

Use of Endoaortic balloon occlusion (EABO) in Endoscopic mitral valve surgery : A single-center experience

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• **OBJECTIVE:**

- In many centers, minimally invasive technique is an accepted approach for mitral valve surgery. In our center we have adopted endoaortic balloon occlusion (IntraClude™, Edwards Lifesciences) as the preferred method for aortic cross clamping.

• **METHODS:**

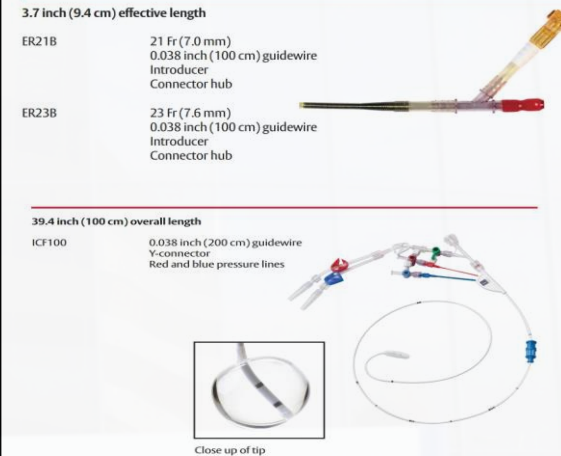
- This is a single-centre, one surgeon, retrospective analysis of the use of endoaortic balloon occluder in endoscopic mitral valve surgery at Blackpool Victoria Hospital between June 2009 till August 2024.
- Patients underwent isolated endoscopic mitral valve surgery have been included. The exclusion criteria were: aortic regurgitation , peripheral arterial disease , aortic aneurysm and concomitant valve surgery. The outcome measures were evaluated: bypass and clamp time, ICU and hospital stay, and major adverse cardiac and cerebrovascular events (MACCE).

RESULTS:

A total of 458 patients (167 females and 291 males), age between 20 to 92 years (mean age: 63yrs) underwent endoscopic mitral valve surgery were included in the study.

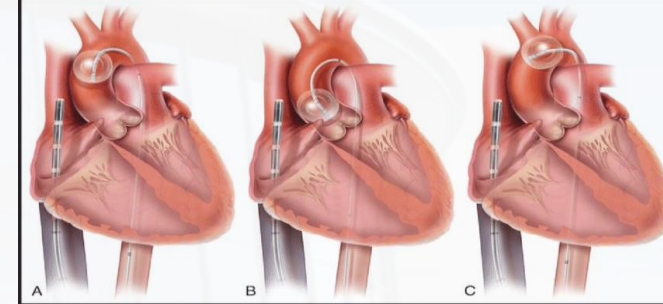
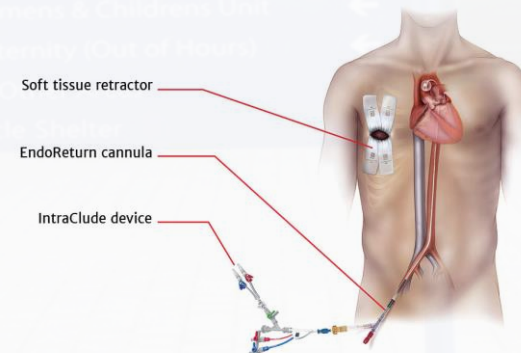
368 patients had Mitral repair while 90 patients had mitral valve replacement

- Mean EuroScore II was 1.36.
- The mean cardiopulmonary bypass and the mean aortic cross-clamp time were 168 min and 114 min respectively.
- There were no intraoperative complications reported. The length of ICU Stay was (24hours), total hospital stay was 7 days (mean 2-103days).
- Post operative complications reported were :
 - 11 patients (2.4%) returned to the theatre for re-exploration ,
 - 4 patients (0.9%) required postop Hemofiltration/Dialysis.
 - 2 patients (0.4%) had postoperative stroke.
 - One in-hospital mortality (0.2 %).



CONCLUSIONS:

Our findings unequivocally demonstrate the safety of EABO in endoscopic mitral valve surgery.



References:

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- 3) Aortic cannulation system for minimally invasive mitral valve surgery. Barbero, Cristina et al. The Journal of Thoracic and Cardiovascular Surgery, Volume 149, Issue 6, 1669 – 1672
- 4) de Vaal, M. H., Gee, M. W., Stock, U. A., and Wall, W. A. (2016) Computational evaluation of aortic occlusion and the proposal of a novel, improved occluder: Constrained endo-aortic balloon occlusion. Int. J. Numer. Meth. Biomed. Engng., 32: e02773. doi: 10.1002/cnm.2773.