Ο ρόλος της Χειρουργικής Θεραπείας στην αντιμετώπιση της Ανεπάρκειας της Μιτροειδούς.

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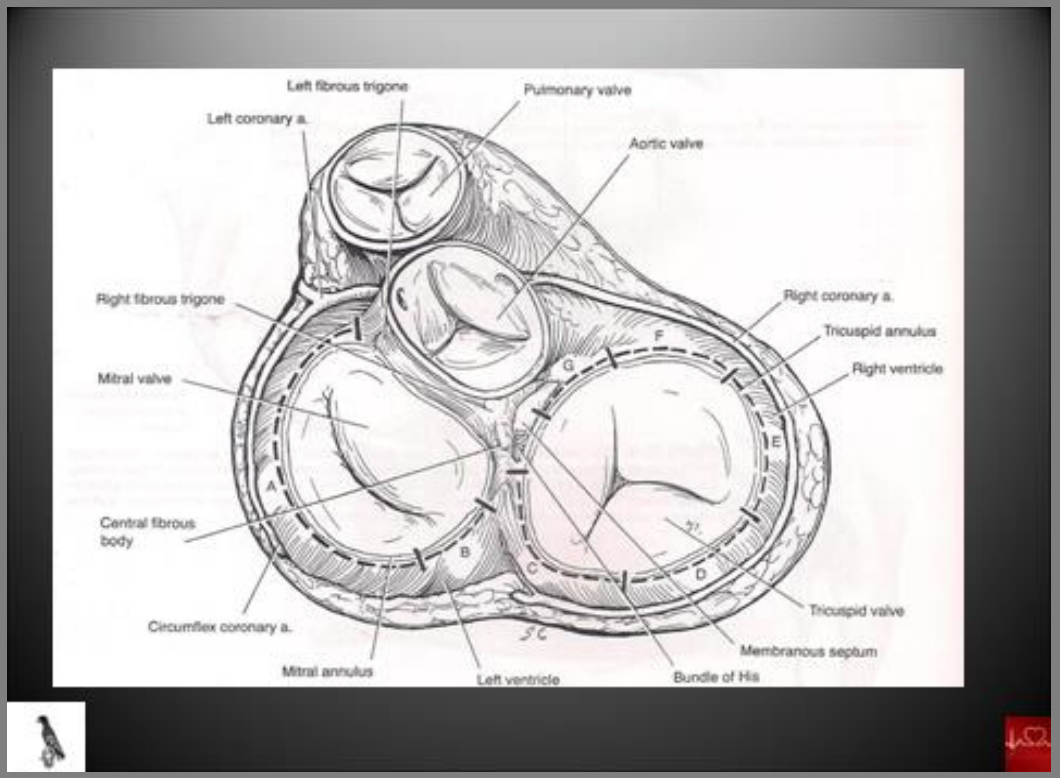
Η χειρουργική μιτροειδούς είναι η δεύτερη πιο συχνή ένδειξη για τη χειρουργική επέμβαση βαλβιδοπαθειών στην Ευρώπη

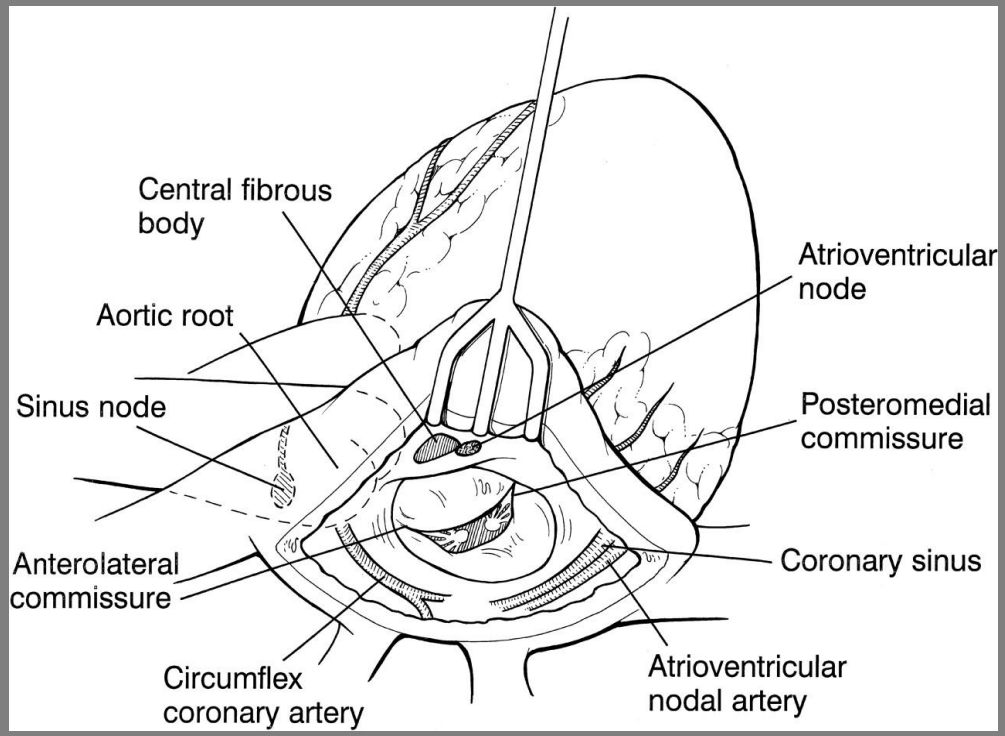
Η μεγάλη πλειοψηφία των επεμβάσεων αυτών αφορά την ανεπάρκεια της μιτροειδούς βαλβίδας.

Lung B, Baron G, Butchart EG, et al. A prospective survey of patients with valvular heart disease in Europe: the Euro Heart Survey on Valvular Heart Disease. Eur Heart J 2003;24:1231–1243.

Anatomy 1

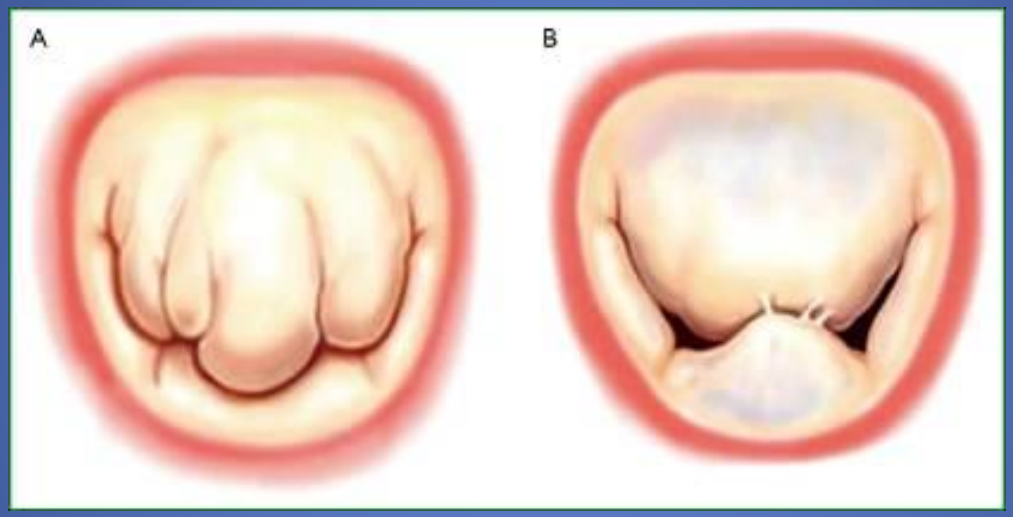

Left fibrous trigone
Pulmonary valve
Left coronary a.
Aortic valve
Right fibrous trigone
Right coronary a.
Tricuspid annulus
Right ventricle
Mitral valve
Central fibrous body
Tricuspid valve
Circumflex coronary a.
Membranous septum
Mitral annulus
Left ventricle
Bundle of His
A
B
C
D
E
F
G

Anatomy 2 / Surgical view

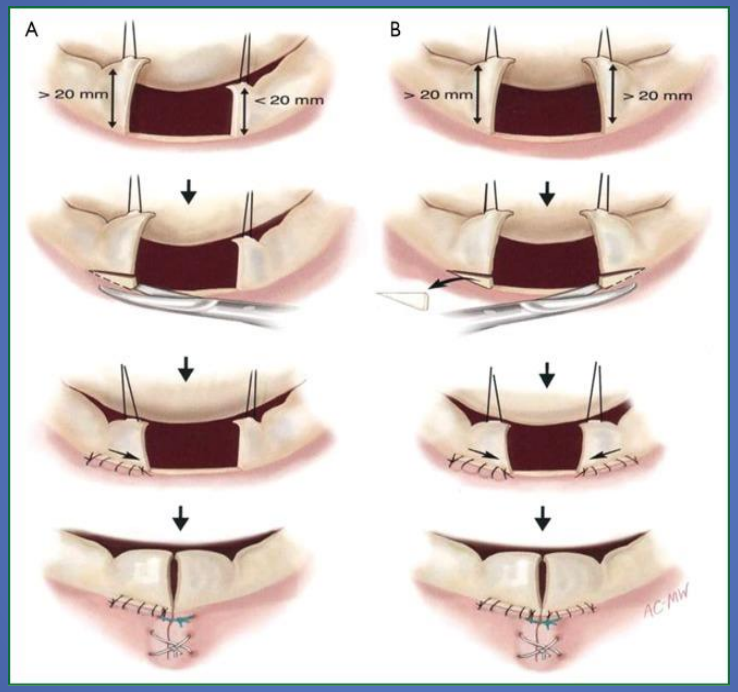


- Figure 2-20 This diagram depicts the mitral valve in relationship to its surrounding structures as viewed through a left atriotomy.

(A) Fibroelastic deficiency
vs.
(B) Barlow's disease

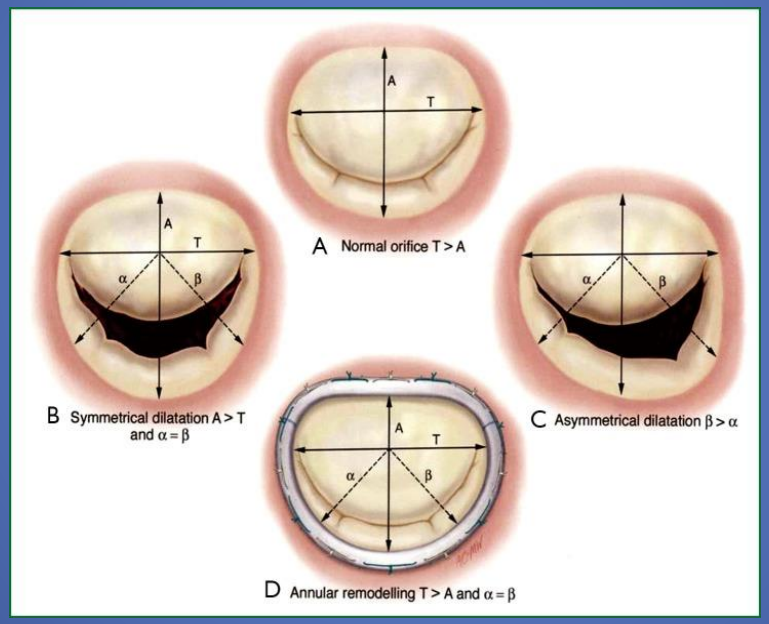


Carpentier’s techniques

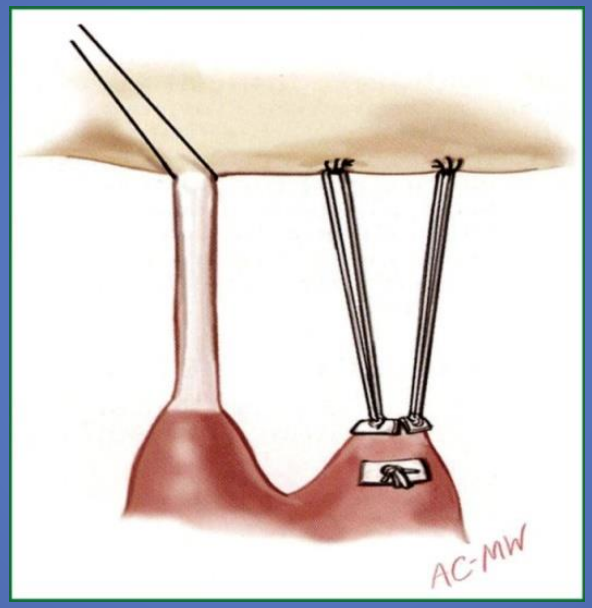


A sliding repair is added to reduce the risk of systolic anterior motion

Technique for ring annuloplasty

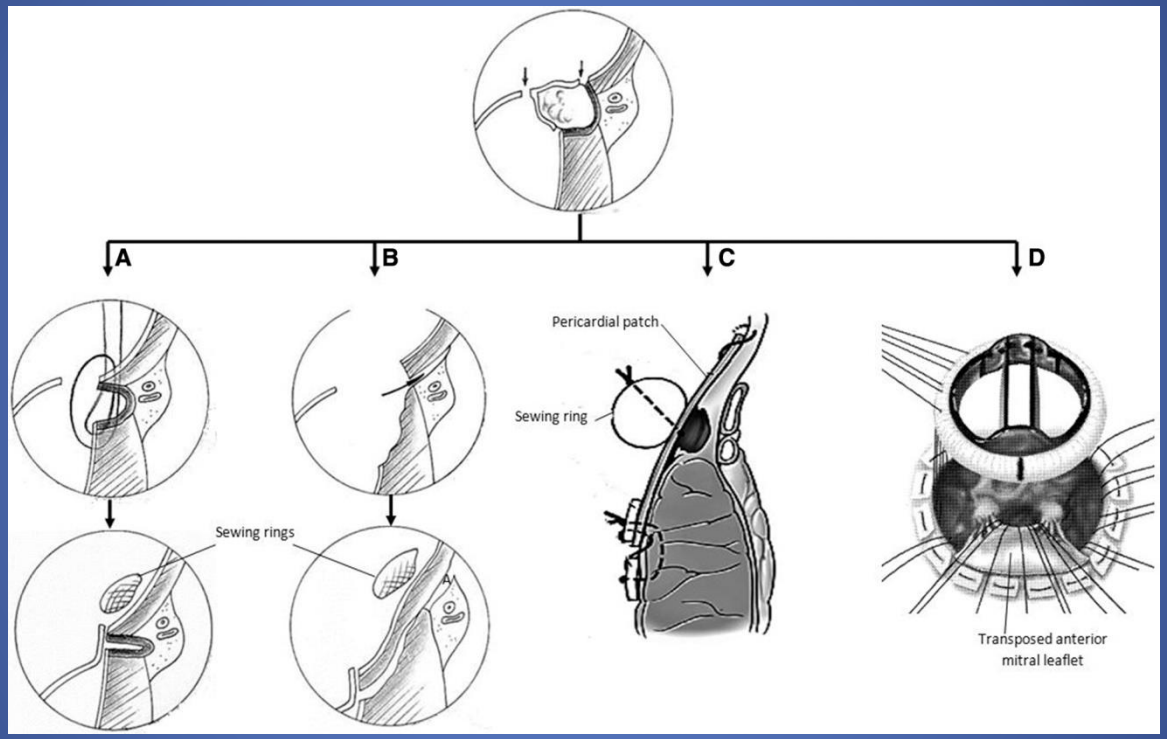


Anterior leaflet prolapse is usually treated
by transfer of chords from the posterior leaflet or
creation of artificial chords or
the Alfieri edge-to-edge repair.



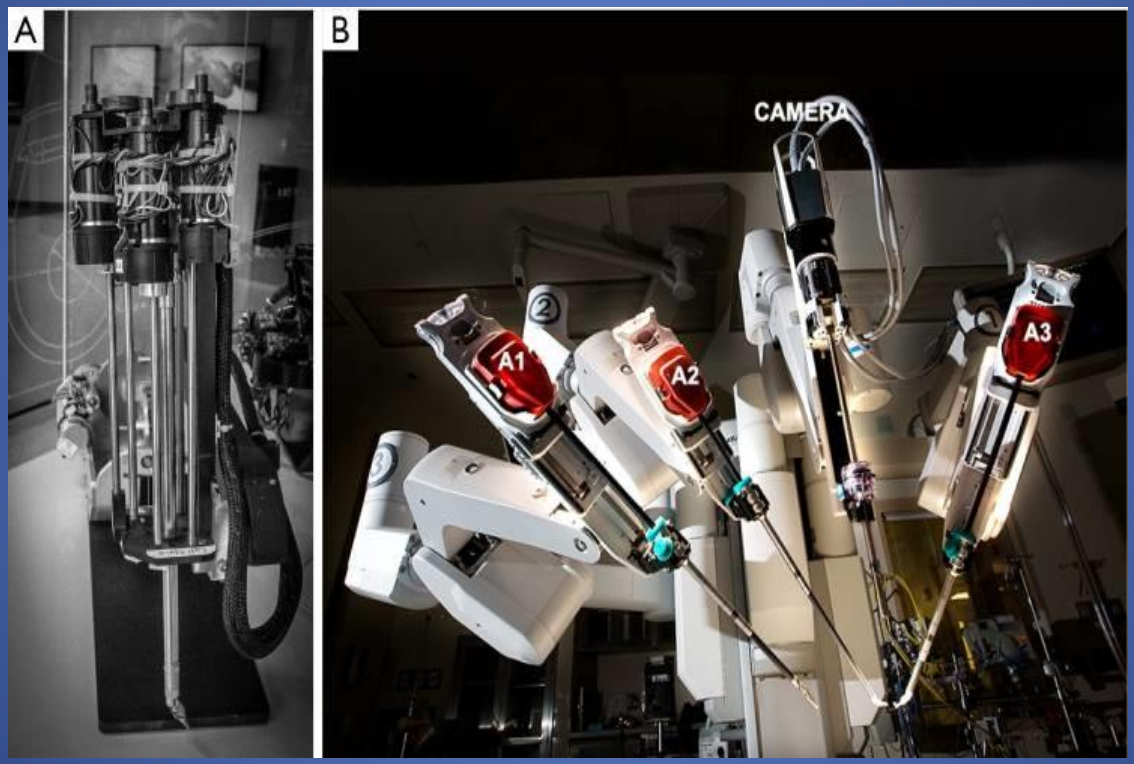
Correction of a prolapsing anterior leaflet with
placement of polytetrafluoroethylene (PTFE) neochordae

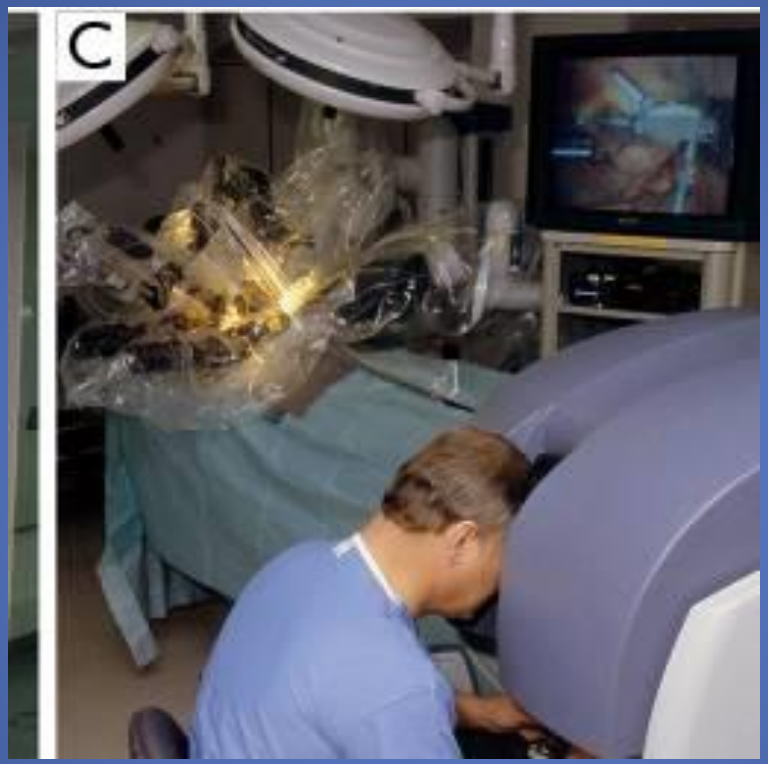
MAC

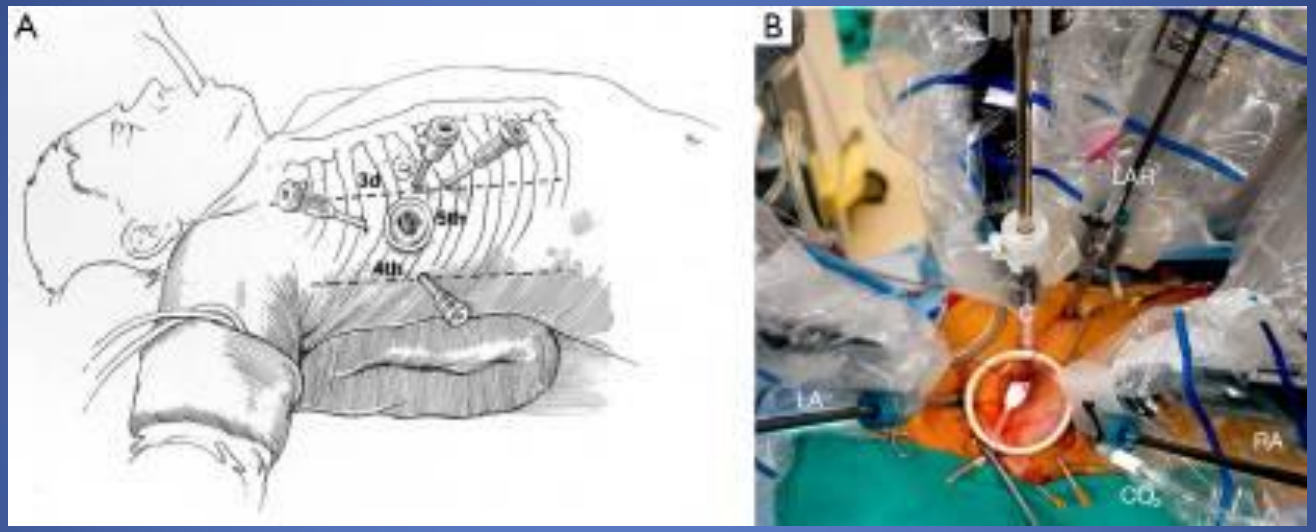

A
B
C
D
Sewing rings
Pericardial patch
Sewing ring
Transposed anterior
mitral leaflet

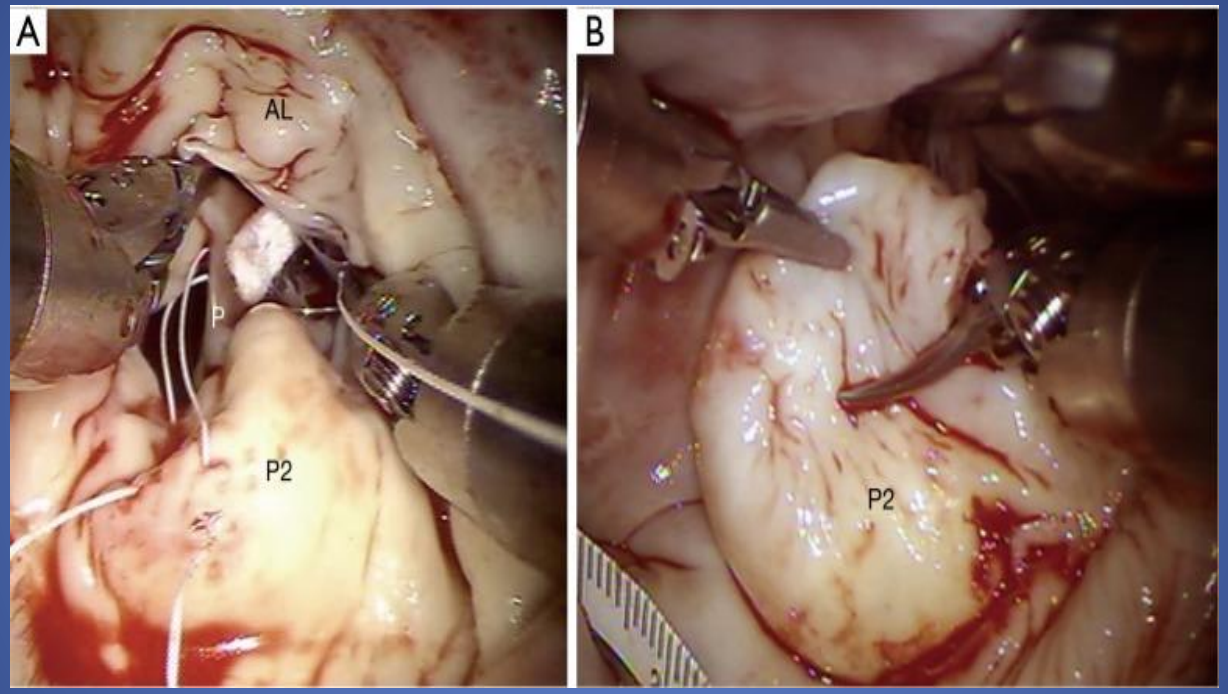
Robotic mitral valve surgery: overview, methodology, results, and perspective

Ann Cardiothorac Surg. 2016 Nov; 5(6): 544–555.




C


A
3d
5th
4th
B
LAR
LA
RA
CO_2


A
AL
P
P2
B
P2

Contraindications to robotic mitral valve repair and replacement

- Previous right thoracotomy
- Severe pulmonary dysfunction
- Myocardial infarction or ischemia <30 days
- Coronary artery disease—requiring CABG
- Severe generalized vascular disease
- Symptomatic CVD or stroke <30 days
- Poor right ventricular function
- Pulmonary hypertension (fixed >60 torr)
- Significant aortic stenosis or insufficiency
- Severe annular calcification (repairs)
- Severe liver dysfunction
- Significant bleeding disorders

Relative contraindications to robotic mitral valve surgery

- Previous sternotomy
- Moderate pulmonary dysfunction
- Asymptomatic CAD (treated)
- Coronary artery disease—requiring PCI
- Limited peripheral vascular disease
- Asymptomatic CVD
- Poor left ventricular function (EF <30%)
- Pulmonary hypertension (variable >60 torr)
- Mild to moderate aortic stenosis or insufficiency
- Moderate annular calcification

Major complications

I. Retrograde cardiopulmonary perfusion techniques always induce a risk of
- atheroembolic strokes,
- vena caval injury,
- femoral arterial complications and
- retrograde aortic dissections.

II. Phrenic nerve injury can be caused by
- over stretching the pericardium,
- cautery thermal injury,
- and/or direct instrument injury.

III. Unilateral pulmonary edema is a serious complication.

IV. Trans-thoracic clamp injuries can occur to
- the right pulmonary artery,
- left main coronary artery and
- left atrial appendage.

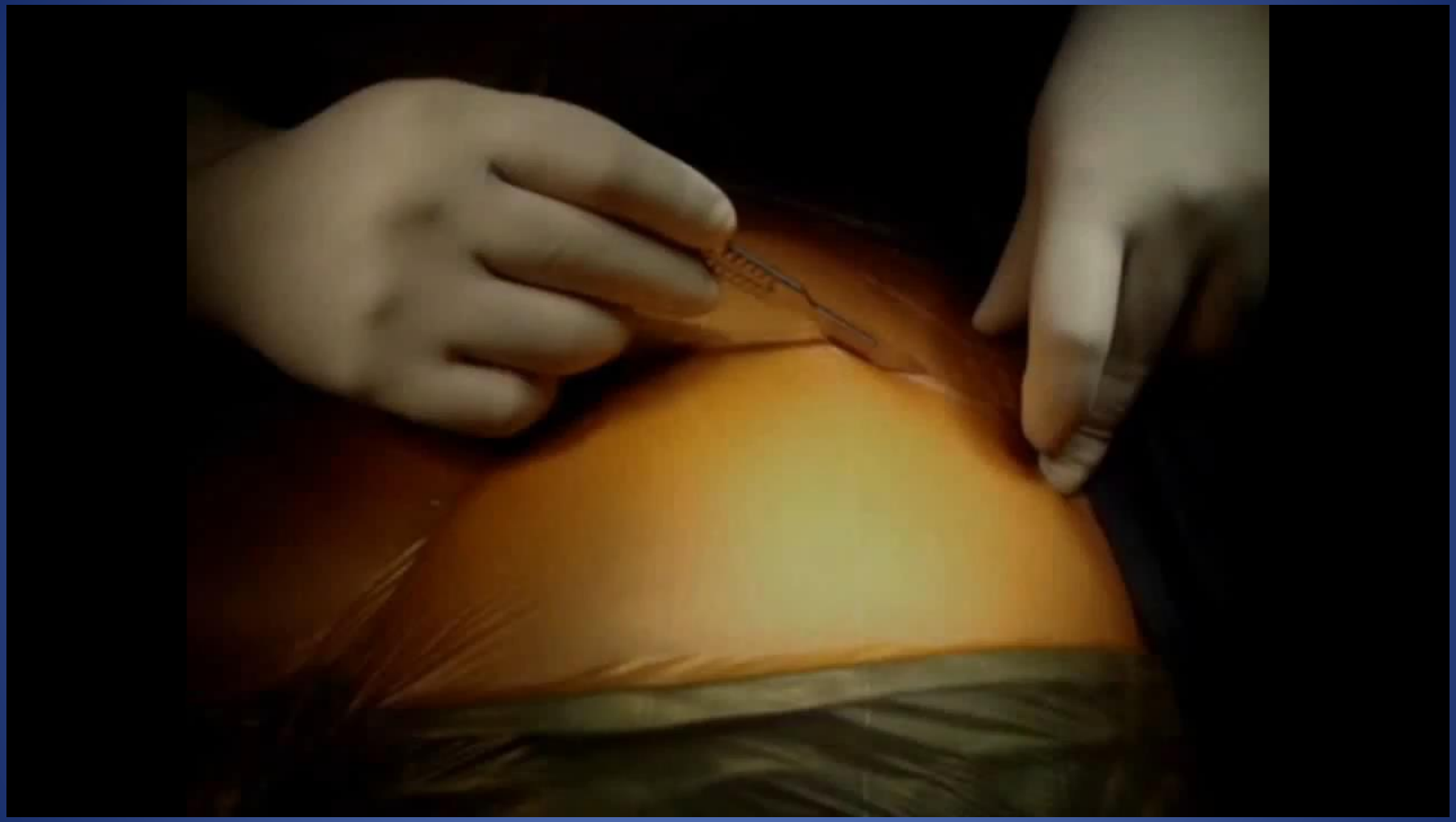
V. Right ventricular dysfunction can be minimized.

VI. Leg ischemia during retrograde perfusion can be avoided.
We place oxygen saturation monitoring patches on both legs.

Results

- After mitral valve repair for degenerative disease, 10-year freedom from reoperation is 93%.
- The postoperative return to sinus rhythm was associated with 94% ± 4.8% survival at 4 years versus 77% ± 13% in the event of persisting atrial fibrillation.
- Patients in AF versus those in sinus rhythm had more impaired ventricular function (78.9% versus 46.2% respectively; $p<0.001$) and lower survival at 5 years (73% versus 88%, respectively).
- By use of a multivariate model, only poor ventricular function remained significant factor ($p=0.01$) affecting survival.

(Circulation 2001 Sep 18; 104)

MAIN CONCLUSIONS

- Mitral valve repair in patients with mitral insufficiency with good ventricular function is superior to replacement and should be performed in all such patients when diastolic pulmonary pressure is $\leq$15 mmHg.
- It is always accompanied with annuloplasty ring and the TEE intraoperatively is absolute necessary.
- Atrial fibrillation is not a contraindication if it is < 1 year duration