

MEETING ABSTRACT

Open Access

# Surgical vs. catheter-based paravalvular mitral valve leak closure (trans apical approach). Early results. Single center experience

Aleksejus Zorinas<sup>1\*</sup>, Vilius Janusauskas<sup>1</sup>, Rokas Simkauskas<sup>2</sup>, Kestutis Rucinskas<sup>1</sup>, Audrius Aidietis<sup>1</sup>

From World Society of Cardiothoracic Surgeons 25th Anniversary Congress, Edinburgh  
Edinburgh, UK. 19-22 September 2015

## Background/Introduction

Following surgical mitral valve replacement paravalvular leaks may occur in up to 17% of patients. A significant fraction of these patients present with a symptoms of heart failure and/or anaemia. Conventional surgical closure is associated with increased morbidity and mortality. Alternative transcatheter closure has been developed and being introduced into the clinical practice with a reasonable success. More evidence is needed to compare the efficacy and safety between surgical and catheter-based paravalvular mitral valve leak closure.

## Aims/Objectives

To compare efficacy and safety between two treatment methods of mitral valve paravalvular leak closure.

## Method

A retrospective analysis of patients' medical records treated for mitral paravalvular leak at our institution in year 2005-2015. 41 patients had paravalvular leak closure. 31 patients had paravalvular leak repaired via conventional surgery, and 10 patients had catheter-based procedure (trans apical approach). Patients' data, operative variables, postoperative complications, 1 and 4 months postoperative results were analyzed.

## Results

Patients in a catheter-based paravalvular leak closure group were older ( $71 \pm 6$  years vs.  $63 \pm 8$  years,  $p = 0,004$ ), and had higher incidence of essential hypertension (8 (80%) vs. 10 (32,3%),  $p = 0,008$ ). Procedure was longer in surgical closure group ( $270 \pm 98$  min vs  $171 \pm 86$  min,

$p = 0,007$ ). Early after the treatment mild/moderate regurgitation of a paravalvular leak was found more frequently in a catheter based paravalvular leak closure group (5 (50%) vs. 1 with severe regurgitation in conventional surgery group (3,45%),  $p = 0,0004$ ).

## Discussion/Conclusion

Catheter-based closure of a paravalvular leak is reserved for older and sicker patients. Although the procedure of catheter-based paravalvular leak closure is quicker, patients have higher incidence of mild/moderate paravalvular leak after the procedure, which has reduced over time. With more clinical experience and development of special equipment, catheter-based paravalvular leak closure could be a possible alternative to the conventional operation.

## Authors' details

<sup>1</sup>Department of Cardiovascular Medicine, Vilnius University, Vilnius, LT-08661, Lithuania. <sup>2</sup>Faculty of Medicine, Vilnius University, Vilnius, LT-03101, Lithuania.

Published: 16 December 2015

doi:10.1186/1749-8090-10-S1-A320

Cite this article as: Zorinas et al.: Surgical vs. catheter-based paravalvular mitral valve leak closure (trans apical approach). Early results. Single center experience. *Journal of Cardiothoracic Surgery* 2015 10(Suppl 1):A320.

<sup>1</sup>Department of Cardiovascular Medicine, Vilnius University, Vilnius, LT-08661, Lithuania

Full list of author information is available at the end of the article