Minimally Invasive Surgical Resection of Right Atrial Aneurysm

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From the Division of Cardiovascular Surgery, Mayo Clinic and Foundation, Rochester, Minnesota. Manuscript received December 14, 2010; accepted January 5, 2011. 47-year-old woman presented with paroxysmal atrial flutter. Echocardiogram and computed tomography with 3-dimensional reconstruction revealed a massive right atrium (RA) with a giant aneurysm of the right atrial appendage and patent foramen ovale (PFO) (A). AO = aorta; RV = right ventricle.

Surgery was performed with a minimally invasive, video-assisted thoracoscopy, cardiopulmonary bypass, and cardioplegic arrest. After peripheral cannulation, the thoracic cavity was entered through a 3-cm inframammary incision in the fourth intercostal space. The right atrium and appendage were grossly enlarged and thinned out with a transition margin to normal atrium circumferentially. The diseased atrium was excised **(B)**, the PFO closed, and a rightsided cryo-maze for atrial flutter ablation was performed (Online Video 1). The patient recovered uneventfully and was discharged after 3 days.

Right atrial aneurysm is a rare anomaly. Indications for resection include atrial arrhythmias or thrombus formation. We present a safe, minimally invasive approach for surgical treatment.