A 57-year-old female patient with atrial fibrillation was referred to cardiology. The patient had been diagnosed with cardiac disease 4 years prior, but was not undergoing pharmacotherapy at time of consultation. Physical examination revealed grade 3/6 systolic murmur in second right intercostal space. Electrocardiography confirmed atrial fibrillation and left ventricular hypertrophy. Transthoracic echocardiography (TTE) showed hypertrophic cardiomyopathy (HCMP) with moderate to severe mitral regurgitation. What appeared to be a pericardial effusion was observed in apical 4-chamber view. However, in modified imaging, a giant left atrial appendage (LAA) was revealed to be expanding into the pericardial sac (Figure A, Video 1*). Giant LAA was distinctly shown in three-dimensional echocardiography (Figure B, Video 2*). Normal sinus rhythm was restored, and anticoagulation therapy was initiated, with diagnosis of paroxysmal atrial fibrillation and giant LAA. LAA is a long, hook-like true diverticulum of the left atrium (LA). It is often multilobulated, is situated within the pericardium, and is distinct from the LA in developmental, ultrastructural, and physiological characteristics. LAA decompresses left atrial pressure during systole, and pathologies that increase left atrial pressure including mitral valve disease, and systolic and diastolic dysfunction can cause the appendage to dilate. In the present report, what appeared as pericardial effusion in two- and three-dimensional TTE was revealed to be LAA, overgrown possibly due to increased left atrial pressure in HCMP associated with mitral regurgitation.

Figures—(A) Giant left atrial appendage (star) that appeared as pericardial effusion. (B) Three-dimensional echo distinctly shows giant left atrial appendage (star). *Supplementary video files associated with this presentation can be found in the online version of the journal.