

Milking-like effect in the left anterior descending artery secondary to systolic expansion of a post-infarction left ventricular aneurysm 🎥

A 68-year-old man with a history of hypertension and smoking presented with prolonged retrosternal chest pain in the previous eight hours. On admission, he was still symptomatic, and an electrocardiography showed Q waves and 3-mm ST segment elevation in leads V2 to V5, I, and aVL. Cardiac catheterization showed an isolated proximal left anterior descending (LAD) coronary artery occlusion (Fig. 1). Percutaneous transluminal coronary angioplasty and stenting with a drug eluting stent (Coracto 3.0×17 mm, DES-Coracto™) were performed over the residual lesion, with excellent angiography results. The patient was followed up in the cardiac care unit with medical therapy. Serial cardiac enzymes tested positive with a peak level (ultra-sensitive troponin I peak 50000 ng/mL, mass CK-MB peak 300 ng/mL) for myocardial necrosis. Two days later, the patient developed retrosternal angina again. Second cardiac catheterization was performed and showed a sharp milking-like effect, with severe systolic compression in the mid segment of LAD, despite excellent angiographic results (Video 1). A transthoracic echocardiography revealed moderate depression of left ventricular ejection fraction, true left ventricular large anterior wall and apical segments aneurysm, and mild mitral and tricuspid valve insufficiency (Fig. 2). The patient was considered for medical management in the form of necessary medications for acute coronary syndrome in addition to antianginal drugs. He remained alive in New York

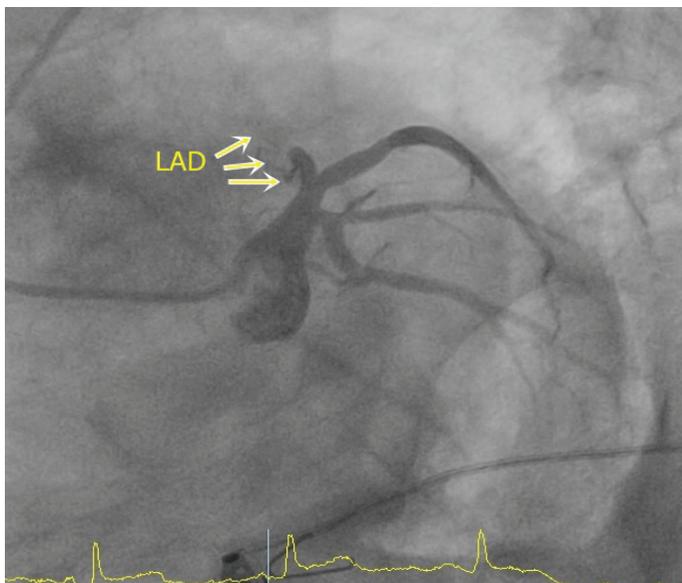


Figure 1. Acute occlusion of proximal left anterior descending coronary artery

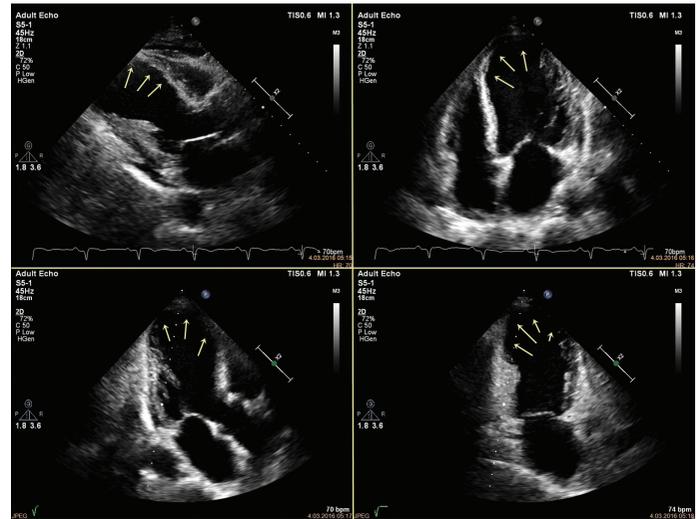


Figure 2. True left ventricular large anterior wall and apical segments aneurysm

Heart Association functional class II one years after discharge from the hospital with pharmacological therapy. This milking-like effect was attributed to compression of the LAD coronary artery during systolic expansion of ventricular aneurysm.

Video 1. A sharp milking-like effect in the mid segment of the left anterior descending coronary artery

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Uncommon right ventricular mass: Ectopic thyroid

A 53-year-old woman with complaint of intermittent angina pectoris for 2 years was admitted to our hospital for further evaluation of her cardiac mass. Routine laboratory test results including thyroid function were all normal. Electrocardiography (ECG) showed sinus rhythm with incomplete right bundle branch block. Transthoracic echocardiography indicated a mildly dilated

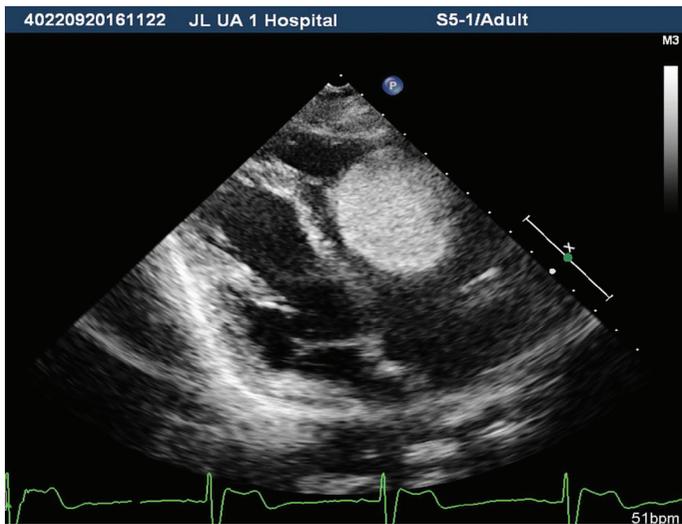


Figure 1. Transthoracic echocardiography demonstrated a right ventricular mass arising from the interventricular septum

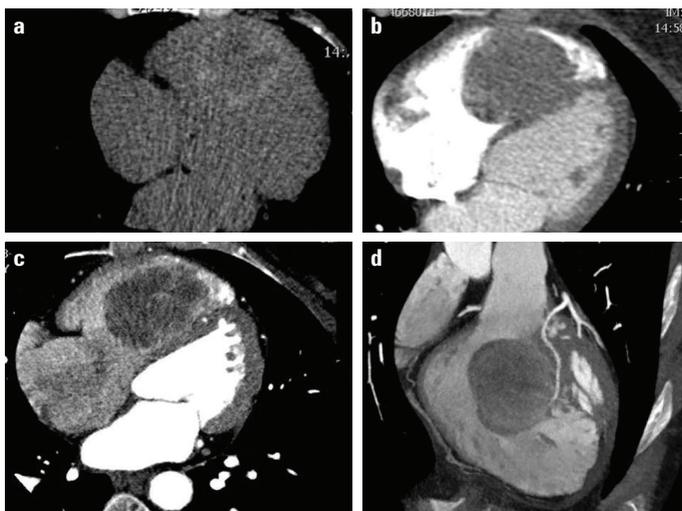


Figure 2. (a) Non-enhanced CT image showed a spherical mass with circular opacity. (b-c) After contrast injection, a slightly enhanced mass was seen in the region of the right ventricle. (d) Reconstructed coronary image revealed the first septal branch of left anterior descending artery feeding the tumor

right ventricle with a broad-based mass attached to the interventricular septum (Fig. 1). Non-enhanced computed tomography (CT) showed a spherical mass with a circular opacity measuring 4.8×4.1 cm in the right ventricle, which was supplied by the first major septal branch of the left anterior descending artery; the mass was moderately enhanced on ECG-gated CT scan (Fig. 2a-2d). Intraoperative inspection revealed a red mass with a broad base arising from the middle-upper part of the interventricular septum close to the septal leaflet of the tricuspid valve.

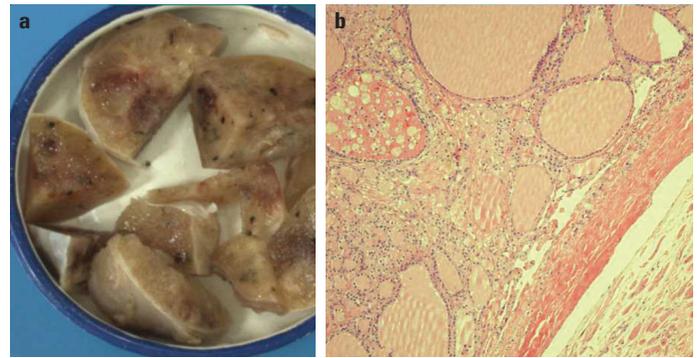


Figure 3. (a) Macroscopic view showed the tumor with a thin capsule and yellowish-brown tissue on cut surface. (b) Histopathology revealed thyroid follicles of various sizes with no signs of malignancy (Hematoxylin-eosin stain, X100)

The mass was excised; it measured 4.8×3.7×3.5 cm and had an incomplete fibrous capsule. The incised surface of the specimen showed yellowish-brown tissue with scattered areas of hemorrhage. Histopathology was consistent with ectopic thyroid tissue (Fig. 3a-3b). Different pathologies like neoplastic, inflammatory, and thrombotic processes may manifest as intracardiac masses. Intracardiac mass from ectopic thyroid tissue is an exceedingly rare condition, although ectopic thyroid tissue may be observed at abnormal locations such as the tongue base and mediastinum. Specific CT protocols, unique from those typically utilized for coronary imaging, can help obtain high-quality images for assessing a cardiac mass. CT appearances concerning intracardiac ectopic thyroid have rarely been documented. Therefore, for middle-age female patients with an intracardiac mass in the right ventricular septal surface, detected using imaging investigations, ectopic thyroid tissue should be kept in mind during the differential diagnosis, and it may be further identified using thyroid scintigraphy.

Informed consent: Informed consent was obtained from all individual participants enrolled in the study.

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