Three-dimensional imaging of intrapericardial adhesions within a large pericardial effusion

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A 59-year-old man presented with fever and cough. An examination revealed jugular venous distention, pulsus paradoxus of 15 mmHg, bibasilar pulmonary rales and diminished heart sounds. A chest x-ray showed cardiomegaly and a right lower lobe infiltrate. Two-dimensional transthoracic echocardiography (Figure 1) demonstrated a large pericardial effusion (EFF) with signs of cardiac tamponade. Multiple intrapericardial strands (arrowheads) were seen within the pericardial fluid. Three-dimensional transthoracic echocardiography (Figure 2) provided additional information regarding the size, thickness and extent of the strands. Three-dimensional

imaging revealed the strands to be an extensive network of intrapericardial adhesions (arrowheads) extending from the visceral pericardium to the thickened parietal pericardium (PER). Right heart catheterization was performed and demonstrated a right atrial pressure of 19/14 mmHg, right ventricular pressure of 36/16 mmHg and mean pulmonary capillary wedge pressure of 15 mmHg. Following echocardiographic-guided removal of 1700 mL of exudative fluid, right atrial pressure fell to 8/2 mmHg. Pericardial fluid stains and cultures were negative. The patient improved after the institution of antibiotics for pneumonia.

Figure 1

Figure 2

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