Minimally Invasive Aortic Surgery Experience In Peru

Julio Morón-Castro, Yemmy Pérez-Valverde, Josías Ríos-Ortega, Josué Sisniegas-Razón, Julio Castillo-Gárate
Instituto Nacional Cardiovascular "Carlos Alberto Peschiera Carrillo" (INCOR), Lima, Peru

Instituto Nacional Cardiovascular

BACKGROUND

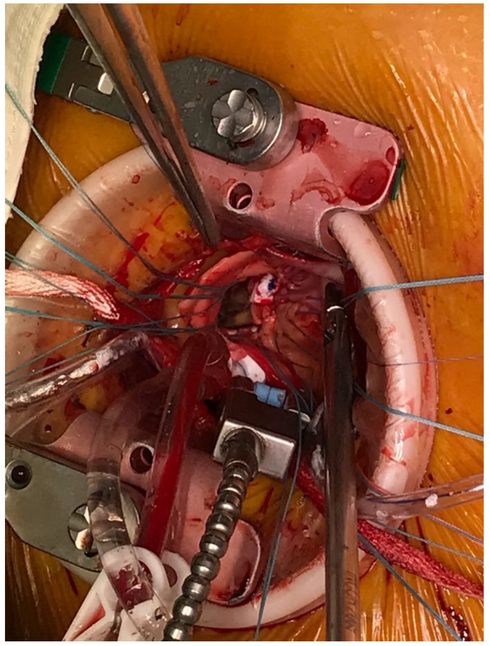
Aortic surgery:
- Classically → Full sternotomy
- Minimally invasive → Same efficacy, quality and safety
  - Small chest wall incision (approaches):
    - Ministernotomy
    - Right anterior minithoracotomy

OBJECTIVE

To report the results of minimally invasive aortic surgery experience at the Peruvian National Heart Institute.

METHODS

n = 73 patients with MIAS
June 2012 – November 2020, at INCOR – Peru
All patients: femoral cannulation + operated by direct vision
→ **2014:** Upper hemisternotomy with intermittent blood cardioplegia (21 cases)
→ **2015:** Anterior thoracotomy associated with custodiol cardioplegia (52 cases)









RESULTS

Variable	Measure
Gender	46 male (63%)
Mean extracorporeal time	135 sec (96 - 208)
Median age	54 years (30 - 83)
Mean weight	69.9 kg
Mean height	1.62 m
Mean BMI	26.37
Mean extracorporeal time	135 sec (96 - 208)
Aortic clamp time	102 sec (67 - 165)
Extubation time	14.9 hours (4 - 26)
ICU stay	2.7 days (2 - 5)
Mean hospital stay	9.3 days (5 - 14)
Mean blood loss	250 ml (50 - 650)
Mean blood transfusion	2.3 unit (0 - 3)

Indications:
- Severe stenosis: 62
- Insufficiency: 10
- Aneurysmatic aortic roof: 1

Procedures:
- Valve replacement: 71 (62 stenosis, 9 insufficiency)
- Valve repair: 1
- Bentall surgery: 1

Complications:
- Conversion to sternotomy: 2
- Reoperation for bleeding: 2
- Lymphorrhagia: 5
- Permanent cerebral embolic accident: 1
- Prosthetic endocarditis: 1 patient needed to reoperated six months later

Mortality: 2 (2.7%) → (1) Massive atelectasis, (1) Osteogenesis imperfecta + liver perforation
Follow-up: All cases are in NYHA I y II functional class, but one case stays in a persistent vegetative state.

CONCLUSIONS

Minimally invasive aortic surgery is a good alternative, totally feasible, and with good results at INCOR – Peru.

RECOMENDATIONS

1. Most surgeons must adapt to a new time, with new technology, older patients, and high-risk conditions.
2. MIAS is a reality and requires a change in the surgeon's philosophy to treat more complex and demand patients.