Clinical Cases -- Clinical case session: solving challenges in daily practice

224

Myocardial carcinoid: the role of multimodality imaging

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A 62-years-old male was admitted to Cardiology department due to the occasional detection of a cardiac mass in a Choline C-11 PET scan which was performed as standard follow-up for prostate cancer in active surveillance strategy. Previous abdominal CT scan detected a mass in the right iliac fossa(as a small bowel disease),and a focal soft tissue mass in the mesentery (lymph node).

Patient's medical and familiar history was negative for cardiovascular disease. The patient was no-smoker, with borderline dyslipidaemia, no arterial hypertension and he was asymptomatic.

A transthoracic echocardiography(TTE)was performed, which detected a rounded expansive structure, with an intra-myocardial collocation al the level of the interventricular septum and it was characterized by having inside some anecogenic cavities(1a,1c-d). Echo-contrast showed a mild degree of late hyper-enhancement(1b). Cardiac magnetic resonance(CMR)was performed then, which confirmed the presence of the well-circumscribed mass in the interventricular septum. Both in T1 and T2 weighted sequence, the mass had inhomogeneous high signal intensity with a circumferential ipointense ring delimiting the mass to the surrounding myocardium (2a-b). The mass revealed a first pass perfusion enhancement and, after intravenous gadolinium contrast agent injection, late enhancement was noticed at the level of the circumferential ring and at the edges of the cavities (2c).

With the suspicion of a neuroendocrine tumor due to the highly suggestive abdominal CT findings, a Ga-68 dotatate and 18F-FDG PET/CT scan ware performed. Intense pathological uptake of the first radioactive agent was detected in both the abdominal findings already reported and at the level of the cardiac mass as well. Regarding 18F-FDG uptake, there was no uptake from the abdominal masses whereas there was a mild uptake from the cardiac mass(3a-b).

These findings were conclusive for the diagnosis of a neuroendocrine tumor with a secondary metastatic cardiac mass. The patient was discussed in a multidisciplinary team meeting. A coronary angiography was performed which detected a significative atherosclerosis of the proximal tract of the LAD. Considering the complexity of a eventual cardiac surgery and the possible sequelae (debulking of a wide area, probable subsequent cardiac dysfunction or iatrogenic lesion to the cardiac conduction system), all the specialists agreed to proceed for the PTCA. The patient started a long-acting analogue of somatostatine (lanreodite) in order to manage possible tumor related symptoms and to possible control tumor growth. We have planned to stop one of two antiplatelets in 3 months and, if no limiting factors, to program then the surgical resection of the primitive bowel mass. Regarding the cardiac metastasis, the team decided to adopt an active surveillance scheme with regular and imaging exams, considering the option for an eventual PRRT therapy with the aim of reduction of the cardiac carcinoid.

Abstract 224 Figure.