Inverted left atrial appendage after cardiac procedure

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A 17-year-old man with idiopathic dilated cardiomyopathy presented with acute decompensated heart failure. A left ventricular assist device (LVAD) was implanted as bridge to transplant. Thirteen days after LVAD implantation, the patient suffered hypoxic cardiopulmonary arrest requiring extracorporeal membrane oxygenation (ECMO). After ECMO cannulation, transoesophageal echocardiography (TEE) demonstrated a large, mobile echodensity in the left atrium (red arrow Panels A–F, see Supplementary data online, Videos 1 and 2) with extension into the left atrial appendage wall (yellow arrow Panels E and F, see Supplementary data online, Video 3) concerning for a thrombus vs. vegetation vs. intra-cardiac mass. The patient was taken to the operating room for clot extraction. Intraoperative TEE again demonstrated the echodensity in the left atrium. Direct visualization of the heart during thoracotomy revealed an inverted left atrial appendage without evidence of thrombus or vegetation. The appendage was manually expressed and an AtriClip was applied to prevent future thrombus formation. The patient tolerated the procedure without complications. However, he had suffered severe hypoxic brain injury, and electroencephalogram demonstrated electro-cerebral inactivity. Supportive measures were withdrawn and patient expired shortly after. An inverted left atrial appendage has been known to mimic left atrial thrombus post cardiac surgery and should be considered in the differential of intra-cardiac echogenic masses in this patient population.

TEE demonstrates a homogenous mass (red arrow A–F) extending through the left atrial appendage with the stalk attached to the atrial wall (yellow arrow Panels E and F). LA, left atrium; LV, left ventricle; RV, right ventricle.

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