Picture This
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CELEBRATING 50 YEARS

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Edited by Dr. Bhavin Jankharia

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Integrated Imaging 01

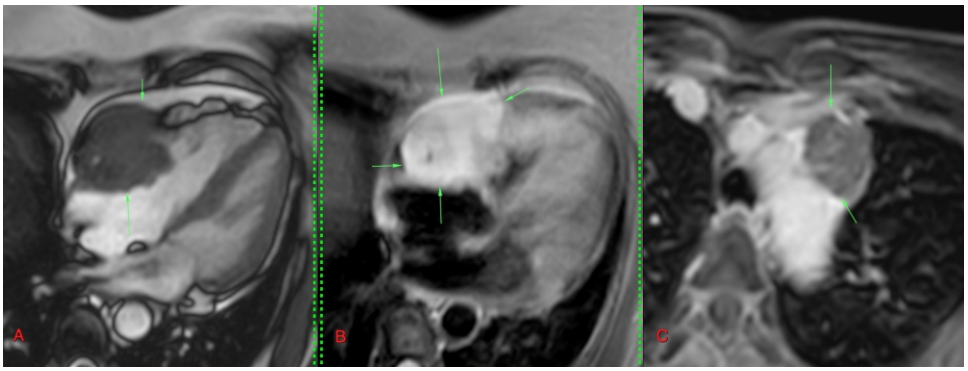

Fig. 1 (A-C). Cardiac MRI. Four-chamber cine (A), four chamber STIR (B) and axial chest (C) show a mass (green arrows in A and B) involving the right atrium and ventricle with an enlarged lymph node in the left para-aortic region (arrow in C).

In today's day and age, in complex situations, a combination of multiple modalities is often needed to arrive at a diagnosis. While this may seem excessive at times, in situations where the answer is not obvious, it is better to do everything possible to arrive at a definitive diagnosis, rather than to beat around the bush with empirical treatment.

This 58-years old lady had an episode of arrhythmia. An echo showed some mass like lesions in the right pericardium. A CT scan showed a mass in the same area with a lymph node in the left para-aortic mediastinum. Since the CT scan was not of good quality, I suggested a cardiac MRI to understand the exact nature and anatomy of the lesion.

The cardiac MRI showed a mass involving the right ventricle and right atrium (Fig 1), encasing but not narrowing the right coronary artery with mild pericardial effusion and one solitary enhancing enlarged lymph node in the left para-aortic mediastinum. This morphology and location are highly suggestive of an angiosarcoma. The other possibilities were lymphoma and tumefactive tuberculosis (See Inner Spaces March 2019).

Histopathology was needed. However, the right cardiac mass would need open surgery and the left subclavian node was not easy to approach and it was not clear whether the two were related.

Hence, a PET/CT was performed to get more information and to look for other lesions in the

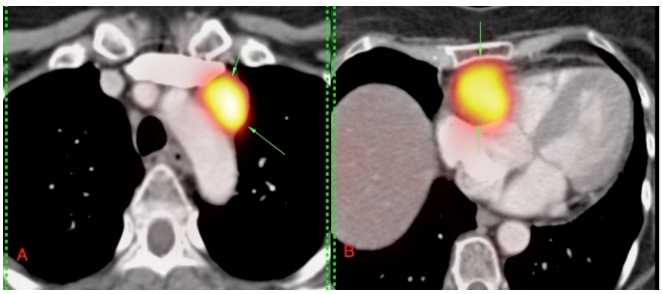

Fig. 2 (A-C): PET/CT. The axial fused PET/CT image (A) through the upper chest shows a markedly active left para-aortic node (arrows), with similar activity in the right cardiac mass (arrows in B). The PET image (C) shows both these well (arrows).

At a glance:

- Complex situations today need the use of multiple modalities to try and arrive at a diagnosis
- Integrated imaging using different modalities sensibly and with specific reasoning helps the diagnostic and management process tremendously.

body that may give a clue to the diagnosis. The PET/CT showed a mass with high uptake in the same location as seen on the MRI with marked uptake in the left para-aortic node (Fig. 2) with no other lesion in the body.

Since there was no other lesion and this node was likely due to spread from the cardiac mass, a CT guided biopsy was performed using a left para-costal approach (Fig. 3).
To the patient's good fortune, the final diagnosis was diffuse B cell non-Hodgkin's lymphoma and she has been started on appropriate therapy.

The case illustrates the use of multiple modalities, in this case, cardiac MRI, PET/CT and then CT guided biopsy, which along with histopathology, all helped in arriving at a diagnosis in an integrated manner.

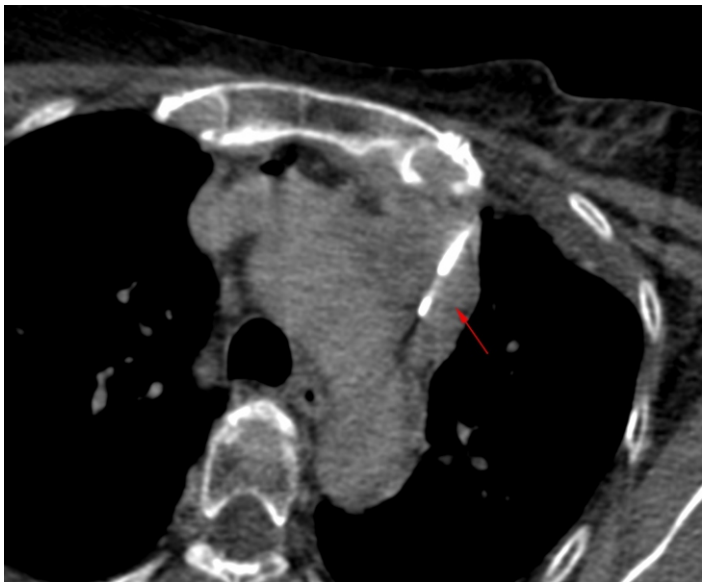

Fig 3: CT guided biopsy of the left para-aortic node, using a left para-costal approach.

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