Coronary pseudoaneurysm mimicking a cardiac tumour

A 55-year-old male patient with a previous history of coronary artery bypass grafting and percutaneous angioplasty on right coronary artery, subsequent to occlusion of the venous graft, presented with a suspected right atrial mass at a follow-up echocardiography.

Imaging Findings:

CMR confirmed the presence of a "mass" in the inferior atrioventricular sulcus. On T1 and T2-weighted images, a tubular structure with low signal intensity was detected inside the "mass", surrounded by a layer with higher signal intensity, resembling the right coronary artery with a metallic stent [1]. The high signal intensity of the tubular structure after first pass gadolinium enhanced imaging confirmed its vascular nature [2]. Finally, LGE images showed an ischemic scar in the infero-lateral wall of the left ventricle. On these grounds, either a giant aneurysm or a pseudoaneurysm of the right coronary was hypothesized.

Therefore, coronary CTA was performed to reveal the real nature of this mass. CTA showed a metallic stent in the anastomosis of the occluded graft to the right coronary, surrounded by contrast material leakage. So, diagnosis of pseudoaneurysm of the right coronary artery was made.

The patient underwent coronary angiography that confirmed the diagnosis.
Discussion:

Pseudoaneurysm of coronary artery is a rare pseudomass, characterized by extreme dilatation of coronary artery, filled by thrombotic stratification. The diagnosis is performed by the localization along the course of one coronary artery and thanks to the identification of coronary lumen [3]. CMR has an high accuracy in identifying cardiac pseudomasses thanks to morphological T1 and T2 weighted sequences, fat suppression sequences and early and late gadolinium enhancement, fundamental for the evaluation of the vascularization. CTA is more sensitive showing metallic stents and presence of endoleaks.

Differential Diagnosis List: Pseudoaneurysm of the right coronary artery, Cardiac mass, Myxoma, Pseudoaneurysm

Final Diagnosis: Pseudoaneurysm of the right coronary artery

References:

Figure 1

a

Description: Long axis SSFP image confirms the presence of a round-shaped mass with a central hypointense structure (arrows). Origin: Peritore G., U.O.C. Radiagnostica ARNAS Civico Palermo

b

Description: Short axis SSFP image confirms the presence of a round-shaped mass with a central hypointense structure (arrows). Origin: Peritore G., U.O.C. Radiagnostica ARNAS Civico Palermo
c

**Description:** In the FSE image the aspect of the hypointense structure suggest a vascular origin with probably a metallic stent. **Origin:** Peritore G., U.O.C. Radiodiagnostica ARNAS Civico Palermo

d

**Description:** A frame during the first pass of gadolinium confirms the presence of a vessel becoming hyperintense. **Origin:** Peritore G., U.O.C. Radiodiagnostica ARNAS Civico Palermo
Figure 2

a

Description: Coronary angio-CT with MIP reconstruction confirmed the MRI evidence of an intravascular structure. **Origin:** Peritore G., U.O.C. Radiodiagnostica ARNAS Civico Palermo

b

Description: Coronary angio-CT with MIP reconstruction confirmed the MRI evidence of an intravascular structure. **Origin:** Peritore G., U.O.C. Radiodiagnostica ARNAS Civico Palermo
Description: Angio-CT MIP reconstruction confirms the MRI evidence of an intravascular structure with blood extravasation. Origin: Peritore G., U.O.C. Radiodiagnostica ARNAS Civico Palermo
Description: Angio-CT MIP reconstruction confirms the MRI evidence of an intravascular structure with blood extravasation. **Origin:** Peritore G., U.O.C. Radiodiagnostica ARNAS Civico Palermo

Description: Angio-CT 3D reconstruction. **Origin:** Peritore G., U.O.C. Radiodiagnostica ARNAS Civico Palermo
Figure 3

Description: Frame of RAO projection of coronary artery angiography confirmed the blood extravasation (arrowhead). Origin: Peritore G., U.O.C. Radiodiagnostica ARNAS Civico Palermo
**Description:** Frame of RAO projection of coronary artery angiography confirmed the blood extravasation (arrowhead). **Origin:** Peritore G., U.O.C. Radiodiagnostica ARNAS Civico Palermo