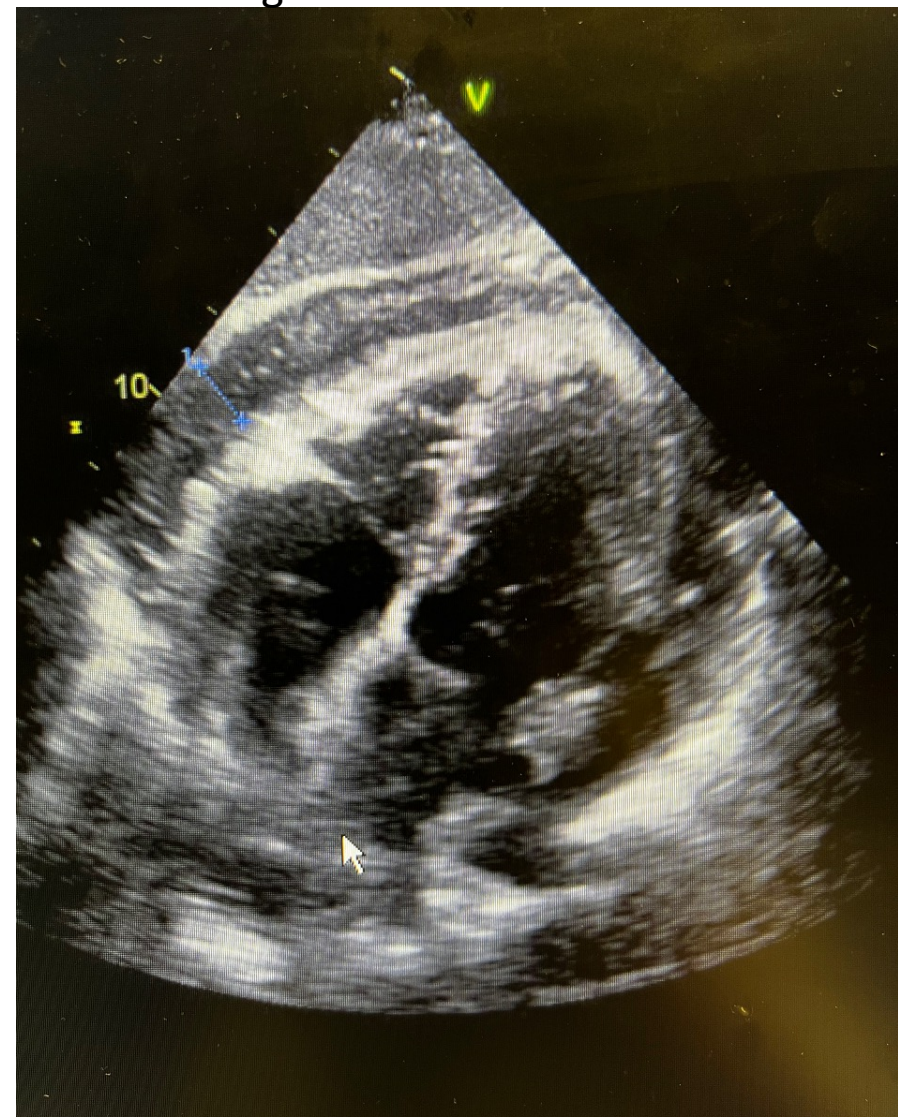
CXR 1. 5 days prior to presentation



CXR 2. On presentation with cardiomegaly



Cath image 1 and 2- Normal heart catheterization with patent coronary arteries.



Echo 1. Moderate Pericardial effusion with early cardiac tamponade

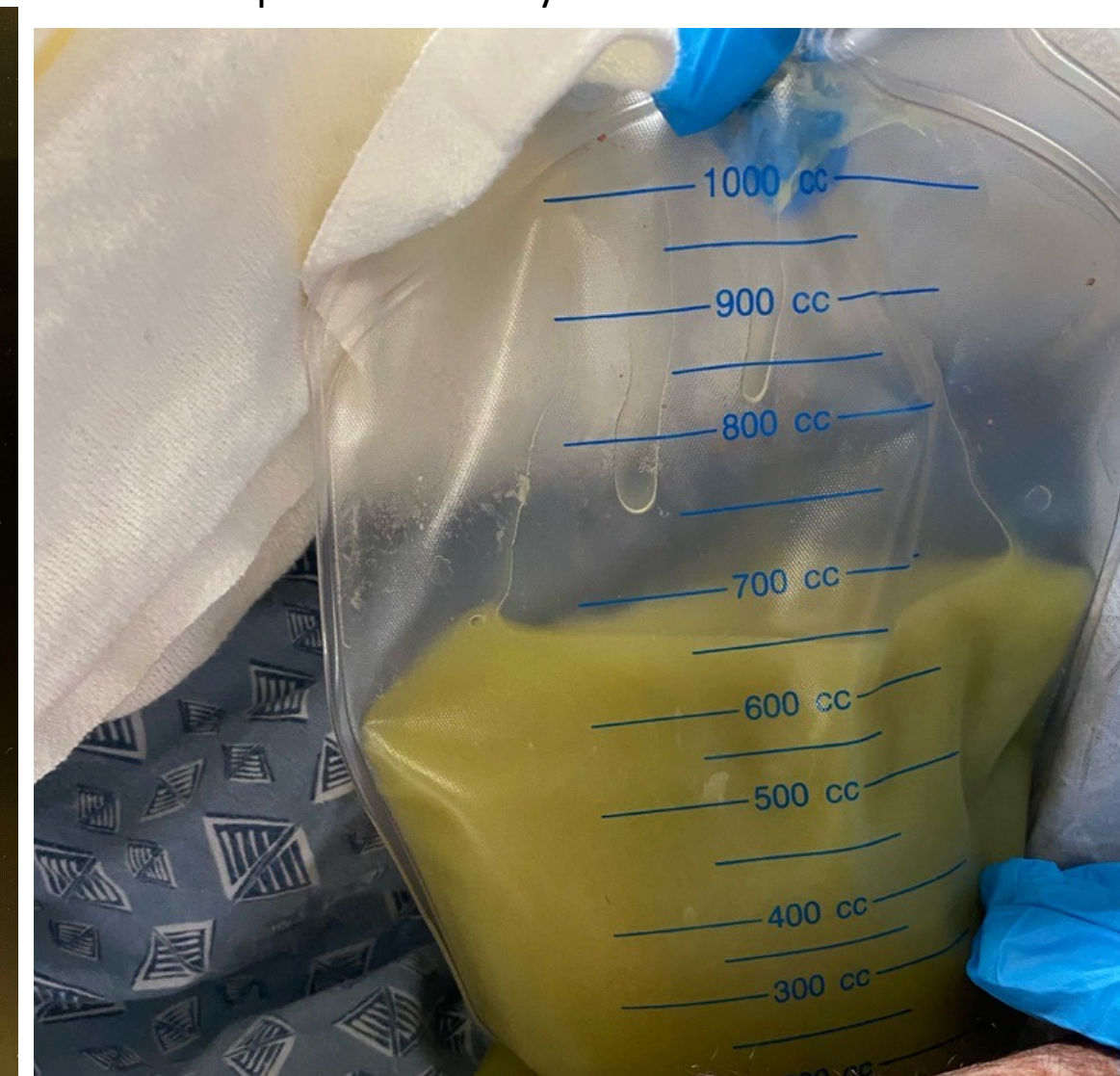


Image 1. 650 cc of pericardial fluid drained with pericardiocentesis

Therapeutic Interventions

Patient was stabilized with pericardiocentesis. IV Meropenem, Vancomycin and Eraxis were started for empiric antibiotic coverage. Emergent CT with contrast was performed to confirm the diagnosis of AEF. Patient was stabilized and transferred to tertiary care center. Patient underwent a complex reconstruction of the left atrium and left pulmonary veins, visceral pericardiectomy, right lateral thoracotomy, repair of esophageal perforation, and right intercostal muscle flap harvest for esophageal repair. In surgery the patient was found to have necrosis extending from the posterior portion of the left atrium into both pulmonary veins. During the repair, the patient went hypotensive and went into asystole. CPR was initiated with no ROSC after 35 minutes. At this time, he was pronounced dead. Due to his sudden hypotension, cause of death is suspected to be from rupture of the repair performed on the left atria while attempting to repair the esophagus.

DISCUSSION

Esophageal perforation is a rare complication of ablation procedures, reportedly only occurring in 0.1 to 0.25% of cases.³ Delayed diagnosis of this adverse event can lead to the formation of atrio-esophageal fistula, which is the second most common cause of death, along with stroke, following an atrial fibrillation ablation procedure.¹ Even with prompt diagnosis and treatment the mortality from atrial esophageal fistula is between 55-100%.⁴

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