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Intimal cardiac sarcoma diagnosis as an unusual cause of anterior myocardial infarction

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A 74-year-old female patient with a history of radical hysterectomy (BRCA 1 carrier) presented with chest pain. On admission, ECG revealed anterior ST-segment elevation (**Figure 1 panel A**). An anterior myocardial infarction was admitted, and she was transferred to a tertiary hospital for primary PCI.

At admission, a bedside transthoracic echocardiogram (TTE) revealed a significant intracardiac mass. Coronary angiography demonstrated no significant coronary lesions (**Figure 1 panel A**). Laboratory tests showed 3185pg/mL troponin T levels.

The TTE was repeated, confirming akinesia of the apex and apical segments and hypokinesia of the mid-anterior wall and anterior septum, with moderate systolic dysfunction and a large, multilobulated, heterogeneous mass (63 mm x 25 mm) attached to the apex and mid-apical lateral wall of the left ventricle, protruding into the LV outflow tract without caus-

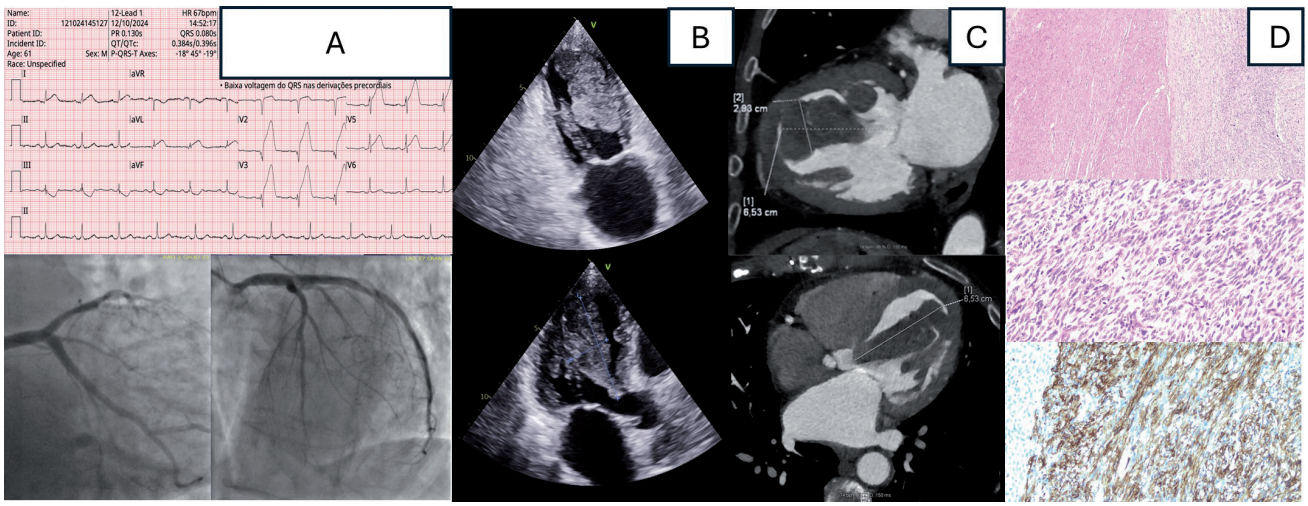

Figure1: A) ECG at admission and coronary angiography demonstrated no significant coronary lesions. B) TTE showed a large, multilobulated, heterogeneous mass attached to the apex and mid-apical lateral wall of the left ventricle, protruding into the LV outflow tract. C) Cardiac CT confirmed the presence of a heterogeneous sessile mass in the LV cavity (65x32 mm), suggesting a sarcoma. D) Histopathological findings of the mass were compatible with primary undifferentiated pleomorphic sarcoma of the cardiac intima.

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ing obstruction or intraventricular gradients (**Figure 1 panel B**).

Cardiac CT confirmed the presence of a heterogeneous sessile mass in the LV cavity, measured maximum of 65x32 mm, attached to the wall at the mid and apical segments. The mid-segment shows a cleavage plane with the myocardium. No clear interference with valvular structures or the LV outflow tract is noted. The findings suggested a sarcoma (**Figure 1 panel C**).

The patient underwent surgical excision, revealing an exophytic, infiltrative mass extending to the epicardium. The LV mass was resected with poorly defined margins, and closure was performed with a bovine pericardial patch.

Histopathology identified the mass as a primary undifferentiated pleomorphic sarcoma of the cardiac intima (**Figure 1 panel D**) with high malignancy (SMA positive, nuclear positivity for MDM2, CD31 negativity, Caldesmon negativity, negativity for Desmin and negativity for Myogenin). At three months of follow-up, no recurrence was detected.

Multimodal imaging enables comprehensive evaluation of intracardiac masses, aiding in diagnosis and management. Intracardiac masses can occasionally cause embolic myocardial infarction, as seen in this rare presentation of a cardiac sarcoma. Histopathological analysis confirmed the suspected diagnosis, which carries a poor prognosis despite surgical intervention.

Conflict of Interest: The authors have no conflicts of interest to declare.

Author Contributions:

António Rocha de Almeida and Rafael Viana, MD: selected images, drafted the manuscript.

Kisa Congo,MD: critical revision of the manuscript, approval of final version.

Renato Fernandes, MD: Angiography, critical revision of the manuscript, approval of final version.