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Angiographic Characteristics of a Cardiac Tumor: 'Yo Yo Ball in the Heart'

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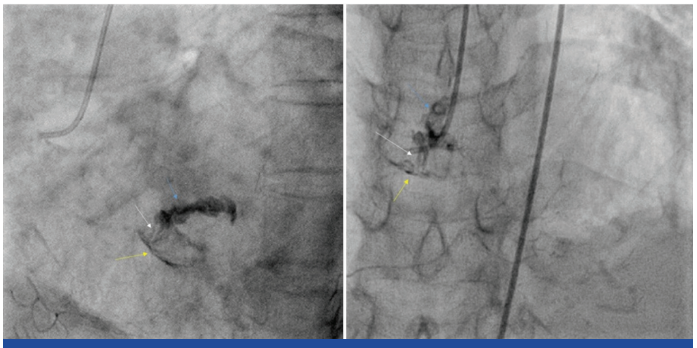
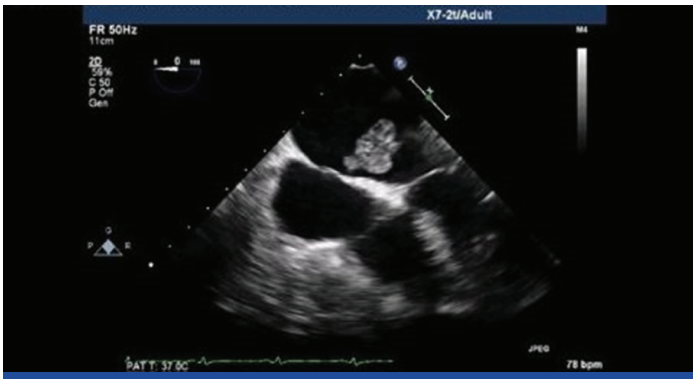
A 75-year-old female presented to the emergency department with a diagnosis of Non-ST Elevation Myocardial Infarction (NSTEMI). Transthoracic Echocardiogram (TTE) showed a large, mobile and heteroechoic left atrial mass attached to inter-atrial septum. In view of NSTEMI, patient was taken up for Coronary Angiogram (CAG), which revealed triple vessel disease with chronic total occlusion of proximal left circumflex artery, significant stenosis of Left Anterior Descending Artery (LAD) (80% stenosis in proximal and mid LAD) and non-significant stenosis in mid Right Coronary Artery (RCA).

Incidental yet most remarkable finding was the characteristic tumor vascularity seen in delayed phase of CAG (neovascularization from branches of distal RCA). Feeding vessels arose from distal RCA and AV nodal branch of RCA. These vessels converged to form a basal network in Inter-Atrial Septum (IAS) which gave rise to a vascular stalk [Table/Fig-1a,b]. From the vascular stalk feeders diverged to supply the main tumor mass. This tumor mass had a characteristic 'TO and FRO' movement during cardiac cycle like a YO YO ball [Videos-1,2]. Mobile mass attached to IAS by a stalk is characteristic of Left Atrial (LA) myxoma. Since Transesophageal Echocardiography (TEE) has 100% sensitivity and specificity in detecting LA myxoma [1],the diagnosis was confirmed by TEE [Table/Fig-2], [Video-3].

Neovascularisation in a LA myxoma is seen in 33% to 55.6% of cases and is often considered non specific [2-4]. Huang et al., has described the similar angiographic appearance as "sea anemone" like tumor [4] and suggested this to be diagnostic of LA myxoma based on the characteristic triad - the site of attachment, the vascular pattern and the dynamic motion during the cardiac cycle. Our case is unique since all the three characteristics of this triad are very well seen on CAG. Such an appearance is quite helpful in suspecting LA myxoma during routine CAG since such a triad is not seen in any other intra-cardiac mass.



[Table/Fig-1a,b]: (a) Coronary angiogram of right coronary artery (LAO cranial view) Characteristic vascular pattern of tumor is best appreciated in late phase which shows a basal vascular network (yellow arrow) at the site of IAS and a vascular stalk (white arrow) supplying the main tumor mass (seen as tumor blush, blue arrow); (b) Coronary angiogram of right coronary artery (AP cranial view).



[Table/Fig-2]: Corresponding transesophageal echocardiographic image of the LA tumor

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