Surgery for Rheumatic valve disease in an Australian Indigenous population

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Management

Prevention

Secondary Measures

Surgery
Surgical Management

• Options
  • Mitral Balloon Valvuloplasty
  • Surgery
    • Valvotomy (rare)
    • Replacement
    • Repair
  • Concomitant disease
    • Multiple Valves
    • CAG

• Factors
  • Age / Sex
    • Pregnancy / Contact Sport
  • Geography
    • Access to care
    • Specialist / Imaging follow up
  • Surgeon
  • Compliance
    • Cultural, Education
What do we know?

• Indigenous Australians
  • Younger Presentation
  • Increased fibrosis / fusion
  • Loss of leaflet height
  • More stenotic lesions → less likely repairable

• Are IA different?
  • More aggressive disease
  • ? more susceptible
  • Ongoing / Repeated exposure
Techniques

- Restriction and Shortening PML
- Often AML pseudo-prolapse
- Detach PML
  - Patch Augmentation & division 2º chords
  - Shift coaptation line anteriorly
- Presents native PML for coaptation
- Annuloplasty corrects annular shape
AML Advancement

- Corrects loss of AML volume
- Allows AML to present for coaptation
- Annuloplasty corrects annular shape

Our approach
Summary

• Not all valves are repairable but it is the ideal
  • Leaflet volume
  • Commisural disease
  • Timing of surgery - progression and burden of disease

• What is acceptable?
  • Durability vs functionality
  • Other valve pathology
  • Requirement/Planning for further surgeries
Case 1

• 17 yo female
• Wants children
• Remote community
• Poor compliance
• Warfarin not appropriate
• Exertional Dyspnea
  • NYHA 3
• Severe MR
• Mod AR
• LVEDD 6.5
• LVEF Normal
Repairable?
Post Op - PML Advancement
The Dilemma
15 Months
To do or Not to do?
Case 2

- 22 yo female
- 1 child
  - wants more
- remote community
- compliance OK
- No community nurse
To do or Not to do?
Lucky??
Probably not!

Case 1

Case 2
Flinders Experience

• 1998-2014

• 231 Rheumatic Mitral Surgeries
  • 65 Repairs 31yrs (12-77)
  • 166 Replacement
    • 94 Mechanical 38yrs (16-73)
    • 71 Bioprosthetic 33yrs (15-70)
# Flinders Experience

<table>
<thead>
<tr>
<th></th>
<th>Mortality</th>
<th>AVR</th>
<th>Redo</th>
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<tbody>
<tr>
<td><strong>Overall</strong></td>
<td>2.5%</td>
<td></td>
<td></td>
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<tr>
<td>65 Repairs</td>
<td>1.5%</td>
<td>10</td>
<td>(15.3%)</td>
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<tr>
<td>166 Replacement</td>
<td>3.0%</td>
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</tr>
<tr>
<td>94 Mechanical</td>
<td>2.1%</td>
<td>28</td>
<td>(29.7%)</td>
</tr>
<tr>
<td>71 Bioprosthetic</td>
<td>4.2%</td>
<td>8</td>
<td>(11.2%)</td>
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Mitral Repair

- 65 Cases
  - 64 Indigenous
  - 1 early death
  - 3 late deaths - 7, 5 and 5 years
  - 3 lost to follow up
  - 11 reoperations (17.7%) at average 54.4 +/- 32.2 months
Mitral Repair

• Freedom from ReOperation / Death
  • 75.8% at 77 months (1-174)

• Mean Echo Follow Up
  • 43.6 +/- 33.4 mths
  • 59.5% Mild or Less MR
  • 77.5% MV Grad < 8
Summary

• MV Repair
  • Lower risk
  • Will need further surgery

• Comparable durability
  • Is it better than tissue prosthesis?
  • Is the ReOp easier?

• Management of other valves
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