Situs inversus totalis, anomalous right and multi vessel disease

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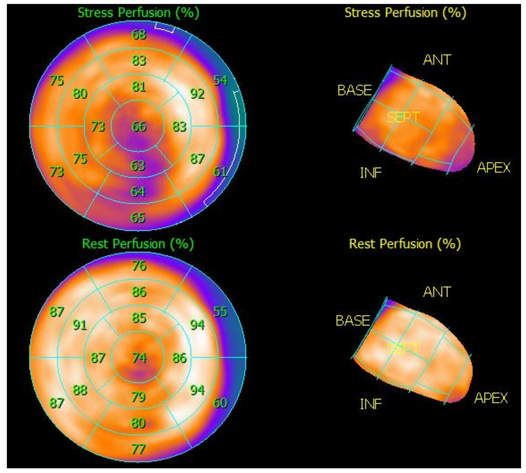
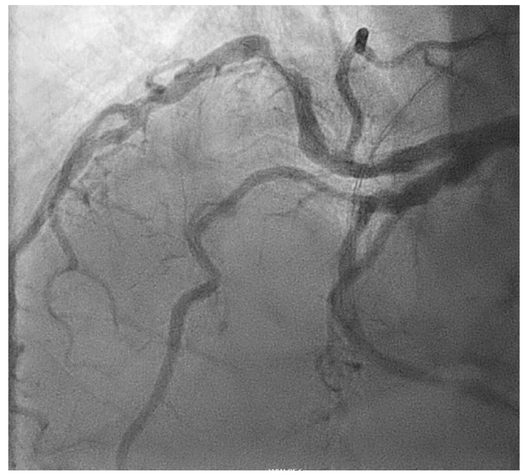
Case Presentation

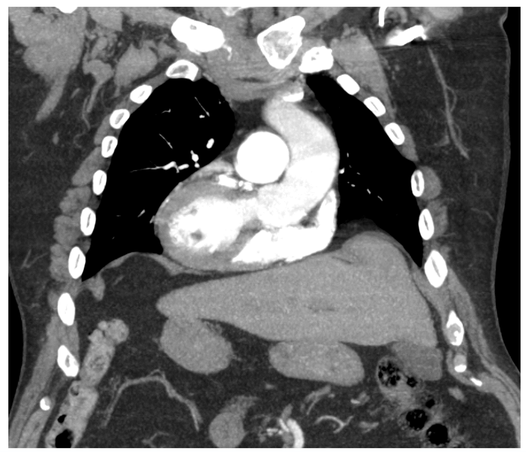
Situs inversus totalis is a rare congenital abnormality, approximately 1:10,000-50,000, which is characterized by mirror-image transposition of both the thoracic and the abdominal organs. It is not commonly associated with structural abnormalities of the heart.

Case Presentation

69 YOM with pSVT, HTN, HLD and PAOD presented for non-healing RLE ulcer. Lower extremity arteriogram showed critical disease of SFA and underwent PCTA, with residual high grade disease requiring surgical intervention. He underwent preoperative MPS for a 6 month history of shortness of breath and fatigue which showed reversible inferior wall ischemia. LHC showed situs inversus totalis, an anomalous right coronary from the circumflex and multivessel CAD.
CT Angio thorax showed no anomalous venous return and he had a low normal EF on echocardiogram.







Management

The incidence of obstructive multivessel disease and situs inversus is not well described in the literature due to its rarity, anomalous RCA from LCx even more so. Patients with SIT commonly have a wide variation of anomalous vasculature including the internal mammary arteries. Surgical intervention requires careful planning prior to the procedure to prevent catastrophic events.

Discussion

Situs inversus totalis is a rare congenital abnormality which is generally benign. Unlike dextracardia, which can present with congenital heart abnormalities in up to 90% of cases, situs inversus totalis have structurally normal hearts in up to 95% of cases. Our patient presents unique diagnostic and therapeutic challenges not only due to the abnormal positioning of the heart, but he was also found to have an anomalous right coronary artery arising from the left anterior artery, which in itself is a rare finding. SPECT imaging is feasible if the dextrocardia is known prior to the procedure as detector repositioning is necessary. Pre-surgical consideration is also necessary to account for anatomical changes including operator and equipment positioning which can affect operator efficiency due to loss of muscle memory.