PERCUTANEOUS ASSISTANCE TO AORTIC OPEN SURGERY FOR ASCENDING AORTA PSEUDOANEURYSMS

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Disclosure

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I have the following potential conflicts of interest to report:

- I do not have any potential conflict of interest
THE PROBLEM: ASCENDING AORTA POST-SURGICAL PSEUDOANEURYSMS

• Rare complication
• High perioperative morbidity/mortality

• Technical issues
  • Bleeding control during sternotomy
  • Cerebral protection /perfusion
  • Cardiac protection – cardioplegia delivery
TWO CASES — TREATED BETWEEN OCTOBER AND DECEMBER 2022


• Aortic Arch Replacement with Trigraft Spielvogel Technique (supraaortic trunks debranching and reconnection to a common graft)
TECHNICAL ISSUES

• Anterior mediastinum occupation

• High risk of pseudoaneurysm rupture during sternotomy

• Difficult bleeding control

• Cerebral protection

• Cardiac protection
TECHNICAL ISSUES

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- Cardiac protection
HYBRID SOLUTION
1) BLEEDING CONTROL + CEREBRAL PROTECTION

- Extracorporeal circulation
  - Venous: femoral
  - Arterial: subclavian

- Hypotermia
- whole body cooling to 22°C
1) BLEEDING CONTROL + CEREBRAL PROTECTION

• Spielvogel Graft PERC occlusion
  • Right Omeral 8f sheath
  • Atlas balloon 14-16x40mm

• **Pseudoaneurism exclusion**
  excellent bleeding control

• **Continuous cerebral perfusion**
  (Kazui-like 10ml/kg/min)
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2) CARDIAC PROTECTION — CARDIOPLEGIA RETROGRADE DELIVERY

- Right internal jug vein
- Coronary sinus PERC cannulation
  - 8f MP sheath
  - 7f Swan Ganz balloon tipped cath
- 8f sheath for cardioplegia delivery
- Balloon tipped catheter for CS ostium occlusion and prevention of cardioplegia reflux in right atrium
2) CARDIAC PROTECTION — CARDIoplegia Retrograde delivery

• Right internal jug vein
• Coronary sinus PERC cannulation
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  • 7f Swan Ganz balloon tipped cath

• 8f sheath for cardioplegia delivery
• Balloon tipped catheter for CS ostium occlusion and prevention of cardioplegia reflux in right atrium
• Surgical repair of vascular prosthesis deiscence
• Hypothermic circulatory arrest less than 45min
• Unremarkable post-operative progress

• First description of percutaneous assistance to aortic pseudoaneurysm surgery
• Thank you for your attention

• If any question, feel free to email me at marco.anzini@asugi.sanita.fvg.it