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Recognition of Left Atrial Aneurysm by Fetal Echocardiography

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A fetus was noted to have a mediastinal mass on prenatal ultrasound. Fetal echocardiography at 26 weeks of gestation demonstrated a large cystic structure adjacent to the left atrium and left ventricle (Figure 1). The baby was born full term. Echocardiography revealed a large, thin-walled aneurysm (3×3 cm) lateral to the left atrium and communicating with it through an orifice posterior to the base of the left atrial appendage. As determined by MRI, this aneurysm extended from the transverse aortic arch to the cardiac apex (Figure 2). Angiograms were obtained with the catheter tip positioned within the aneurysm (Figure 3). None of these imaging modalities revealed thrombus within the aneurysm.

At 29 days of age, the aneurysm was approached surgically through a median sternotomy under cardiopulmonary bypass; it appeared thin-walled and translucent and extended along the lateral aspect of the left ventricle (Figure 4). When the aneurysm was opened, it was evident that a portion of its medial wall consisted of left ventricular epicardium (Figure 5). The aneurysm was resected, and its left atrial orifice was closed using autologous pericardium. Follow-up echocardiography revealed no recurrent aneurysm.

Most patients with left atrial aneurysms present with arrhythmia or abnormal cardiac silhouette on chest radiography.1 This is the first case to be recognized by fetal echocardiography.

Reference
Figure 3. Angiogram with catheter tip in left atrial aneurysm (An). Communication between left atrium (LA) and aneurysm is evident. Left atrial appendage (LAA) is visible superior to and separate from the aneurysm.

Figure 4. Intraoperative photograph taken before opening aneurysm. Lower forceps is located at margin between left ventricle and aneurysm. RAA indicates right atrial appendage; IVC, inferior vena cava; and LAD, left anterior descending coronary artery.

Figure 5. Intraoperative photograph showing inside of aneurysmal sac draped over left ventricle, revealing left ventricular epicardium. RAA indicates right atrial appendage; IVC, inferior vena cava.