# Direct Cannulation in Thoracotomy Minimally Invasive Cardiac Surgery

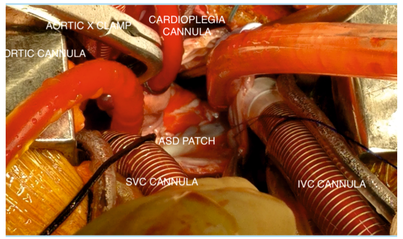
**Reddy P; Banovath S N; Nelli Mohan; Kandagatla T**
**Department of Cardiothoracic Surgery, Medicover Hospital, Hyderabad, India**

## Introduction

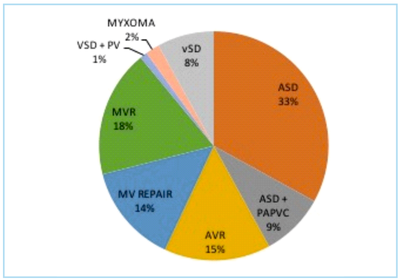
- As MICS has evolved, the strategies and approaches to CPB access have evolved.
- Peripheral cannulation is convenient but carries a risk of retrograde dissection, embolization, stroke and ipsilateral limb ischemia.
- Central aortic cannulation has the advantage of antegrade flow. Also it is difficult to cannulate femoral vessels in pediatric age group.

## Methods

- January 2017 to October 2021
- 560 patients
- Mean age - 30 ± 15 yrs (range 10mths-83 yrs), 140(33.3%) patients < 12 yrs.
- Spectrum of procedures -
  - ASD closure (33%)
  - Mitral Valve Repair (14%)
  - VSD closure (8%)
  - Aortic valve replacement (15%)
  - Mitral valve replacement (18%)
  - Repair of PAPVC (9%)
  - Myxoma excision (2%)
  - VSD closure with pulmonary valvotomy (1%)




**Cannulation for ASD Closure**




## Results

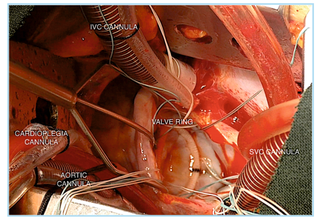
- No conversion
- One patient with VSD died due to pulmonary hypertensive crises.
- No patient required rexploration for bleeding
- None had stroke, renal failure.
- Two patients had delayed wound healing.
- No myocardial infarctions or aortic dissections.

## Conclusion

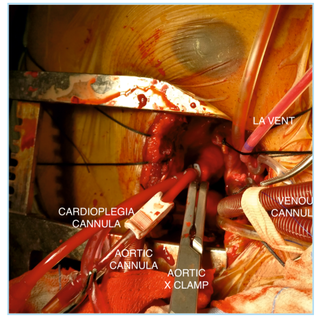
- In our experience, this approach is a reliable platform for a variety of MICS procedures and has resulted in low complication rates.
- The technique can be applied safely to both paediatric and adult population.
- Very cost effective as regular instruments and cannulas are used.

## Reference

- Kandakure PR, Batra M, Garre S, Banovath SN, Shaikh F, Pani K (2020) direct cannulation in minimally invasive cardiac surgery with limited resources. Ann Thorac Surg 109(2):512–516




**Cannulation for MV Repair**




**Cannulation for AV Replacement**