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Explant of a ball and cage valve 42 years after initial implant

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In 1960, the first ball-valve prostheses, named the Starr-Edwards (SE) valve after its inventors were used in 8 patients with class III-IV heart failure. Although use of the SE valve improved heart failure symptoms for selected patients, thromboembolic events were the most common and severe complications of these valves. Our patient underwent mitral valve re-replacement of Starr-Edwards mitral valve implanted 42 years previously. This is one of the longest reported intervals for prosthetic valve function. Our patient initially underwent mitral valve replacement with a Starr-Edwards valve in 1974 for rheumatic mitral stenosis at Toronto General Hospital. She was anticoagulated with Coumadin for a target international normalized ratio of 2.5 to 3.5. From 1974 onwards, the patient never experienced any significant thrombotic or hemorrhagic complications. However, in 2015, the patient developed increasing dyspnea and fatigue. Transthoracic echocardiography showed mildly elevated transprosthesis gradients, with early-onset pulmonary hypertension, tricuspid regurgitation and right heart dysfunction. Mitral valve re-replacement was recommended. In June of 2016, 42 years after initial implantation, the patient underwent valve re-replacement. The postoperative echocardiogram showed no evidence of perivalvular leak. One year after surgery, the patient remained asymptomatic without functional. We report the case of a patient who underwent mitral valve re-replacement with a contemporary mechanical prosthesis, 42 years after initial mitral replacement with a Starr-Edwards valve. To our knowledge, this represents the longest interval for reoperation after Starr-Edwards mitral valve replacement for a patient in Canada and among the longest in the literature.

Biography

Frank Battaglia is in the midst of completing his MD from the University of Ottawa after studying Physiology at McGill University. He is a student researcher at the University of Ottawa Heart Institute, specializing in Cardiac Surgery. He has published 2 papers, presented 6 research projects, is the Head of his school's surgery interest group and President of his medical student society at the University of Ottawa.

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