

Clinical Image

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Intracardiac metastases from esophageal cancer

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Abstract

Cardiac metastases from squamous cell carcinoma of the esophagus are rare but should be recognized when present. We report PET/CT findings in a 72-year-old lady with dysphagia and diagnosed with squamous cell carcinoma esophagus. PET/CT revealed uptake within the esophageal primary, and revealed multiple metastatic lesions, including an FDG-avid metastasis within the right ventricular myocardium.

Keywords: Oesophageal carcinoma; Intracardiac metastases; Cardiac metastases.

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Case description

A 72-year-old lady presented with dysphagia for a month and palpitations for a day. Esophagogastroduodenoscopy depicted an ulcerated tumor at the middle third of the esophagus, a biopsy from which yielded a pathological diagnosis of squamous cell carcinoma. F18 FDG PET/CT was done for staging of the disease.

Maximum Intensity Projection image (MIP) of the whole body (A) shows increased metabolism involving the mid and thoracic esophagus indicating the primary, along with cervical level IV lymph nodes, mediastinal and upper abdominal lymph nodes, and uptake along the heart (blue arrow). Fused PET/CT images (B, sagittal, and C, axial) and CT (D, axial) show intense FDG uptake in the right ventricle with no significant changes noted in CT. Fused PET/CT images (E and F, axial) show concentric wall thickening involving the mid-thoracic esophagus and left level IV cervical lymph node.

The incidence of metastatic disease to the heart is rare [1] and far exceeds that of primary cardiac neoplasms, from various studies in the order of 40:1 [2] and any tumor with metastatic potential can spread to the heart, the most common primary cancers being melanoma, lung, and esophagus. Most patients with metastatic disease to the heart are asymptomatic [3] and are diagnosed only post-mortem. Imaging studies like echocardiography and CT are essential for diagnosis, though they suffer from limitations like poor acoustic windows and contrast resolution, respectively [4]. In F18 FDG PET/CT, malignant tumors show increased glucose metabolism, which helps to differentiate malignant from benign tumors [5]. In the literature, 14 cases with intracardiac metastases from esophageal cancer have been described, with the most common being squamous cell carcinoma [6] as demonstrated in our case. This illustrates the importance of FDG PET/CT in the detection of cardiac metastasis and for response assessment.

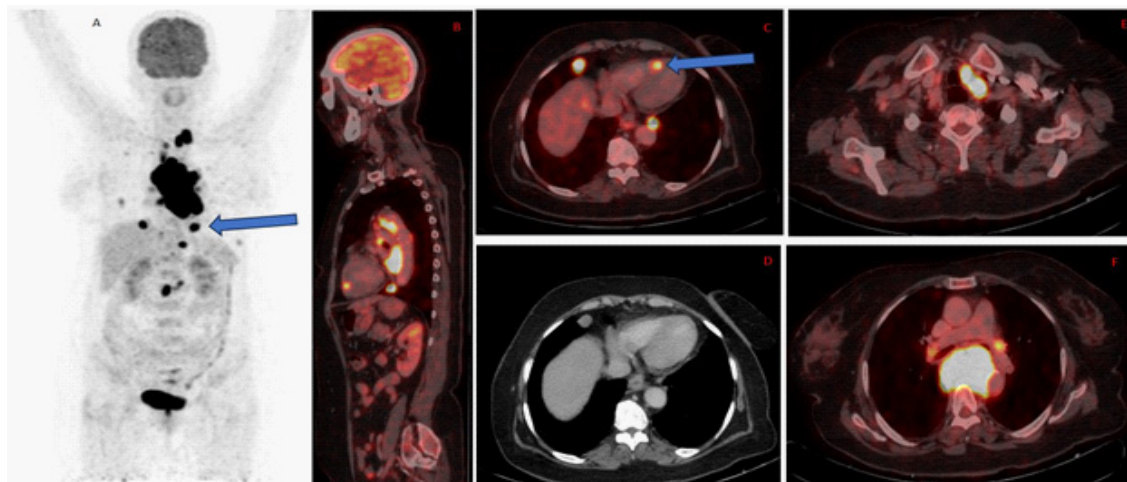


Figure 1: Clinical image.

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