Surgical Outcomes of transaortic Alfieri’s edge-to-edge repair of mitral valve in patients undergoing aortic valve replacement or proximal aortic surgery

K. Imasaka, E. Tayama, Y. Tomita
Cardiovascular Surgery, Kyushu Medical Center, Fukuoka, Japan

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Presenting author: Ken-ichi Imasaka

Objectives
Functional mitral regurgitation (MR) is sometimes found significantly in patients who undergo aortic valve disease or proximal aortic aneurysm. Mitral valve (MV) repair with concomitant aortic valve replacement (AVR) or proximal aortic surgery increase the operative risk. A transaortic Alfieri’s edge-to-edge repair (TAEER) of MV might reduce the operative risk. The aim of this study was to evaluate the safety and efficacy of transaortic Alfieri’s edge-to-edge MV repair with concomitant AVR or proximal aortic surgery.

Operative procedure using TAEER of MV valve

1: A marking suture (5-0 prolene) was placed at the midpoint of A2 in MV. Moreover, the traction of this suture was useful to provide a good field of vision in posterior leaflet of MV.

2: The midpoint of P2 in MV

3: Alfieri’s edge-to-edge suture (5-0 prolene) were placed at the midpoint of A2 and P2 in MV.

Patients and Methods

- Number of Patients: 10
- Gender (Male/Female): 7/3
- Age (years): 74 ± 8
- Aortic valve disease or Aortic arch disease: AR 5, AS 4, TAA 1 (Distal arch aneurysm)
- Etiology of MR: Functional 9, IE 1
- Preoperative severity of MR: moderate 5, severe 5
- Preoperative EF (%): 57 ± 16

Surgical Data and Surgical Outcomes

- Cardiopulmonary bypass time (min): 201 ± 73
- Coronary ischemic time (min): 125 ± 50
- All patients underwent TAEER of MV within 3 minutes.
- The patient with MR due to IE underwent patch closure of perforation in anterior MV leaflet with concomitant TEER of MV.
- Postoperative EF (%): 62 ± 9
- 30-day mortality: 0
- In-hospital mortality: 0
- Stroke: 0

Conclusions
TAEER of MV for moderate or greater MR is a simple, time-saving and effective approach for high-risk patients undergoing AVR or proximal aortic surgery. However, long-term follow up are needed to verify this proposal.

Preoperative, postoperative, and follow-up MR grade

The median time to follow up echocardiography: 17.5 mo (IQR 8.3-80.5 mo)