

Objective

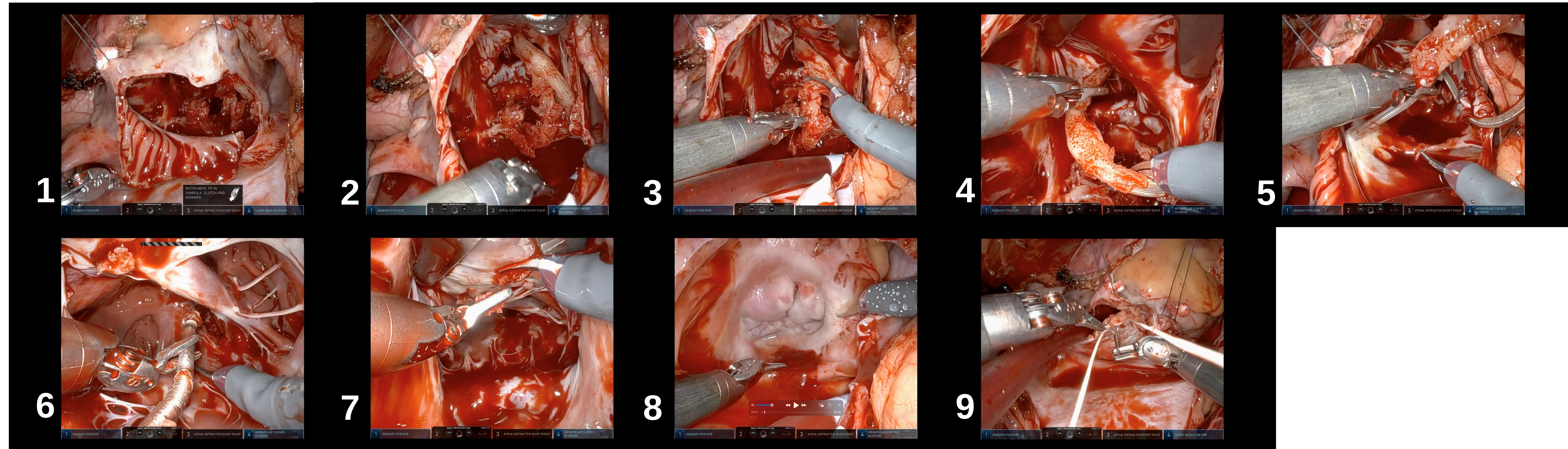
To report a case of robotic assisted right atrial mass and right ventricular ICD lead removal for chronic lead endocarditis.

Methods

A patient with history of cardiomyopathy with low ejection fraction (EF) who had an implantable cardioverter defibrillator (ICD) placed in the past was found to have multiple, mobile masses in the right atrium (RA), tricuspid valve (TV), and on the ICD lead. The echo features of the masses were not consistent with thrombi but with chronic endocarditis. There was suspicion of previous endocarditis with history of fever and shortness of breath. He was trialed on anticoagulation (AC) therapy without improvement. Subsequent echo showed increased LVEF. Given multiple, multilobulated masses, and failure to respond to AC, and improved LVEF, decision was made to proceed with robotic assisted excision of the RA and TV masses and removal of ICD.

Results

Patient was placed in supine position with a bump under the right chest. Cardiopulmonary bypass (CPB) was initiated via right internal jugular venous and left femoral arterial and venous cannulation. A right lateral mini-thoracotomy incision was made, and three ports placed. The pericardium was opened, and the robot docked. A right atriotomy (1) was performed revealing large chronic vegetations in the RA along the ICD (2-3) lead extending from the superior vena cava (SVC) along the atrium onto the TV (4). All vegetations were excised including the vegetations on the TV (5). The ICD lead was excised from where it inserted (6) into the right ventricle (RV). The ICD generator was excised (7). The TV was tested and was competent (8). The RA was closed (9), and the patient was weaned from CPB. Postoperative echo showed resolution of the RA masses and trace TV regurgitation.



Conclusions

Robotic assisted surgery is an effective and safe option for excision of RA vegetations and removal of RV lead. The enhanced visualization and precise movements provided by the robot allowed for excision of the vegetations without injury to the TV which would be difficult with open procedure. Compared to laser lead extraction, robotic assisted lead removal has the advantages of avoiding SVC, RA and RV perforation, TV injury, and leaving behind vegetations.