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B-cell primitive extranodal cardiac lymphoma: multimodal image diagnosis and long-term follow-up

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Primitive extranodal lymphoma is a rare highly fatal condition.[1]

Presentations may include different cardiac manifestations such as heart failure, pericardial effusion, or arrhythmia. Cardiovascular symptoms may completely settle after the infiltrating mass decreases in size.[2,3]

A previously healthy 77-year-old male presented with dyspnoea, palpitations, and fatigue. The electrocardiogram showed atrial flutter with 4:1/3:1 conduction. The chest X-ray showed an enlarged cardiac silhouette with reduction of retro cardiac lung transparency. Transthoracic echocardiography displayed an ejection fraction (EF) of 30% with impaired filling due to a mass adjacent to the left ventricle free wall and apex (Supplementary material online, *S1*). Cardiac magnetic resonance confirmed a severe bi-ventricular dysfunction [left ventricle ejection fraction (LVEF) 31%, right ventricle ejection fraction (RVEF) 36%]. A solid not vascularized mass with necrotic areas sized 96 mm × 45 mm infiltrating the anterior-lateral and apical wall of the left ventricle was documented. There was also a lung mass (60 mm × 49 mm) in anatomic continuity with the pericardium (Supplementary material online, *S2* and *Video 1*).

The 18F-fluorodeoxyglucose positron emission tomography (18-FDG PET) showed significant uptake in the same myocardial and pulmonary area: [standardized uptake value (SUV) max 55.6] and (SUV

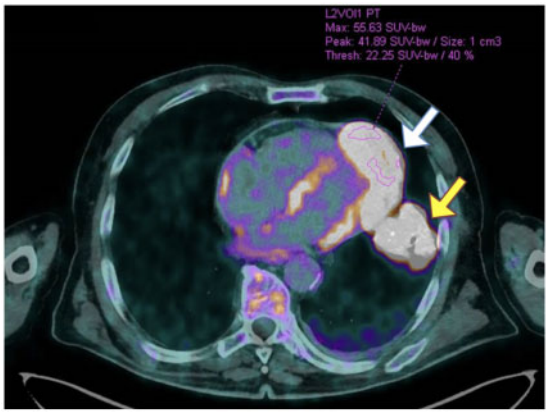

Figure 1 Computed tomography-positron emission tomography image illustrating lymphomatous cardiac infiltration (white arrow) extending to the lingula (yellow arrow) at diagnosis.

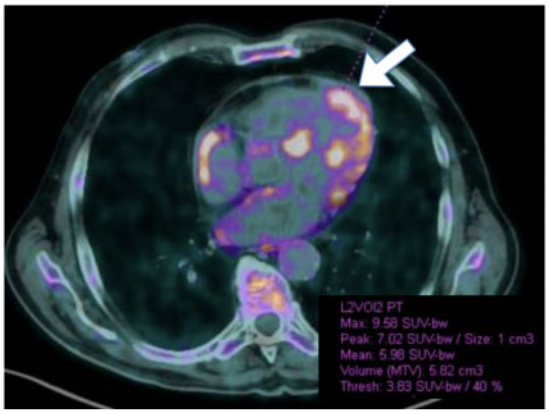

Figure 2 Corresponding computed tomography-positron emission tomography cross-sectional image at 6 months follow-up, showing a significant decrease of cardiac uptake (white arrow).

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max 34.9), respectively (*Figure 1*). A definite diagnosis of diffuse large B-cell lymphoma was made by echo-guided biopsy. After staging (Ann Arbor IV A), the patient underwent six cycles of R-COMP chemotherapy without any major side effects.

At 6-months follow-up, heart failure symptoms completely settled and the EF normalized. 18-FDG PET and the computed tomography showed a significant reduction of the myocardial infiltration with no signs of mass effect and/or pericardial effusion (*Figure 2*).

This case illustrates an unusual presentation of a rare variant of isolated extranodal cardiac lymphoma, highlighting the role of multimodal imaging for the diagnosis and follow-up.

Supplementary material

Supplementary material is available at *European Heart Journal - Case Reports* online.

Consent: The authors confirm that written consent for submission and publication of this case report including images and associated text has been obtained from the patient in line with COPE guidance.

Conflict of interest: none declared.

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