MITRAL VALVE REPAIR: WHAT TO DO AND HOW TO DO IT

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Disclosures

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• Trainer – Edwards, St Jude
Barlow

Fibroelastic deficiency

Mirral Stenosis

Ischemic
Keys to Success

• Good venous drainage
• Good myocardial protection
• Dependable repair technique
• Avoid SAM
• Avoid Stenosis
• Simple knot tying
Atrial Incision
Mitral Exposure
Mitral Exposure
Mitral Valve Repair
Resection
Gor-Tex Chords

• Artificial chordae for degenerative mitral valve disease: critical analysis of current techniques

• Analyzed over 40 techniques described for artificial chordae mitral valve repair in the setting of degenerative disease

Michael Ibrahim, Christopher Rao and Thanos Athanasiou
Gor-Tex Chords

- Artificial neochordae are durable, versatile structures that facilitate MV repair in the great majority of cases
- Use is technically challenging and there is a learning curve
Loop Technique
Loop Technique
Chord-X

3 pre-measured loops
Mitral Rings
COR-KNOT®
AUTOMATED SUTURE FASTENING SYSTEM
Anterior Leaflet Prolapse

- No resection
- Chordal replacement
- Alfieri repair
- Full ring
Anterior Prolapse

• Should annuloplasty prosthesis be selected dependent on the location of prolapse in mitral valve repair for type II dysfunction?

• Read at the 96th Annual Meeting of The American Association for Thoracic Surgery, Baltimore, Maryland, May 14-18, 2016.

• NaonoriKawamotoMDaTomoyukiFujitaMD, PhDaSatsukiFukushimaMD, PhDaHirokiHataMD, PhDaYusukeShimaharaMDaKokoAsakuraPhDbJunjiroKobayashiMD, PhDa
Anterior Prolapse

- 452 mitral valve repair for type II dysfunction
- 167 patients (37%) anterior leaflet prolapse
- Full rings 95 patients (57%) in the anterior group
- MR severity over time in patients in the anterior group was higher than that in patients in the posterior group ($P < .0001$)
- Propensity score-matched analysis in the anterior group, but not in the posterior group, revealed a significantly higher MR severity in patients with the partial band than those with the full ring over the study period ($P = .04$).
- Full-ring annuloplasty is indicated in the setting of anterior prolapse to prevent recurrent MR, whereas prosthesis type is not a determinant of recurrent MR in the setting of posterior prolapse.
Fibroelastic Deficiency

- Usually acute or sub acute
- Resection may be difficult due to thin tissue
- Full ring to decrease stress on the chords
Barlow with ruptured chord
Barlow Bileaflet Prolapse

- Large annulus
- Ring or band will increase coaptation
- PTFE chords on P2 to adjust line of coaptation towards posterior annulus
Barlow
Principles of Successful Simple Repair

- Plan repair based on the echo
- Avoid resection
- PTFE cords
- Larger band or ring
- Full ring for anterior leaflet repair or FED valve
- Auto knot tying
- Test with power suction irrigator