Benign primary cardiac neoplasm with intense FDG uptake

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A 48-year-old woman was referred to the cardiology division under suspicion of cardiac metastasis of melanoma. She had previously been diagnosed with orbital melanoma, and her right eye had been enucleated 1 year prior to her referral. Although there was no other metastatic lesion, a round-shaped mass with intense FDG uptake was found beside the right heart on positron emission tomography–computed tomography (PET–CT; Panels A and B). Echocardiography revealed a round-shaped mass at the right atrioventricular groove (Panel C, see Supplementary data online, Video S1). Cardiac magnetic resonance confirmed a well-demarcated, round mass with a size of 2.8 cm along the right atrioventricular groove. This mass showed intermediate signal intensity on both T1- and T2-weighted images without any delayed enhancement or fat suppression (Panels D and E). Due to her complaints of palpitation and paroxysmal elevations in blood pressure found in careful history-taking, a 24-h urine study was conducted and significant overproduction of catecholamine was proved.

Preoperative coronary angiography revealed a hypervascular cardiac mass supplied by multiple feeding vessels from the right coronary artery (Panel F, see Supplementary data online, Video S2). After a 2-week pretreatment with alpha- and beta-blockers, the mass was excised with meticulous ligation of the feeding vessels (Panel G). A histological examination revealed findings that were all compatible with pheochromocytoma (Panel H).

Cardiac pheochromocytoma is highly vascular and tends to involve the coronary arteries. It shows intense FDG uptake on PET–CT, although it is one of the benign tumours. Clinical suspicion followed by multimodality imaging is crucial for the diagnosis and treatment of cardiac pheochromocytoma.

Supplementary data are available at European Heart Journal – Cardiovascular Imaging online.