Arrhythmia: Cancer in Disguise?

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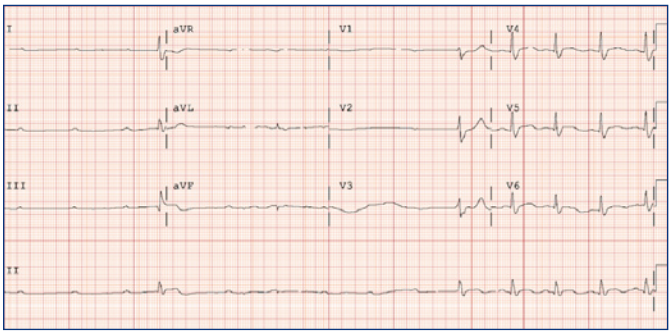
CASE DESCRIPTION

A 74-year-old man with a 26 pack-year smoking history and squamous cell carcinoma of the lung with known metastases to bone presented to the emergency department with syncope. He previously received four cycles of carboplatin-paclitaxel-pembrolizumab and was maintained on pembrolizumab at the time of presentation. Electrocardiogram (ECG) showed high-grade atrioventricular (AV) block with a right bundle branch block and inferior ST-elevations **(Figure 1)**. He underwent an emergent coronary angiogram for possible inferior ST-elevation myocardial infarction (STEMI) leading to high-grade AV-block, which did not show evidence of obstructive coronary artery disease.

A follow-up echocardiogram showed a new focal, heterogenous contrast-enhancing thickening of the basal inferoseptum/inferior wall measuring approximately 3.1 cm **(Figure 2)**. This raised the concern of myocardial metastasis.

Figure 1. ECG showing high-grade atrioventricular block with right bundle branch block and inferior ST elevations



He subsequently underwent palliative pacemaker placement for symptomatic bradycardia and then positron emission tomography/computed tomography (PET/CT). The PET/CT revealed new fluorodeoxglucose (FDG) avidity of left ventricular mass, now measuring 8 cm in the right-to-left dimension and extending 4 cm to the right atrioventricular groove with a maximum standardized uptake value (SUV max) of 17.4 **(Figure 3)**. This confirmed intracardiac metastasis, after which goals of care were discussed and the patient decided to pursue hospice.

Cardiac metastasis from squamous cell lung carcinoma is rare. Among lung carcinomas, adenocarcinoma is the most common histological subtype followed by squamous cell carcinoma.[1] In addition to common causes of syncope, such as pulmonary embolism and dehydration, it is important to consider cardiac rhythm disturbances secondary to metastasis in patients with metastatic lung cancer.[2,3] Cardiac metastasis portends to a poor prognosis and thus, it should prompt palliative care discussions.

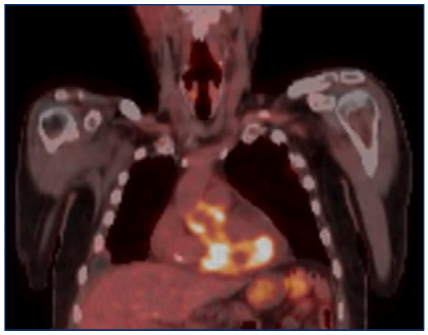
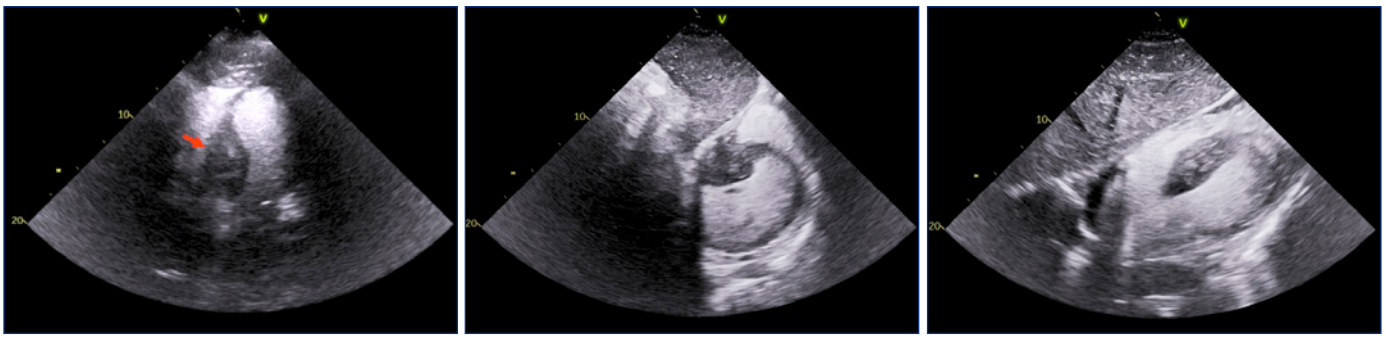


Figure 3. PET/CT showing new PET avid (SUV max 17.4) left ventricular intracardiac mass measuring 8 cm in right-to-left dimension.

Figure 2. (leftl) Contrast enhanced echocardiogram images on apical 4-chamber view, (center) short axis view from the subcostal window, and (right) subcostal imaging (bottom panel). Red arrow denotes metastasis to the septum.



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Disclosures

Funding: Not applicable

Conflicts of interest: None

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