

Heart, Lung and Circulation (2017) xx, 1–5
1443-9506/04/\$36.00
<http://dx.doi.org/10.1016/j.hlc.2017.02.028>

Simultaneous Transseptal Para-Ring Leak Closure and Transcatheter Mitral Valve Implantation for the Treatment of Surgical Mitral Repair Failure

James Roy, MBBCh, FRACP^{a*}, Mehdi Eskandari, MD, FRACP^a,
Mark Monaghan, PhD, FRCP, FACC, FESC^a,
Olaf Wendler, MD, PhD, FRCS^b, Jonathan Byrne, FRCP, PhD^a,
Philip MacCarthy, BSc, FRCP, PhD^a

^aDepartment of Cardiology, King's College Hospital, London, United Kingdom

^bDepartment of Cardiothoracic Surgery, King's College Hospital, London, United Kingdom

Received 18 October 2016; received in revised form 20 February 2017; accepted 23 February 2017; online published-ahead-of-print xxx

Repeat cardiac surgery in patients with a previous sternotomy is associated with significant morbidity and mortality. While transcatheter aortic valve implantation in high risk surgical patients is now well established, experience with transcatheter mitral valve replacement is still at an early stage. Although many successful reports of transcatheter mitral valve replacements now exist, the predominant approach has been via a transapical approach. It is likely that, as with the evolution of favoured access routes for transcatheter aortic therapies, future directions for transcatheter mitral valves will focus on smaller delivery systems favouring the transvenous transseptal approach where possible. We present the first reported case of combined transseptal para-ring leak closure followed by transcatheter mitral valve implantation using a 12/5 mm Amplatzer III vascular plug and a 29 mm SAPIEN 3 valve.

Keywords

Mitral valve replacement • Valve-in-valve • Paravalvular leak

We describe a successful case of combined transseptal para-ring leak closure and transcatheter mitral valve implantation (valve-in-ring) for the treatment of a symptomatic 57-year-old man with a failed mitral valve repair and annuloplasty ring 18 months prior. At the end of the procedure, transoesophageal echocardiography confirmed that the valve was in a good position with no significant residual mitral regurgitation. The patient was discharged home the following day. This is the first reported case of combined transseptal para-ring leak closure followed by transcatheter mitral valve implantation with an Edwards SAPIEN 3 valve.

Introduction

Repeat cardiac surgery in patients with a previous sternotomy is associated with significant morbidity and mortality. While transcatheter aortic valve implantation in high risk surgical patients is now well established [1,2], experience with transcatheter mitral valve replacement is still at an early stage. Although many successful reports of transcatheter mitral valve replacements now exist, the predominant approach has been via a transapical approach [3]. It is likely that, as with the evolution of favoured access routes for transcatheter aortic therapies, future directions for

*Corresponding author at: Department of Cardiology, King's College Hospital, Hambleton E Wing, Denmark Hill, London SE5 9RS, United Kingdom.

Phone: +447901577197., Email: jamesroy@nhs.net

© 2017 Australian and New Zealand Society of Cardiac and Thoracic Surgeons (ANZSCTS) and the Cardiac Society of Australia and New Zealand (CSANZ).

Published by Elsevier B.V. All rights reserved.

transcatheter mitral valves will focus on smaller delivery systems favouring the transvenous transeptal approach where possible. We present the first reported case of combined transeptal para-ring leak closure followed by transcatheter mitral valve implantation using a 12/5 mm Amplatzer III vascular plug and a 29 mm SAPIEN 3 valve.

Case Report

A 57-year-old man presented with progressive dyspnoea (New York Heart Association class III). The patient had undergone mitral valve repair with a 30 mm annuloplasty ring and single coronary artery bypass 18 months prior, in 2015. Other medical background included a previous inferior myocardial infarct and aneurysm, ventricular tachycardia with dual chamber defibrillator insertion and a previous embolic stroke complicating coronary angiography in 2015.

Echocardiography demonstrated moderate left ventricular impairment with an inferior aneurysm and an ejection fraction of 35%. There was severe mitral regurgitation (MR) secondary to a posteriorly located para-ring leak (Figure 1). Coronary angiography revealed patent bypass grafts with no significant disease. His operative risk was deemed to be high with a Society of Thoracic Surgeons (STS) score of 19.98%. The consensus of our multidisciplinary heart team meeting was to proceed with a combined transeptal para-ring leak closure and transcatheter approach.

The procedure was performed in a hybrid catheter laboratory and the cardiac surgeons were available for redo surgery as a bailout strategy if required. The procedure was performed under general anaesthesia with fluoroscopic and transoesophageal echocardiography (TOE) guidance. Fluoroscopy-echocardiography fusion imaging was facilitated by the EchoNavigator[®]-system (Philips Healthcare, Best, the Netherlands) allowing merging of echocardiographic and fluoroscopic images on the same display in real-time (Figure 2). No contrast was used. The initial strategy was to close the para-ring leak first and then review the degree of residual regurgitation. A transcatheter valve-in-ring implant would only be inserted if there remained significant residual regurgitation.

The right femoral vein was punctured under ultrasound guidance and a 6 Fr sheath was inserted. A temporary pacing wire was inserted via a 6 Fr sheath in the left femoral vein. Using a J-wire the right femoral sheath was exchanged for an 8.5 Fr SLO sheath and septal puncture was performed using a Brokenbrough needle. A BMW coronary guidewire was advanced through the Brokenbrough needle into the left upper pulmonary vein. After heparinisation, a double length 0.025-inch J-tipped guidewire (Terumo Glidewire, Terumo Medical Corp., Somerset, NJ, USA) was used inside a 6Fr internal mammary (IMA) diagnostic catheter to cross the defect using EchoNavigator. To provide more support, the Terumo glidewire was externalised around the left ventricular apex and across the aortic valve into the descending aorta.

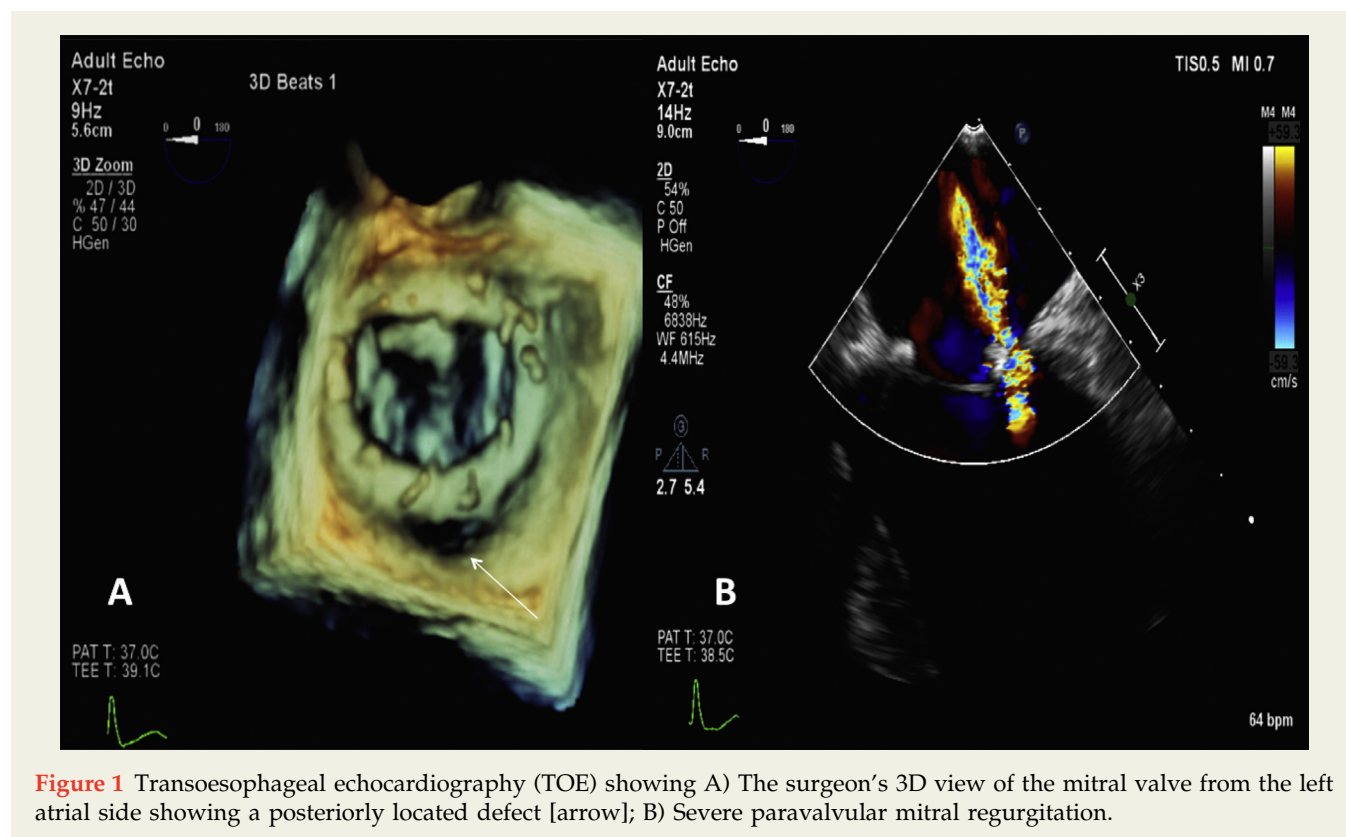


Figure 1 Transoesophageal echocardiography (TOE) showing A) The surgeon's 3D view of the mitral valve from the left atrial side showing a posteriorly located defect [arrow]; B) Severe paravalvular mitral regurgitation.

Download English Version:

<https://daneshyari.com/en/article/5602435>

Download Persian Version:

<https://daneshyari.com/article/5602435>

[Daneshyari.com](https://daneshyari.com)