Aortopulmonary Fistula Complicating Acute Type A Aortic Dissection by Arthur Ng

Objective: False lumen - pulmonary artery fistula is a rare complication of acute type A aortic dissection. The resultant acute left-to-right may lead to life threatening heart failure.

Methods: Patient is a 69 yo man long term care facility resident recovering from hip replacement and CVA. His PMH includes hypertension, atrial fibrillation, Hep C, pericardiocentesis one month prior, ESRD s/p CRT x 3 recently restarted on HD. He presented with back pain, hypotension, syncope and dypsnea after dialysis treatment. Work up revealed type A dissection originating just above the sinuses of Valsalva extending to the distal aortic arch with false lumen communication to the origin of the right pulmonary artery (CT angiogram with reconstruction) and mild AI (echocardiogram). Emergent operative repair: CPB with PA and SPV venting/deep hypothermic circulatory arrest (50 mins at 20 centigrade); ascending aorta replacement with interposition graft, aortic valve resuspension and CorMatrix patch closure of pulmonary artery.

Results: Patient extubated, neurologically at baseline POD 6. Post operative echocardiogram mild AI and CT angiogram showed resolution of aorto-pulmonary fistula. Prolonged post op course secondary to chronic deconditioning and malnutrition. He expired POD 45 of pneumonia.

Conclusion: This complication results in acute high output congestive heart failure. As per recommendations for the treatment of acute Type A dissection emergent operative repair is indicated. Successful management of cardiopulmonary bypass requires 1) aggressive venting and/or early aortic crossclamping to prevent cardiac distension and injury 2) ascending aorta replacement/valve repair 3) fistula takedown with separation of systemic and pulmonary flow.