



Tumefactive Cardiac TB

Tuberculosis of the heart manifests in many ways. The commonest in practice is granulomatous cardiomyopathy in patients who present with monomorphic tachycardia, areas of abnormal enhancement on cardiac MRI with or without lymphadenopathy, simulating sarcoidosis. The other is perimyocarditis, where the epicardium and myocardium are secondarily involved in patients with pericardial disease.

The third is the tumefactive form, which is extremely uncommon and simulates neoplastic disease, especially angiosarcoma.

This is a 37-years old man who presented with cough, breathlessness and chest pain. An echocardiogram showed a right atrial mass and so a cardiac MRI was done, which showed a mass in the right ventricle and right atrium (Figs 1) that was highly suggestive of a neoplasm like angiosarcoma (Fig. 2) as seen in another similar case. A careful review of the images shows a perivertebral collection (Fig. 3) in the mid dorsal region, which was highly suggestive of tuberculosis. This was biopsied and tuberculosis that was rifampicin sensitive was diagnosed.

The patient was put on anti-TB treatment and 1 month later, the follow-up scan showed mild improvement of the spinal and cardiac involvement (Fig. 4). Six months later, another follow-up showed significant improvement (Fig. 4).

Tumefactive TB is uncommon. There are scattered less than 5 publications mentioning tumor like TB in the heart. In the last 5 years,

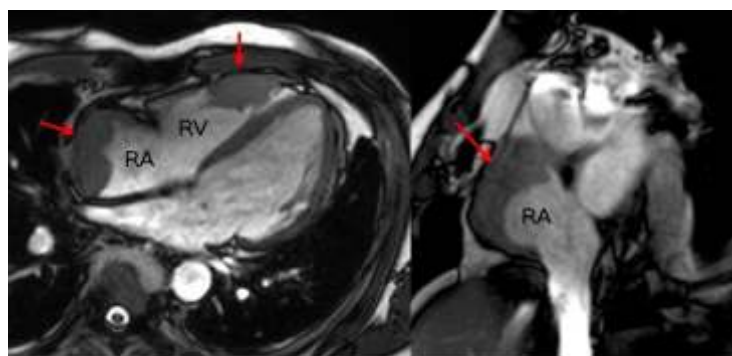


Fig. 1: Case 1: Four chamber (4C) and short axis (SA) views show masses (arrows) in the right atrium (RA) and right ventricle (RV).

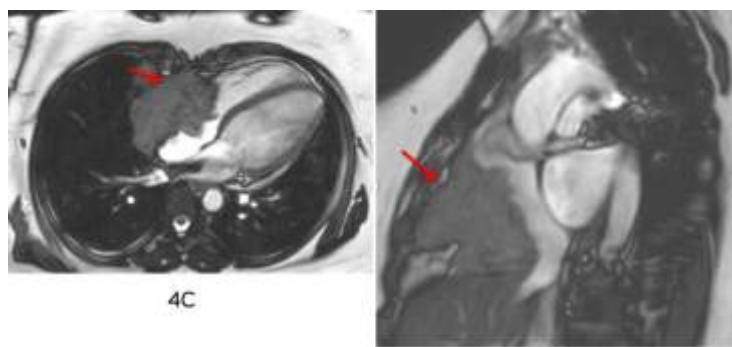


Fig. 2: Angiosarcoma. Four chamber (4C) and short axis (SA) views show a large right atrial mass that was a biopsy proven angiosarcoma



Fig. 3: Case 1: Sagittal T1W and axial T2W images show marrow changes and a perivertebral collection that was biopsied and aspirated and showed rifampicin sensitive M.tuberculosis.



At a glance:

- Tuberculosis of the myocardium is uncommon and when it presents, it is typically as a granulomatous cardiomyopathy
- Rarely tuberculosis of the heart presents in a tumefactive way

simulating neoplasm like angiosarcoma, lymphoma and metastatic disease

- In such situations, looking for clues outside the heart would help make the diagnosis of a treatable condition like tuberculosis

we have seen two other patients, one proven to be right ventricular tuberculosis from an epigastric nodal biopsy (Fig. 5) with regression on anti-TB treatment and the other lady with a left ventricular mass that also regressed on empirical anti-TB treatment (Fig. 6).

In a TB endemic country like India, in any patient presenting with a myocardial mass, it is a good idea to do a whole body PET/CT to see if there are any other lesions that would give a clue to the diagnosis and allow a diagnosis of a treatable condition like TB to be made, given that a true malignant neoplasm has an extremely poor prognosis.

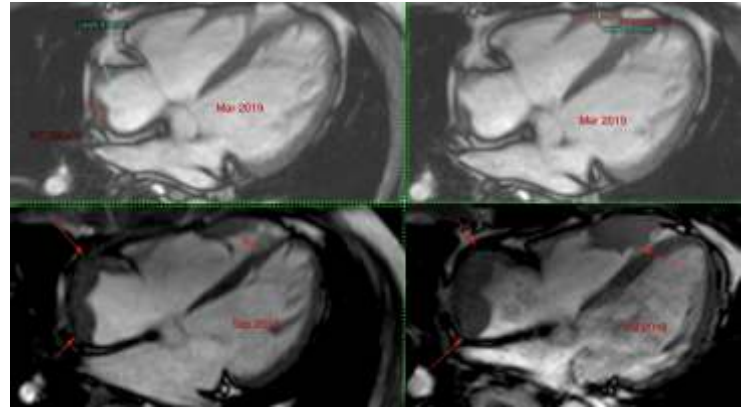


Fig. 4: Case 1: Four chamber views of July 2018, Sept 2018 and March 2019 show significant improvement of the RA and RV masses on the March 2019 scan with the patient on anti TB medication.

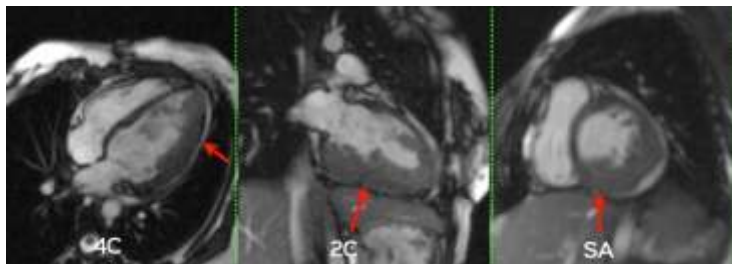


Fig. 6: Case 3: 25-years old lady with tumefactive TB. Four chamber (4C), two chamber (2C) and short axis (SA) views show a left ventricular mass involving the endocardium and myocardium. There were mediastinal nodes as well but no positive finding for tuberculosis. She was put on empirical anti-TB treatment because of fever and a strongly positive Mantoux and she improved significantly on follow-up.

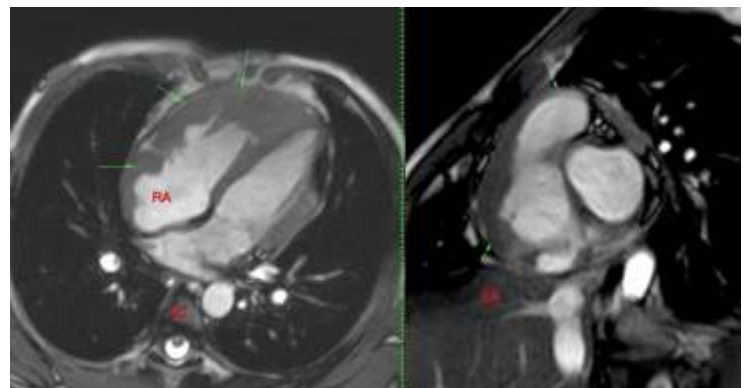


Fig. 5: Case 2: 23-years old man with tumefactive TB. Four chamber (4C) and short axis (SA) images show masses involving the RV and RA. An internal epigastric nodal biopsy following a PET/CT confirmed the diagnosis of tuberculosis with follow-up scanning showing significant regression.

Subscribe to INNER SPACES : info@jankharia.com

Online version : <http://picture-this.in/index.php/inner-spaces/>

Main Clinic

383 | Bhaveshwar Vihar | Sardar V. P. Road | Prarthana Samaj | Charni Road | Mumbai 400 004 | T: 022 66173333

Cardiac, Chest & Interventional Twin Beam CT

461 | Nishat Business Centre | Arya Bhavan | Sardar V. P. Road | Mumbai 400 004 | T: 022 2380 2172 | 022 2389 3551 / 2

PET / CT, Organ Optimized 3T MRI

Gr. Floor | Piramal Tower Annexe | G. K. Marg | Lower Parel | Mumbai 400 013 | T: 022 6617 4444

Owner, Printer & Publisher: Dr. Bhavin Jankharia

Published at: Dr. Jankharia's Imaging Centre

Bhaveshwar Vihar, 383, S.V.P. Road, Prarthana Samaj, Charni Road, Mumbai 400 004.