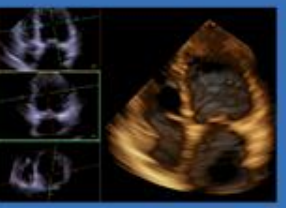


EuroValve
April 26-27, 2018

Patient with a particular Barlow's disease

A.Berrebi, M.D.

HEGP – Paris V

Institut Mutualiste Montsouris

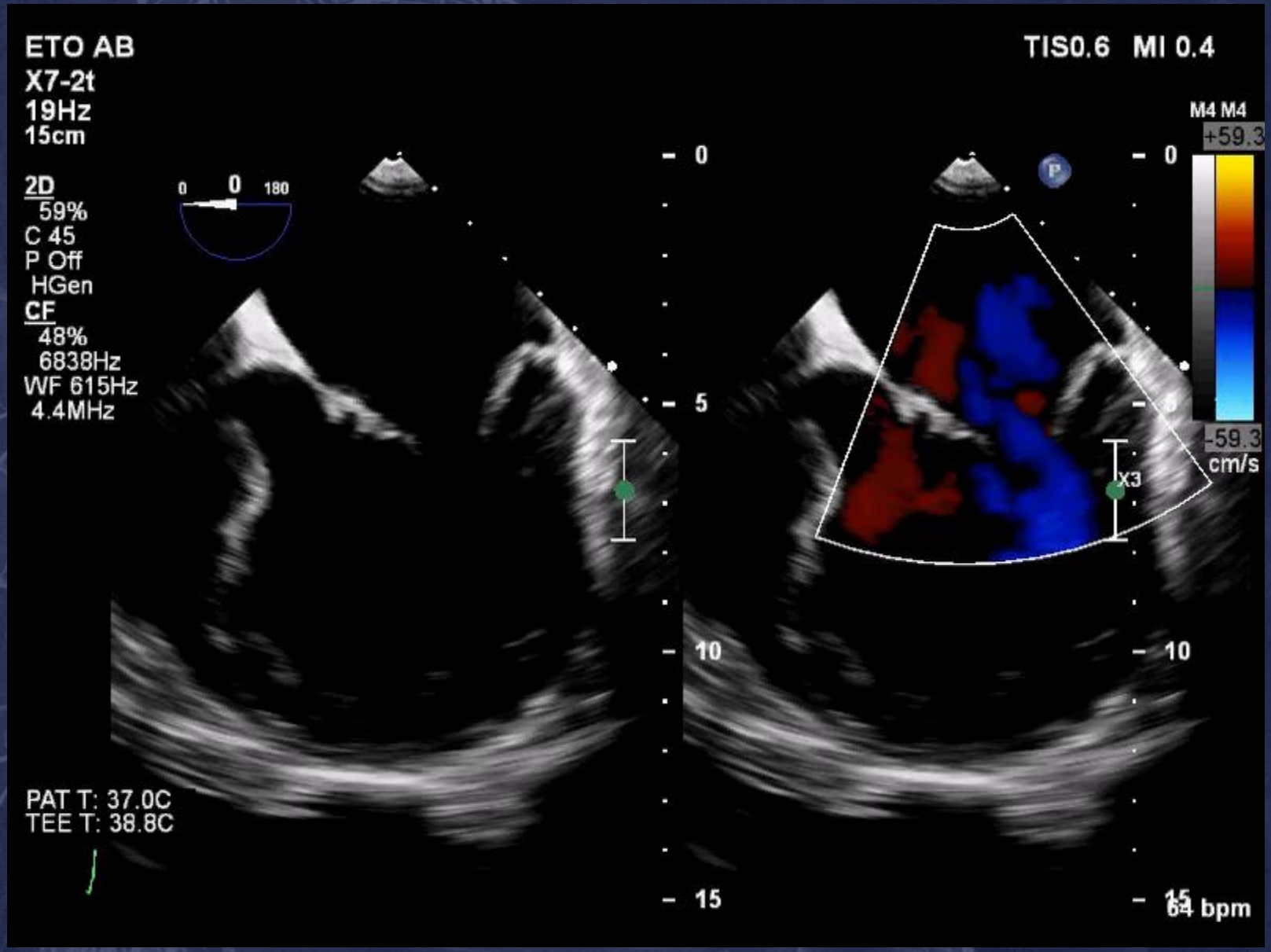
Disclosure

Speaker's bureau:

- ✓ Edwards Lifesciences
- ✓ Philips Healthcare

Mrs D, 27 yrs old

- ✓ Long history of murmur discovered at 12 yrs old
- ✓ Familial history of Barlow's disease
- ✓ NYHA II-Sinus Rhythm-ERO 42 mm^2 - no PHT
- ✓ EF 65% - ESD 45mm – LA vol 68 ml/m^2
- ✓ TEE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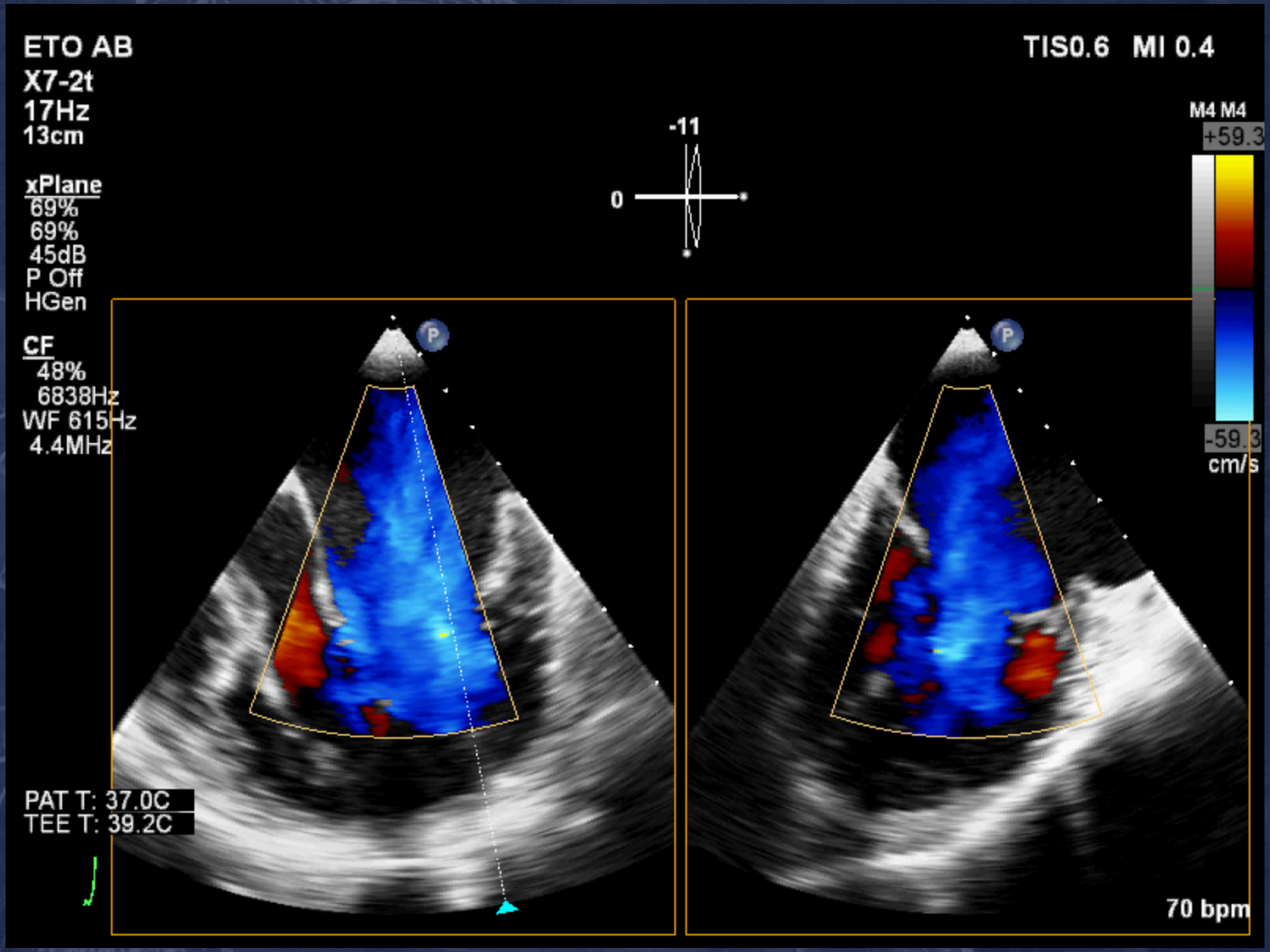
X7-2t
19Hz
15cm
2D
59%
C 45
P Off
HGen
CF
48%
6838Hz
WF 615Hz
4.4MHz
TIS0.6 MI 0.4
M4 M4
+59.3
-59.3
cm/s
0
180
X3
PAT T: 37.0C
TEE T: 38.8C
64 bpm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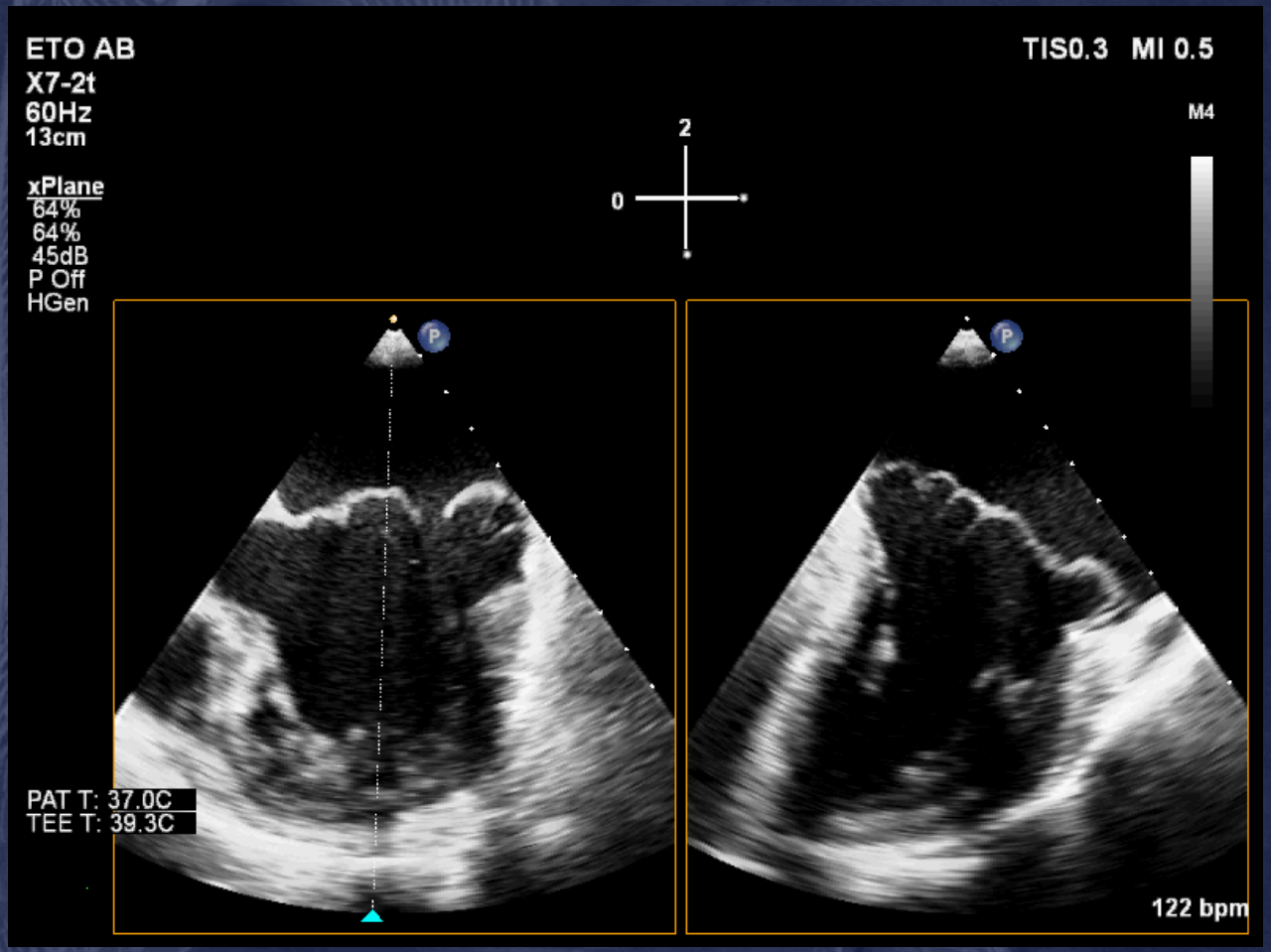
17Hz
13cm
xPlane
69%
69%
45dB
P Off
HGen
CF
48%
6838Hz
WF 615Hz
4.4MHz
TIS0.6 MI 0.4
-11
0
M4 M4
+59.3
-59.3
cm/s
PAT T: 37.0C
TEE T: 39.2C
70 bpm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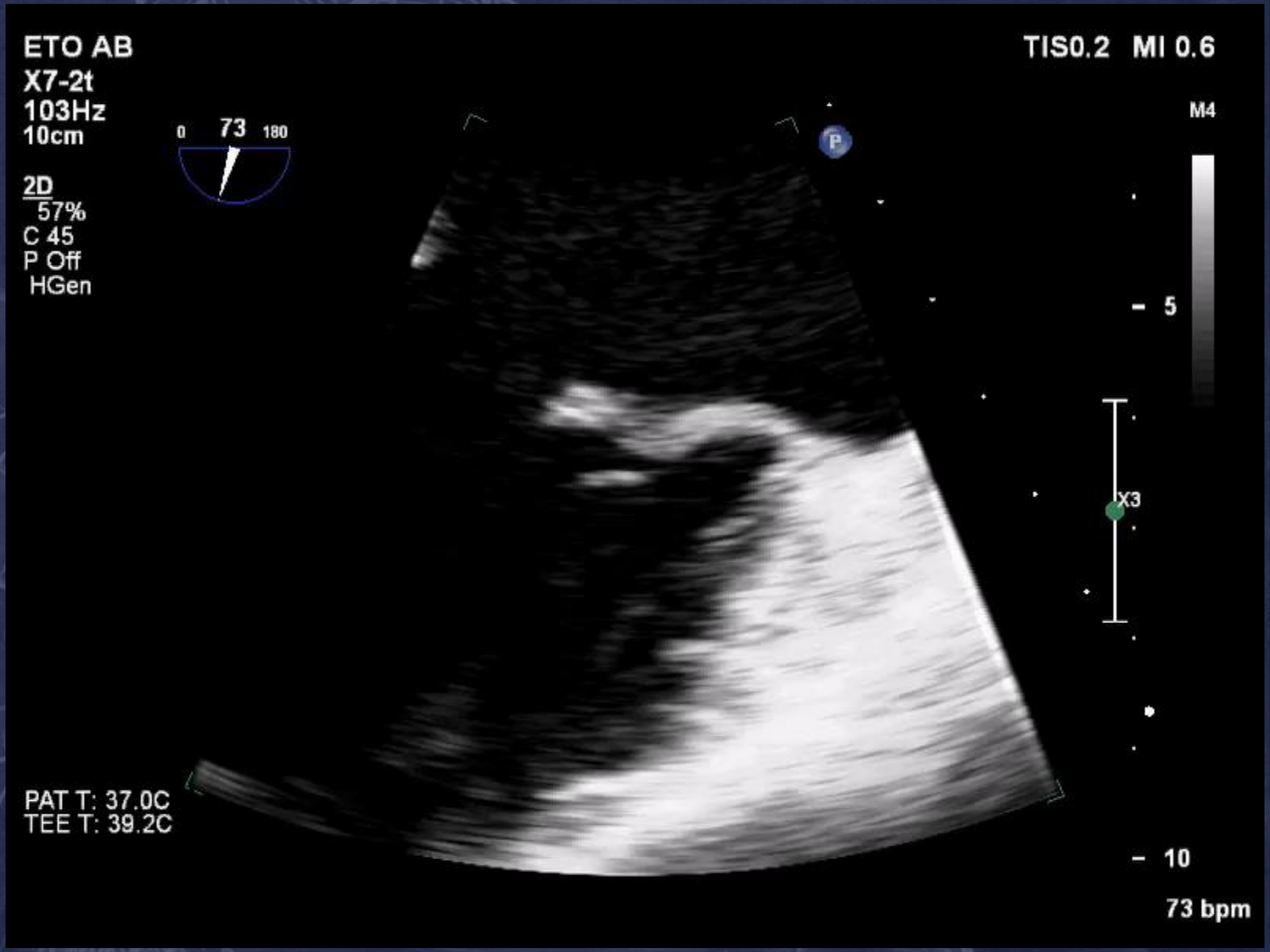
X7-2t
60Hz
13cm
xPlane
64%
64%
45dB
P Off
HGen
TIS0.3 MI 0.5
M4
2
0
PAT T: 37.0C
TEE T: 39.3C
122 bpm


ETO AB
X7-2t
103Hz
10cm
0
73
180
2D
57%
C 45
P Off
HGen
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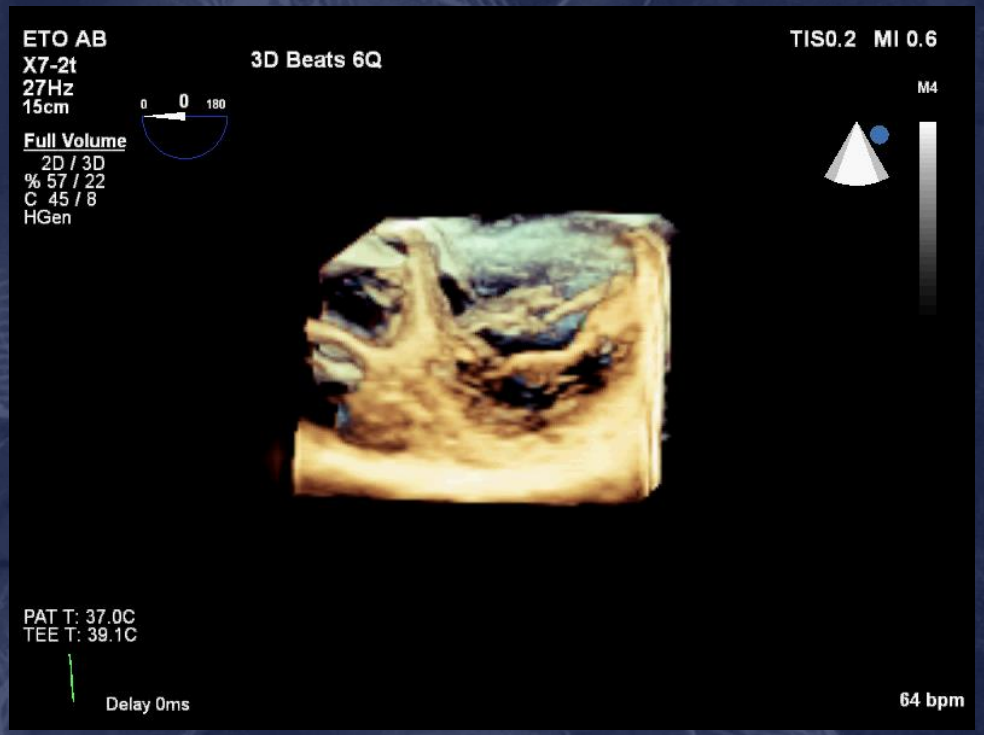
M4
5
X3
10
73 bpm
PAT T: 37.0C
TEE T: 39.2C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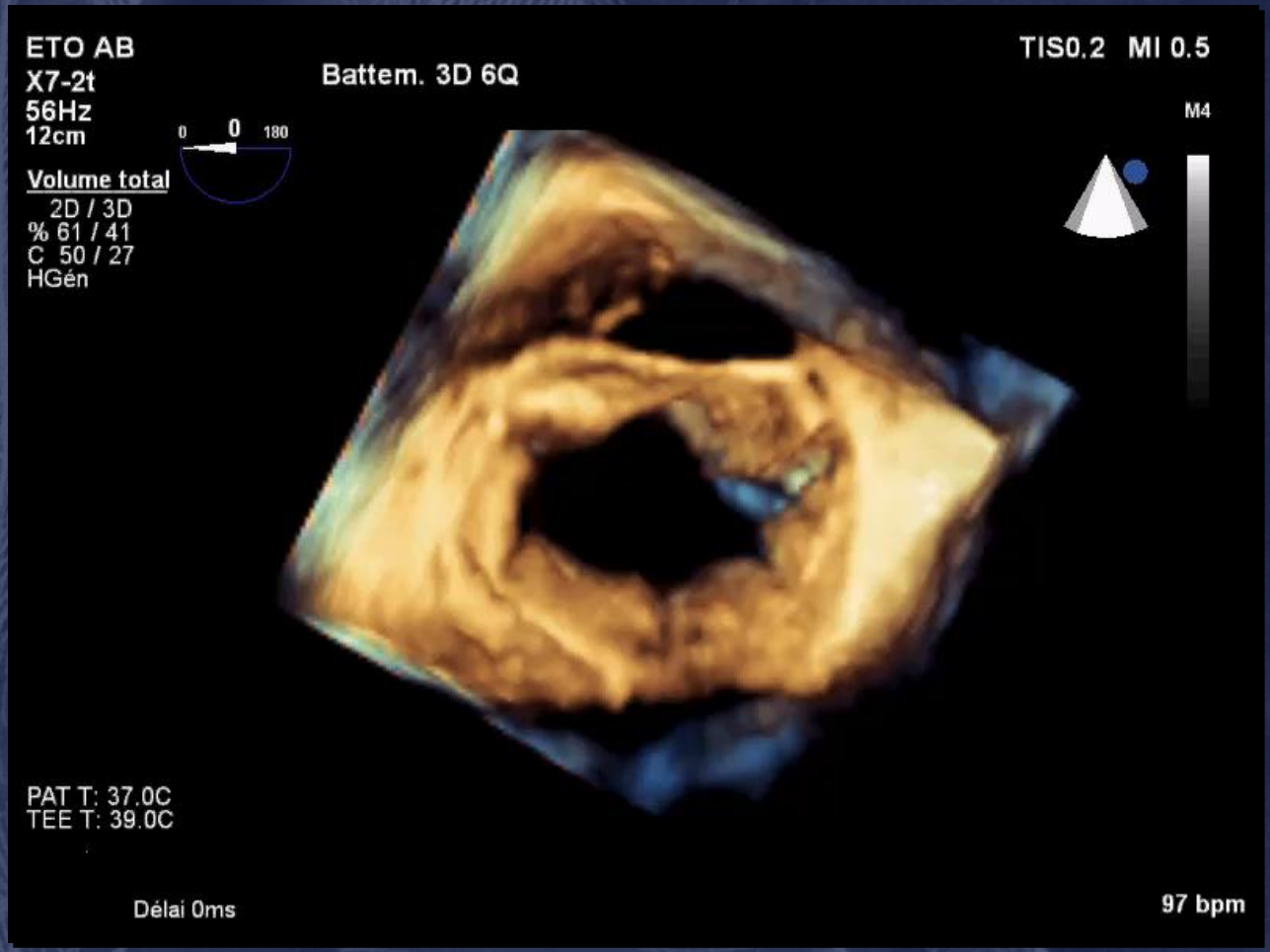
X7-2t
27Hz
15cm
Full Volume
2D / 3D
% 57 / 22
C 45 / 8
HGen
0 0 180
3D Beats 6Q
TIS0.2 MI 0.6
M4
PAT T: 37.0C
TEE T: 39.1C
Delay 0ms
64 bpm


ETO AB
X7-2t
56Hz
12cm
Volume total
2D / 3D
% 61 / 41
C 50 / 27
HGén
Battem. 3D 6Q
TIS0.2 MI 0.5
M4
PAT T: 37.0C
TEE T: 39.0C
Délai 0ms
97 bpm

Surgical decision ?

Surgical strategy ?

A - No surgery yet, too complex case !

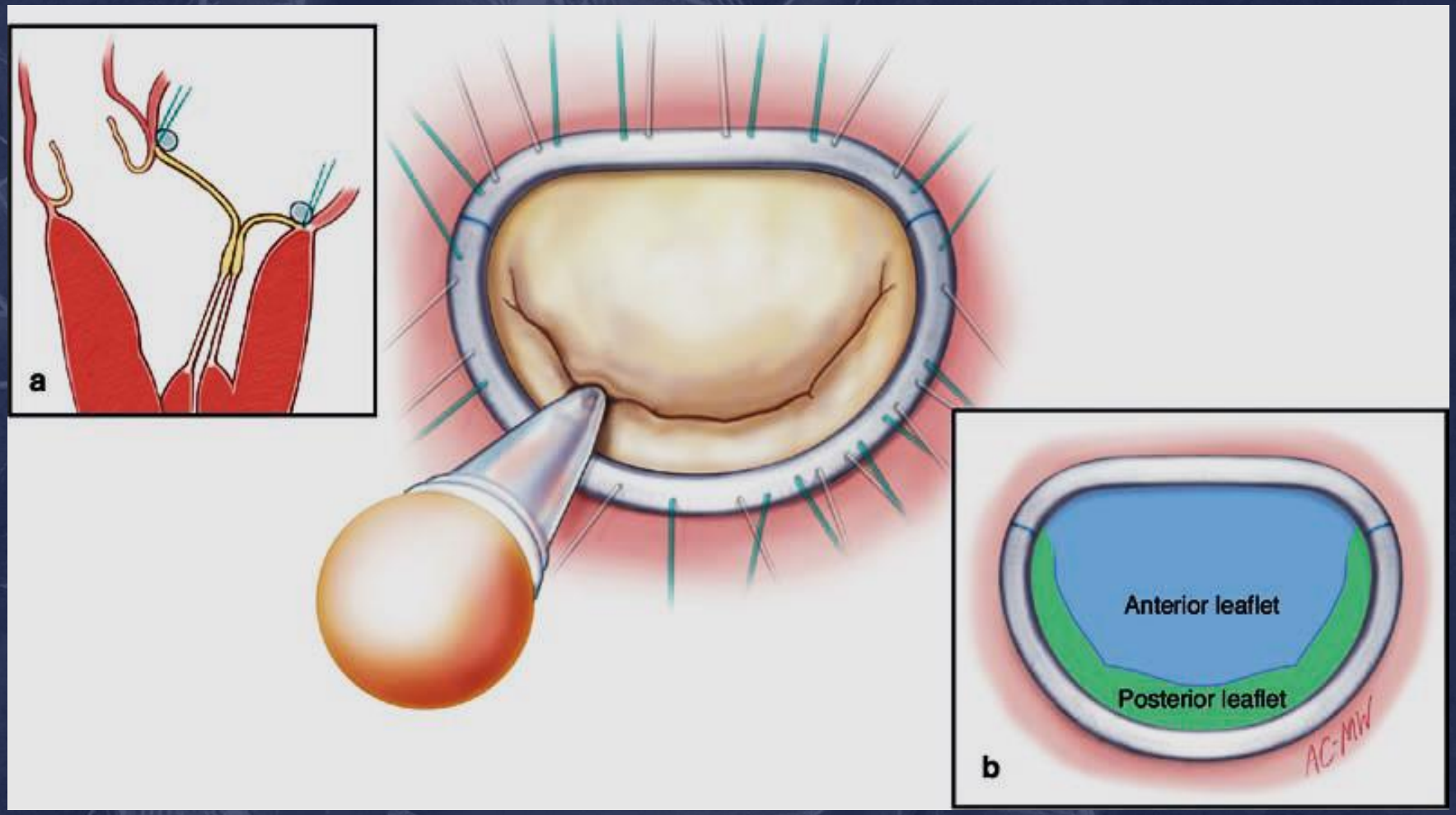
B - Artificial chordae with ring annuloplasty

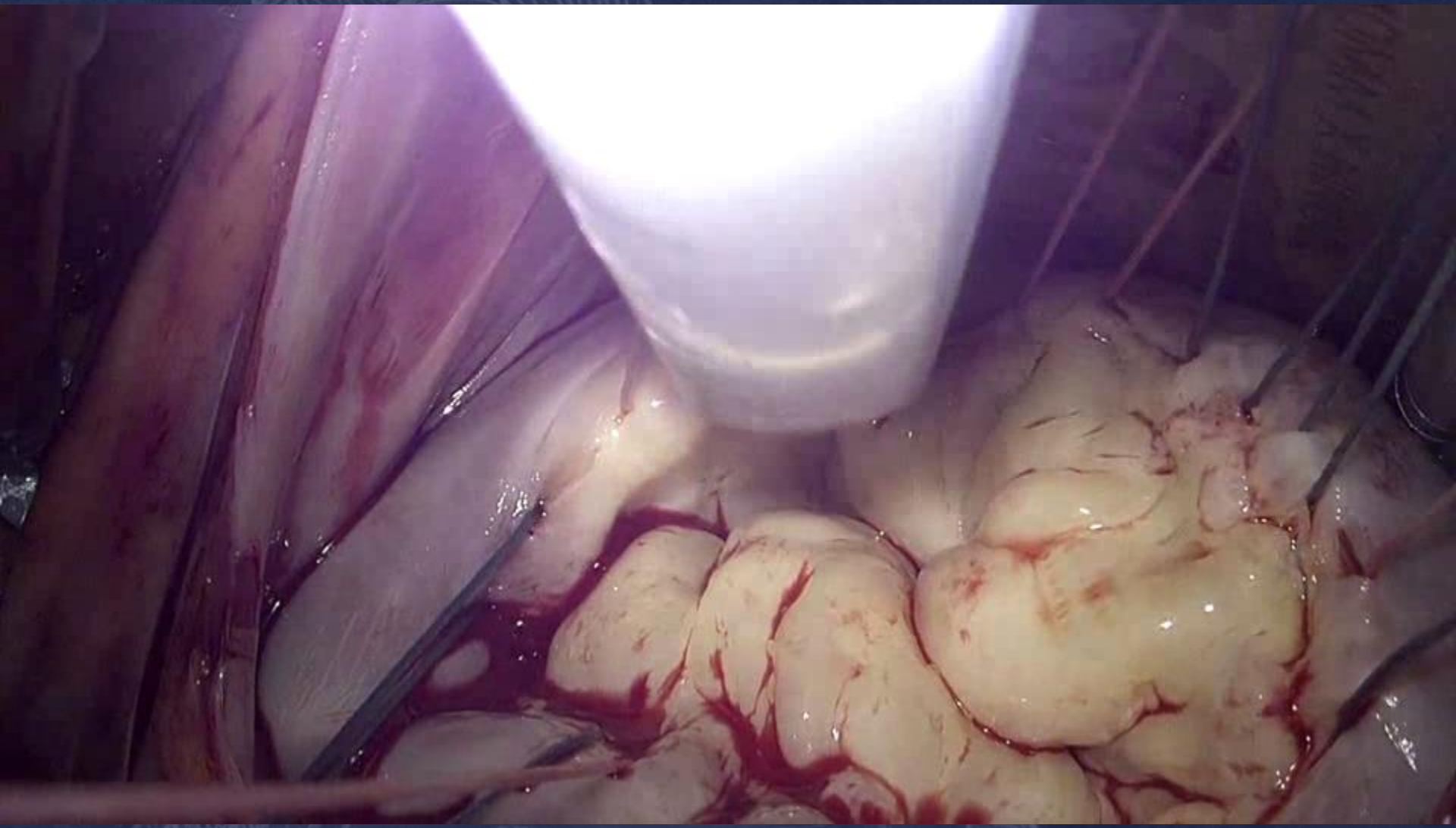
C - PM repositioning with ring annuloplasty

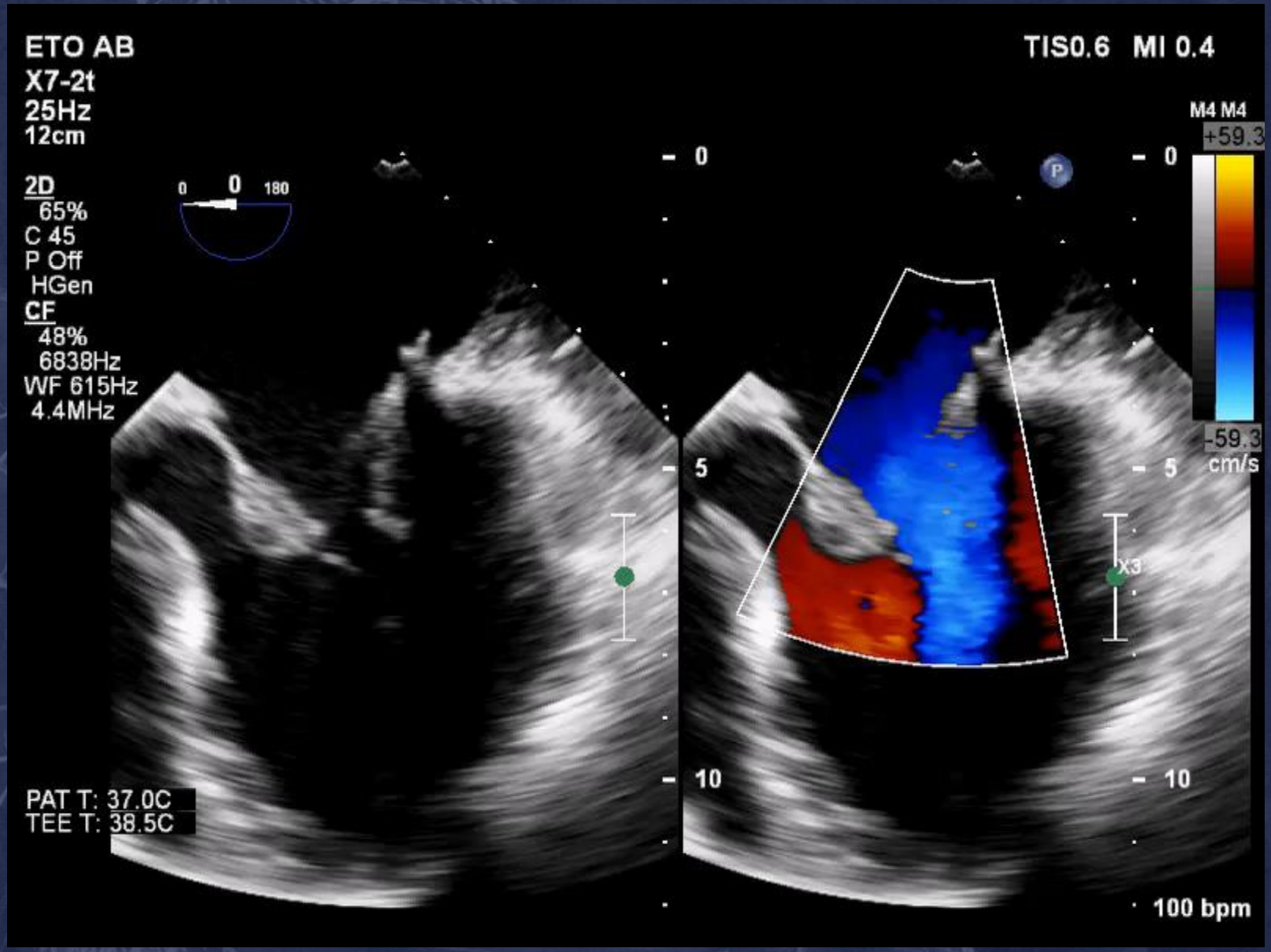
D - Only a large annuloplasty ring

E - Mechanical prosthesis

Only a large annuloplasty ring !



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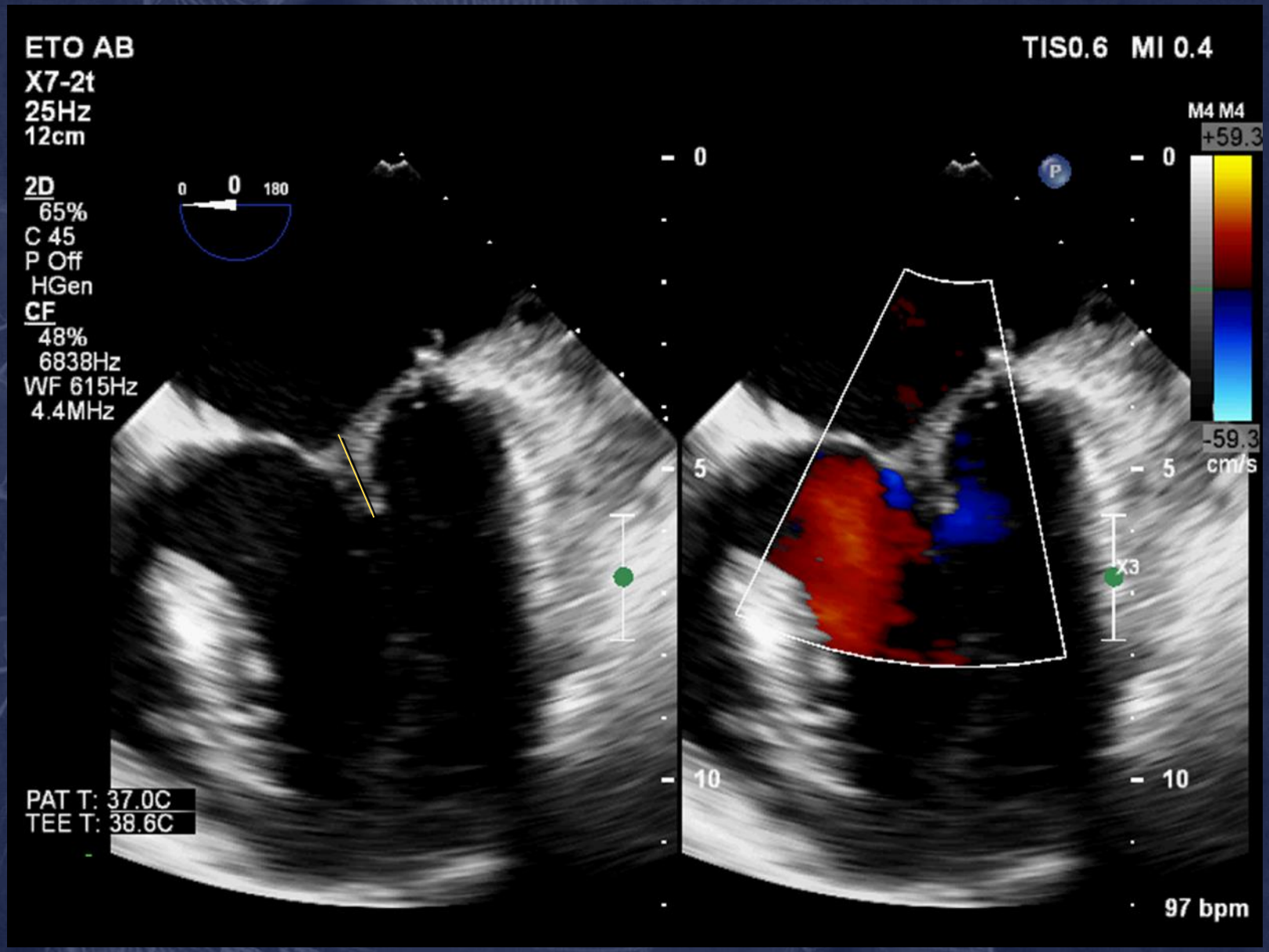
X7-2t
25Hz
12cm
2D
65%
C 45
P Off
HGen
CF
48%
6838Hz
WF 615Hz
4.4MHz
TIS0.6 MI 0.4
M4 M4
+59.3
-59.3
cm/s
PAT T: 37.0C
TEE T: 38.5C
100 bpm

Good coaptation and no billowing



Barlow disease: Simple and complex

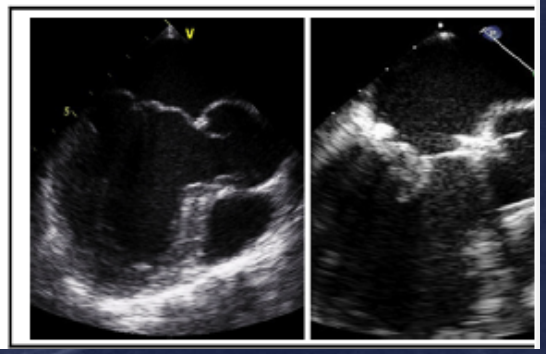
Simple repair approach for mitral regurgitation in Barlow disease

Sagit Ben Zekry, MD,[a,c] Dan Spiegelstein, MD,[b,c] Leonid Sternik, MD,[b,c] Innon Lev, MD,[b,c] Alexander Kogan, MD,[b,c] Rafael Kuperstein, MD,[a,c] and Ehud Raanani, MD[b,c]

ABSTRACT

Objective: Mitral valve repair for myxomatous Barlow disease is a challenging procedure requiring complex surgery with less than optimal results. The use of ring-only repair has been previously reported but never analyzed or followed-up. We investigated this simple valve repair approach for patients with Barlow disease and multisegment involvement causing mainly central jet.

Methods: Of 572 patients who underwent mitral valve repair for mitral regurgi-



J Thorac Cardiovasc Surg 2015;150:1077

Mitral repair with the sole use of a semi-rigid band in a sub-population of patients with Barlow's disease: a 4-year follow-up with stress echocardiography

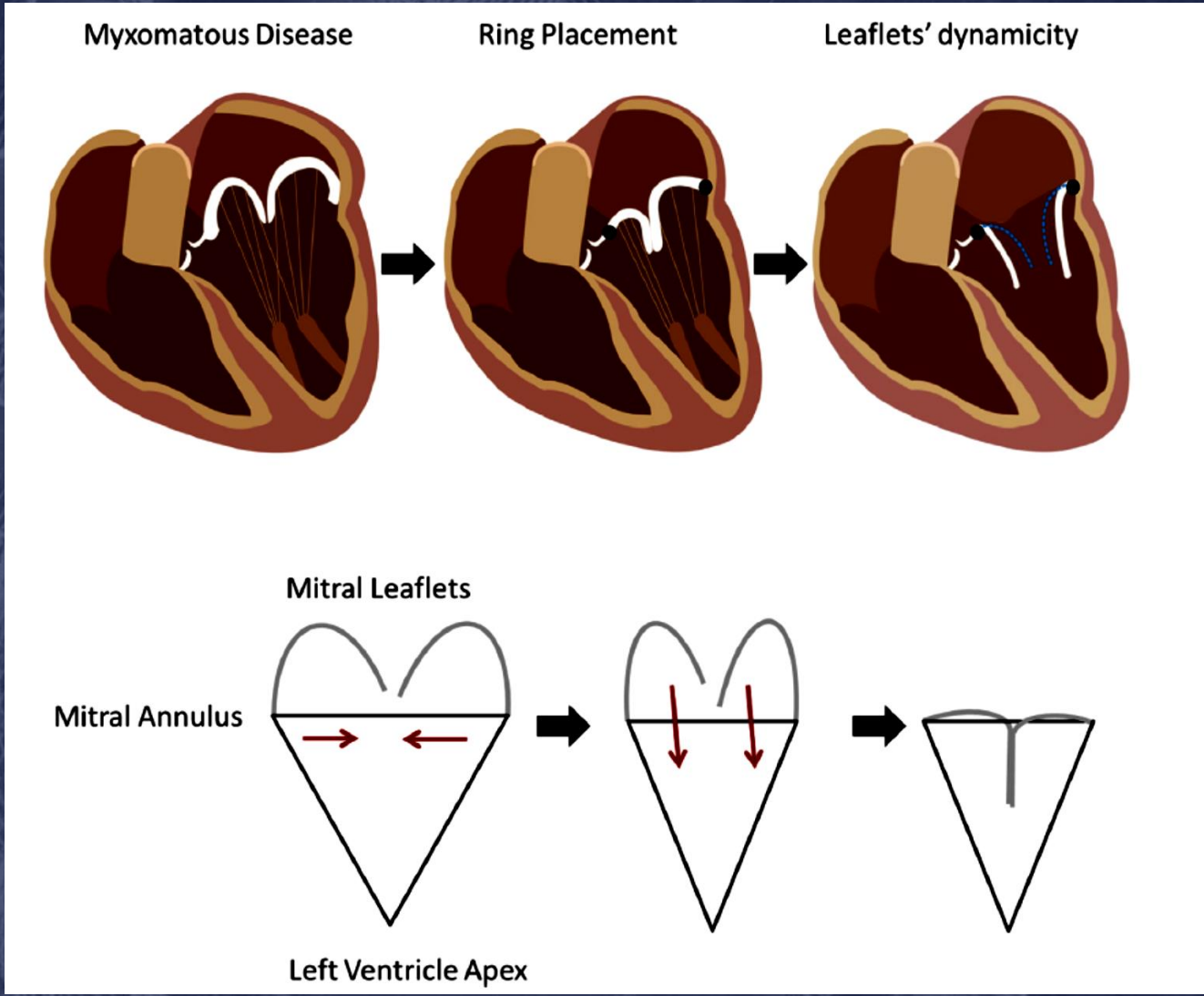
Ruggero De Paulis*, Daniele Maselli, Andrea Salica, Stefania Leonetti, Lorenzo Guerrieri Wolf, Luca Weltert, Saverio Nardella and Alessandro Bellisario

Interactive CardioVascular and Thoracic Surgery 21 (2015) 316–321

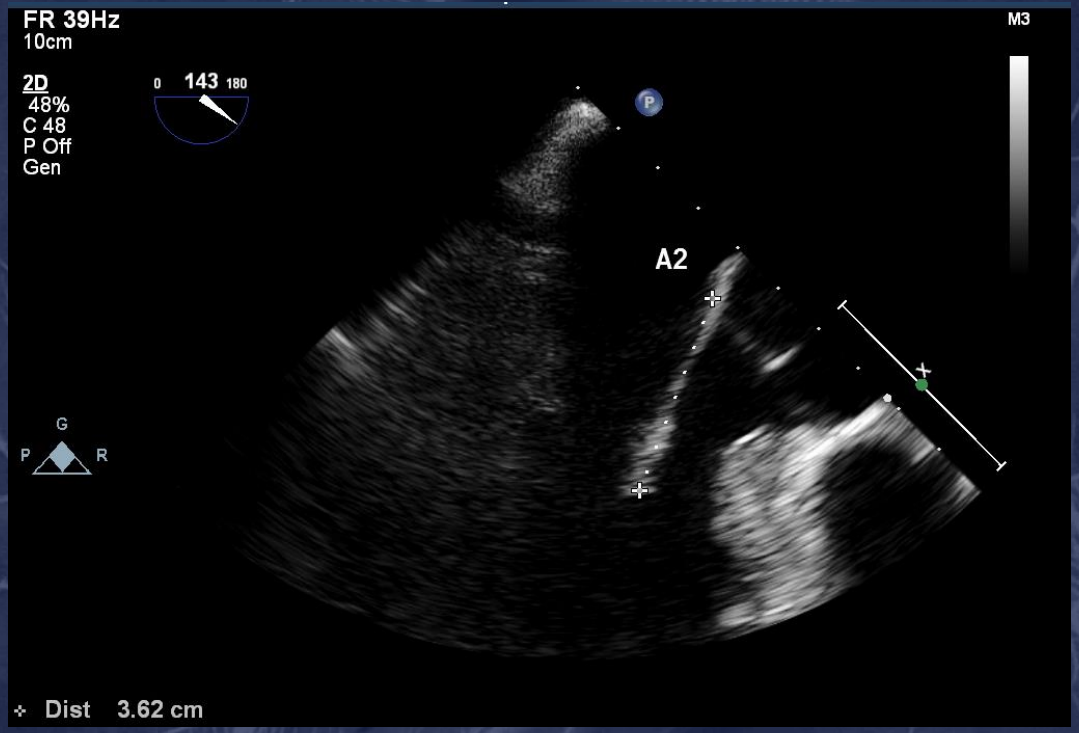
Simple repair approach for mitral regurgitation in Barlow disease

Sagit Ben Zekry, MD,[a,c] Dan Spiegelstein, MD,[b,c] Leonid Sternik, MD,[b,c] Innon Lev, MD,[b,c] Alexander Kogan, MD,[b,c] Rafael Kuperstein, MD,[a,c] and Ehud Raanani, MD[b,c]

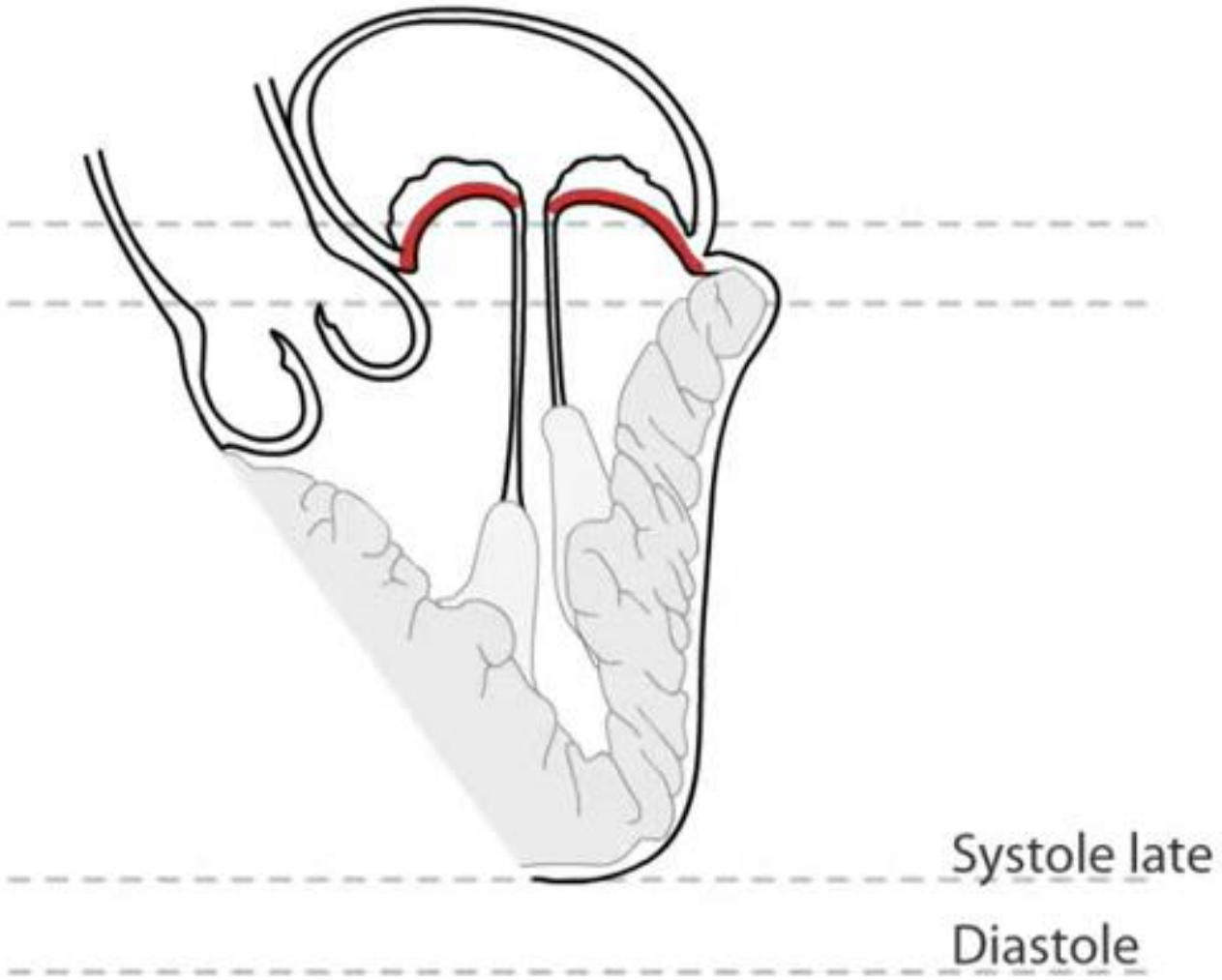
(J Thorac Cardiovasc Surg 2015;150:1071-7)



Sizing is crucial



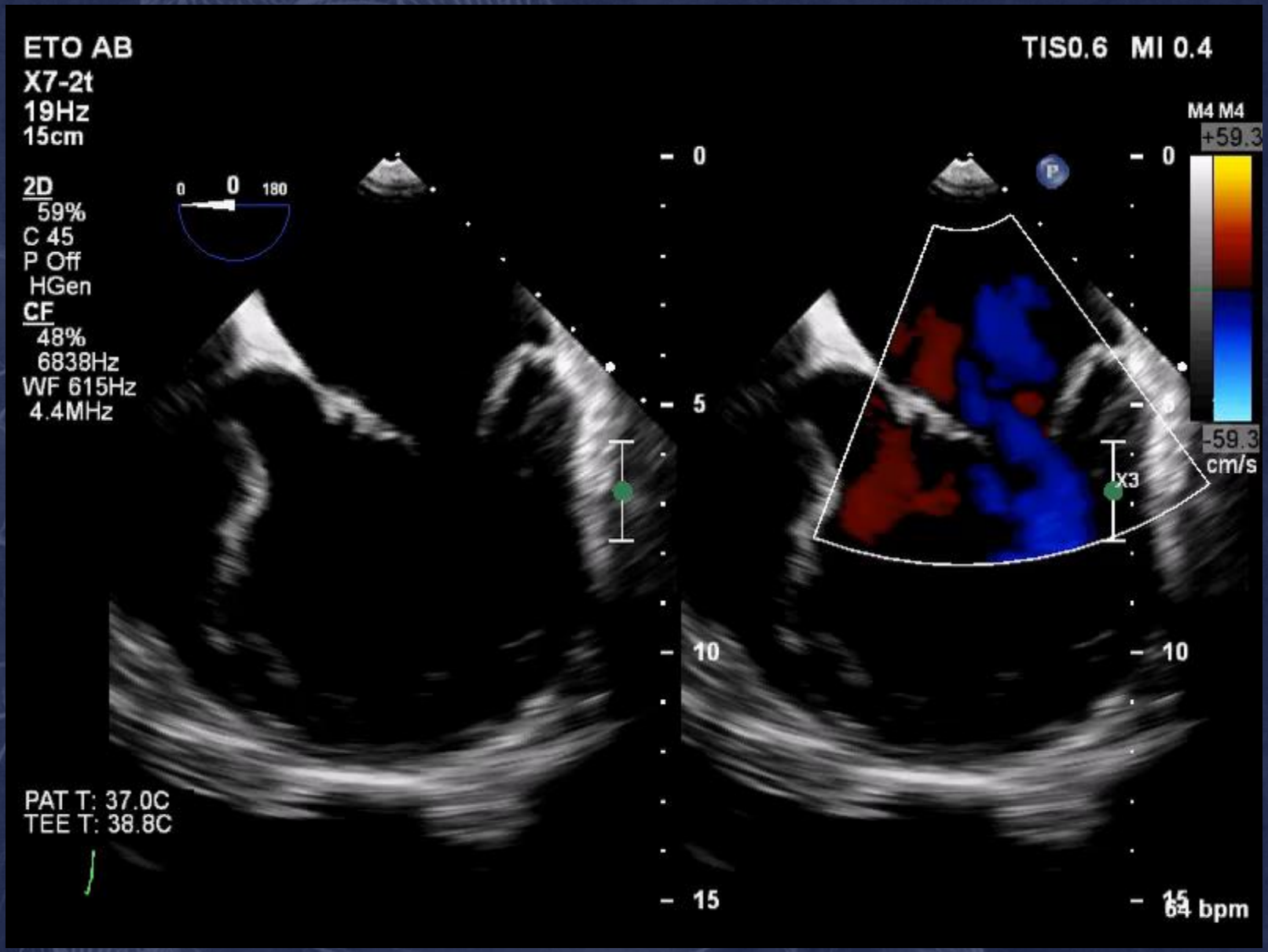
Never undersize in degenerative disease: risk of SAM ++



Courtesy of R.Klautz

Particular echo pattern in Barlow

- ✓ Bileaflet prolapse
- ✓ Symmetric prolapse: central jet
- ✓ No chordal rupture and/or elongation
- ✓ Dynamic prolapse with PM end-systolic upward motion
- ✓ Mitral annular disjunction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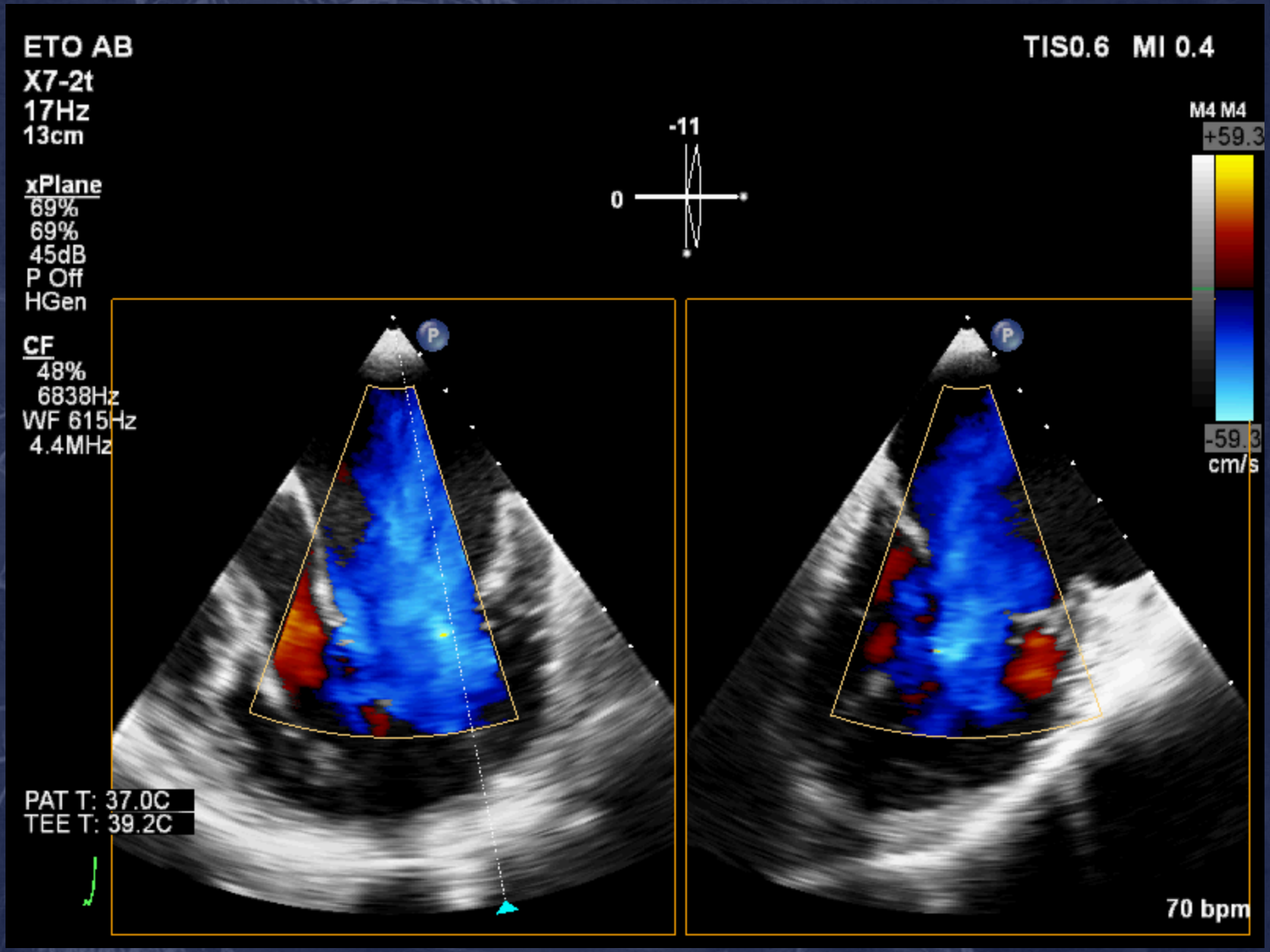
19Hz
15cm
2D
59%
C 45
P Off
HGen
CF
48%
6838Hz
WF 615Hz
4.4MHz
0
0
180
TIS0.6 MI 0.4
M4 M4
+59.3
-59.3
cm/s
X3
0
5
10
15
PAT T: 37.0C
TEE T: 38.8C
64 bpm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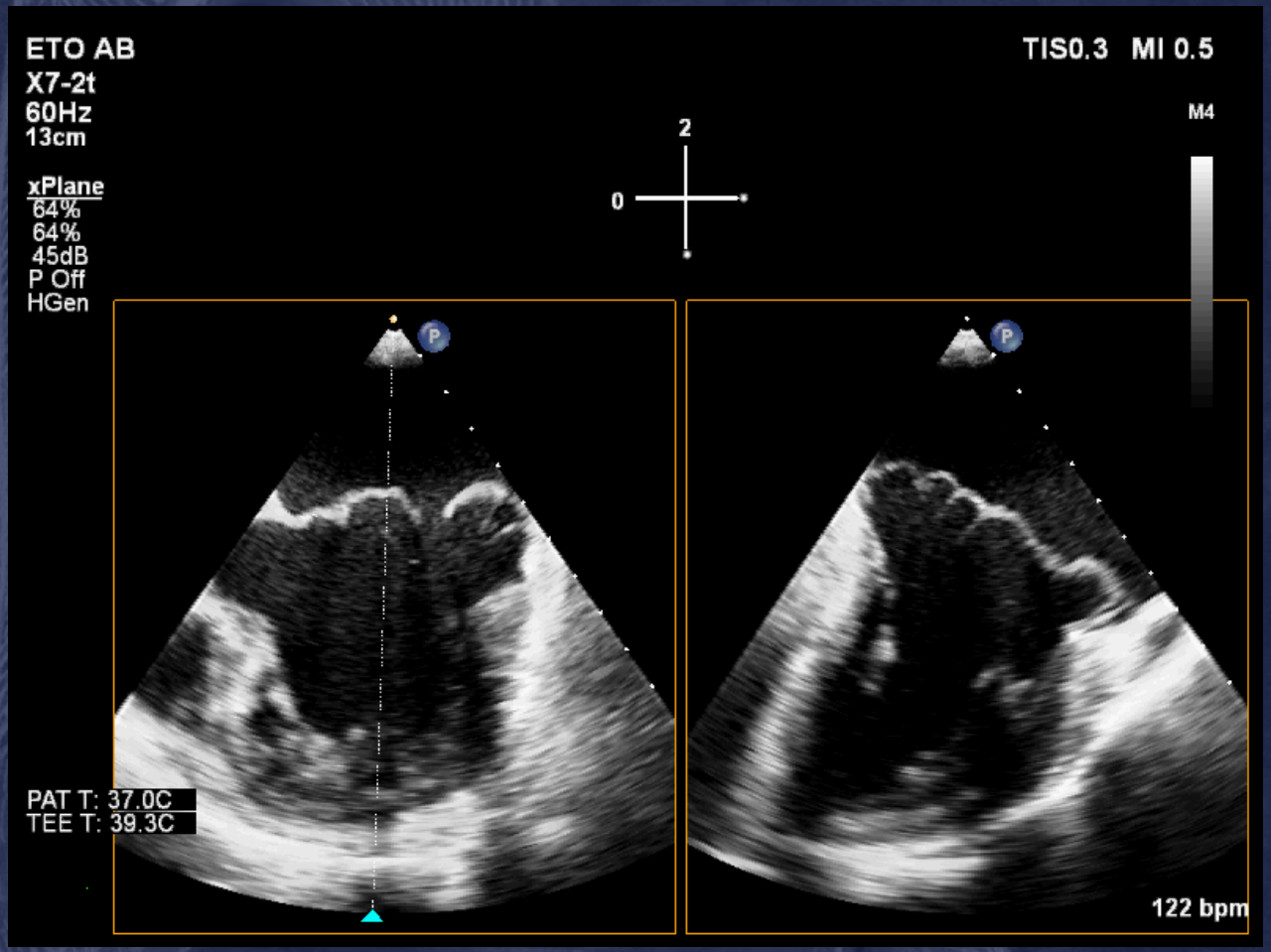
HGen
CF
48%
6838Hz
WF 615Hz
4.4MHz
TIS0.6 MI 0.4
-11
0
M4 M4
+59.3
-59.3
cm/s
PAT T: 37.0C
TEE T: 39.2C
70 bpm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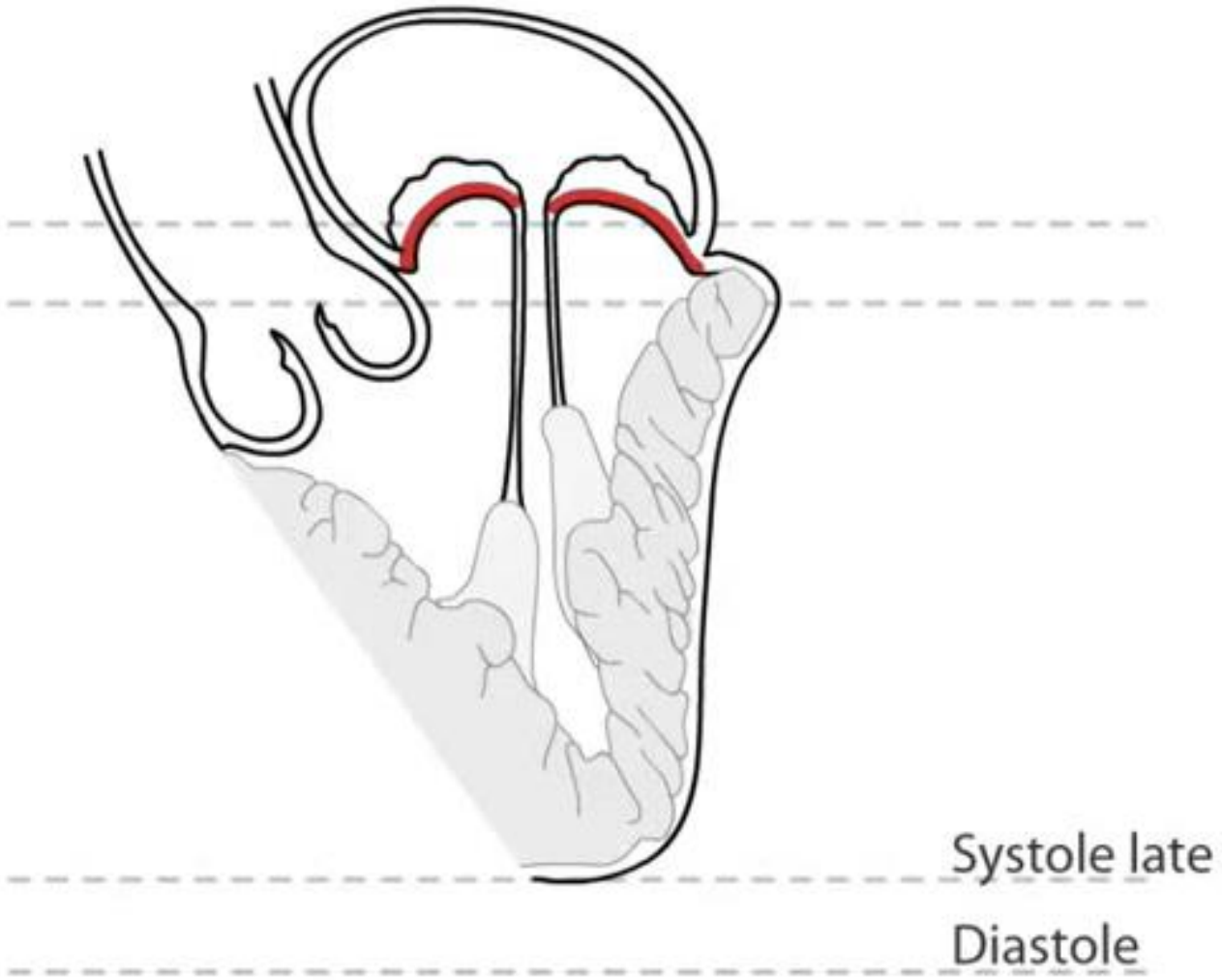
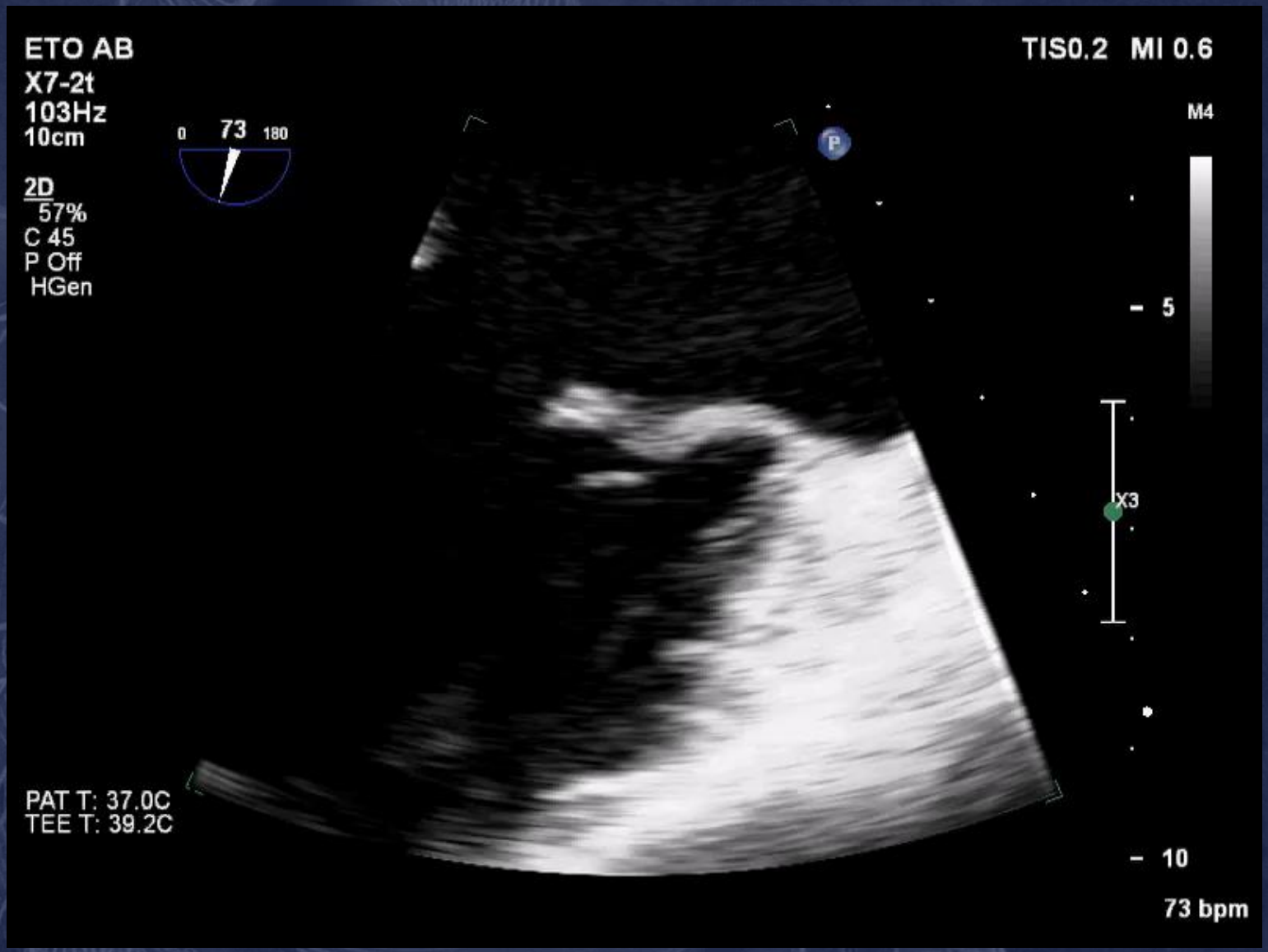
60Hz
13cm
xPlane
64%
64%
45dB
P Off
HGen
TIS0.3 MI 0.5
M4
2
0
PAT T: 37.0C
TEE T: 39.3C
122 bpm

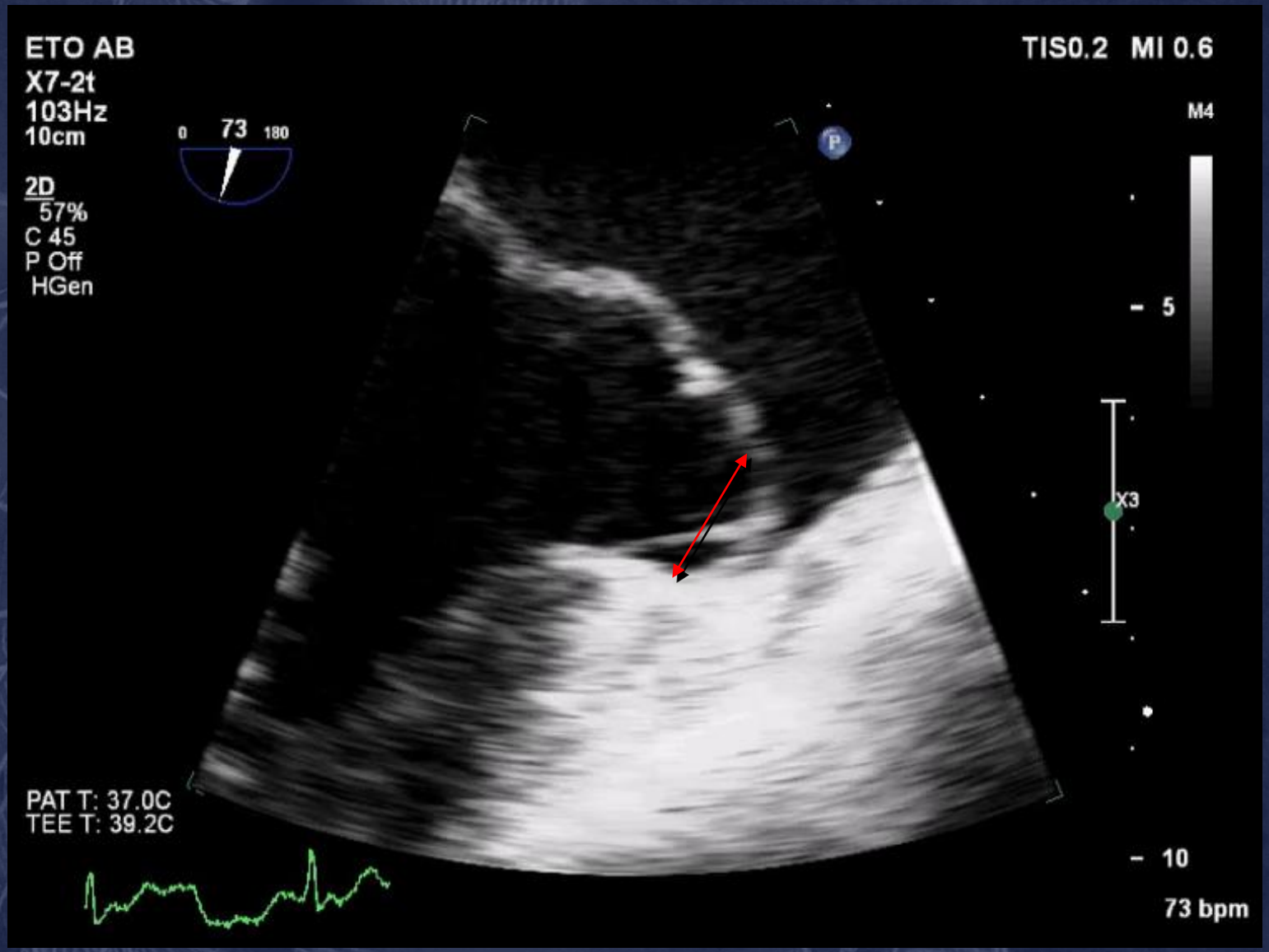


Courtesy of R.Klautz

Mitral Annular Disjunction



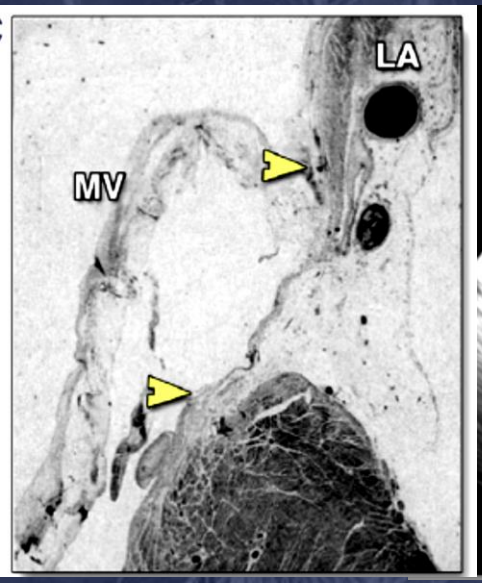
Mitral Annular Disjunction

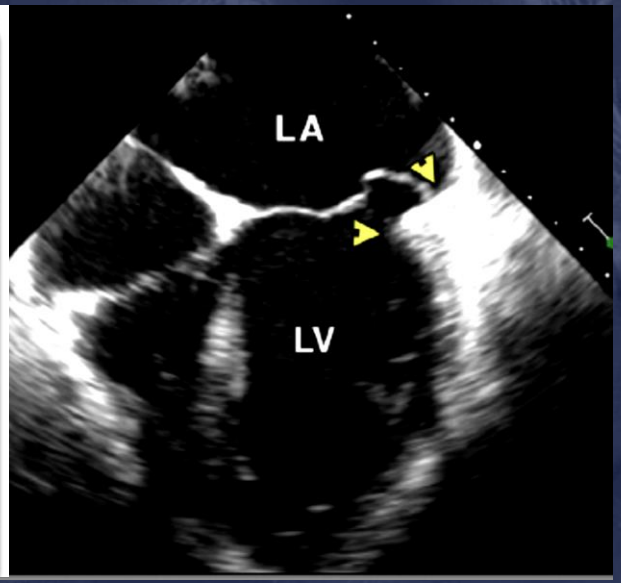


Functional Implication of Mitral Annular Disjunction in Mitral Valve Prolapse

A Quantitative Dynamic 3D Echocardiographic Study

Alex Pui-Wai Lee, MD,[a] Chun-Na Jin, PhD,[a] Yiting Fan, MM,[a,b] Randolph H.L. Wong, MBChB,[c] Malcolm J. Underwood, MD,[b] Song Wan, MD[b]





EDITORIAL COMMENT

Mitral Annular Disjunction

The Forgotten Component of Myxomatous Mitral Valve Disease*

Maurice Enriquez-Sarano, MD

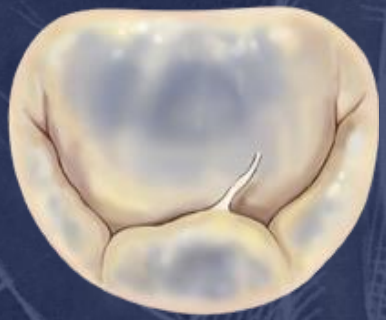
(J Am Coll Cardiol Img 2017;10:1424–33)

Spectrum of Degenerative MR*

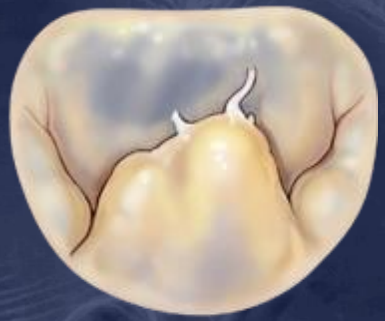
**A.Carpentier. J Thorac Cardiovasc Surg 1983*

Excess of tissue ?

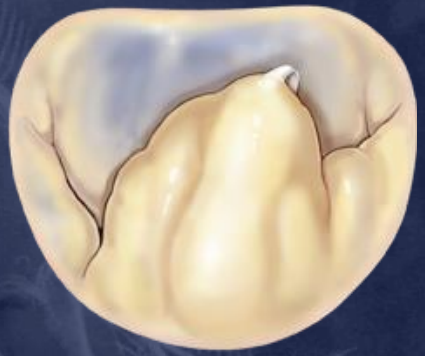
FED



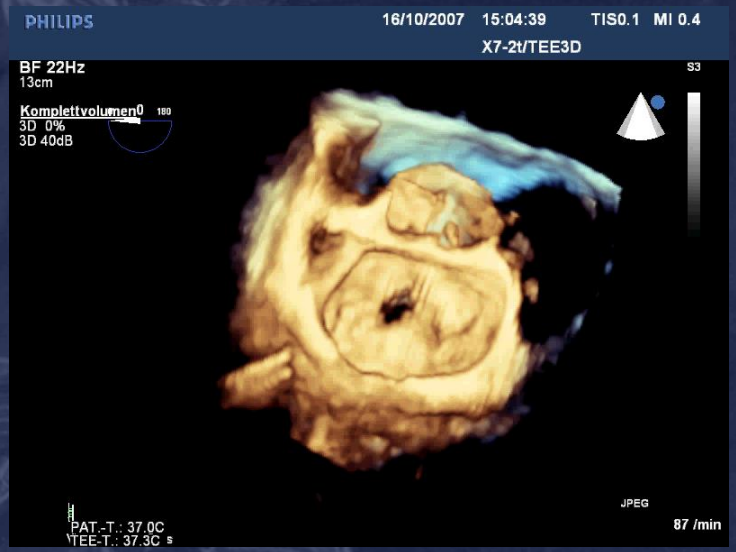
FED+



Form Fruste



Barlow's



LETTER TO THE EDITOR

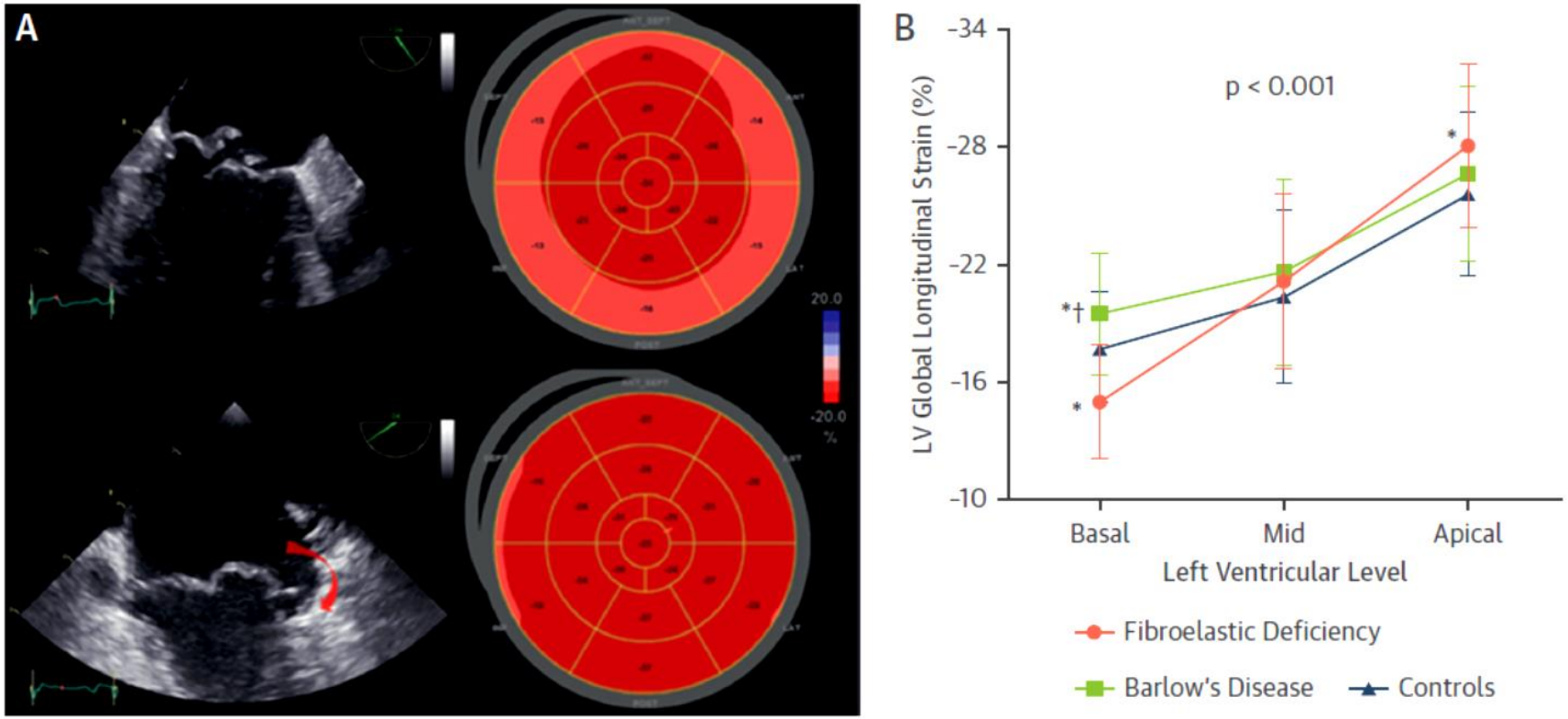
Regional Left Ventricular Myocardial Mechanics in Degenerative Myxomatous Mitral Valve Disease

A Comparison Between Fibroelastic Deficiency and Barlow's Disease

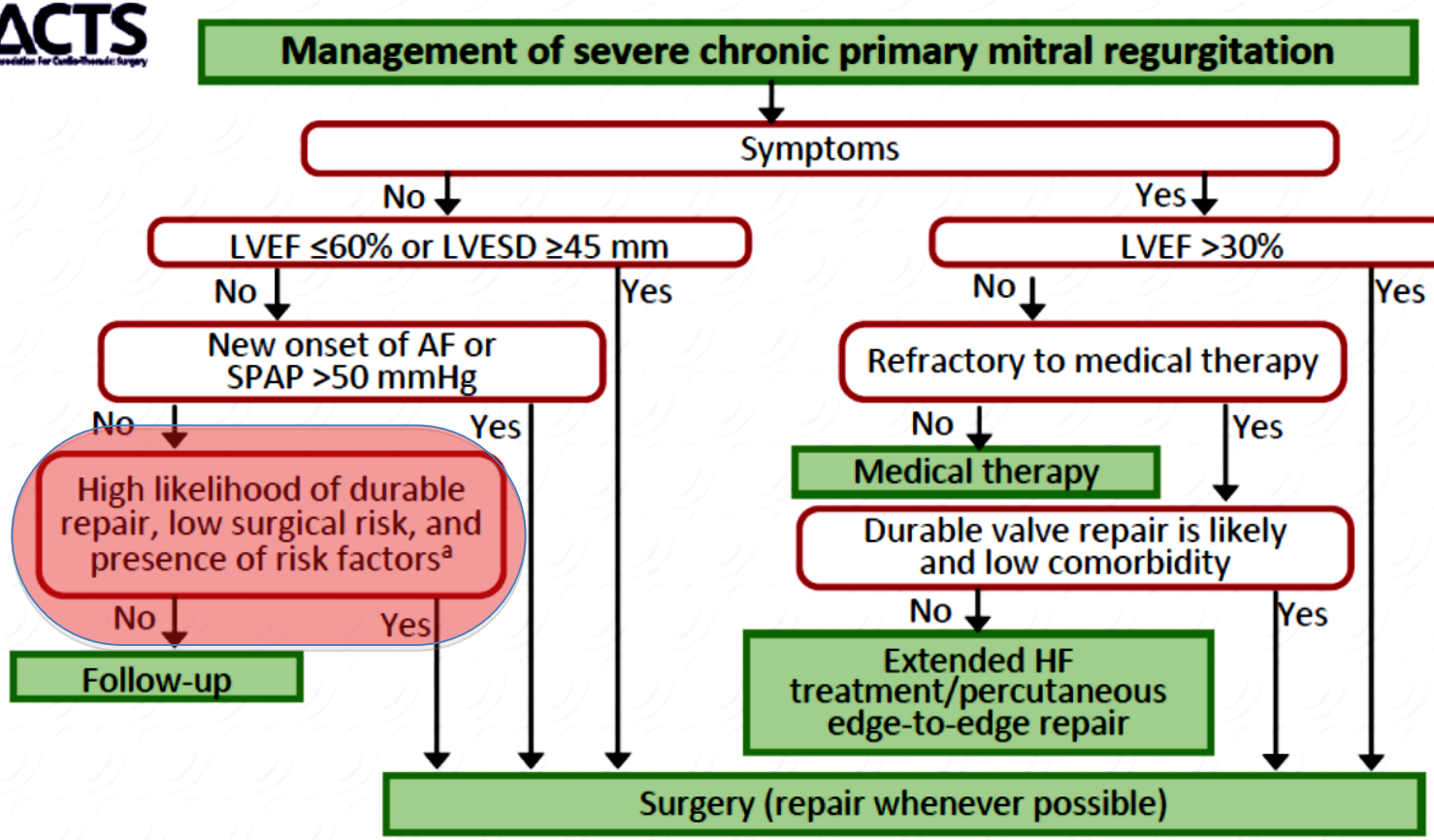
that in patients with FED, valvular incompetence may be exclusively a valvular problem, whereas in patients with BD, the hyper-enhanced function of the LV basal segments may contribute to a functional prolapse.

Delgado V. JACC CV Imaging *in press 2018*

FIGURE 1 Regional Assessment of LV Longitudinal Strain in Barlow Disease and Fibroelastic Deficiency



New 2017 ESC Guidelines: Heart Team in a Valve Center



[a] *LVESD ≥40 mm and one of the following present: flail leaflet or LA volume ≥60 mL/m² BSA at sinus rhythm*

www.escardio.org/guidelines

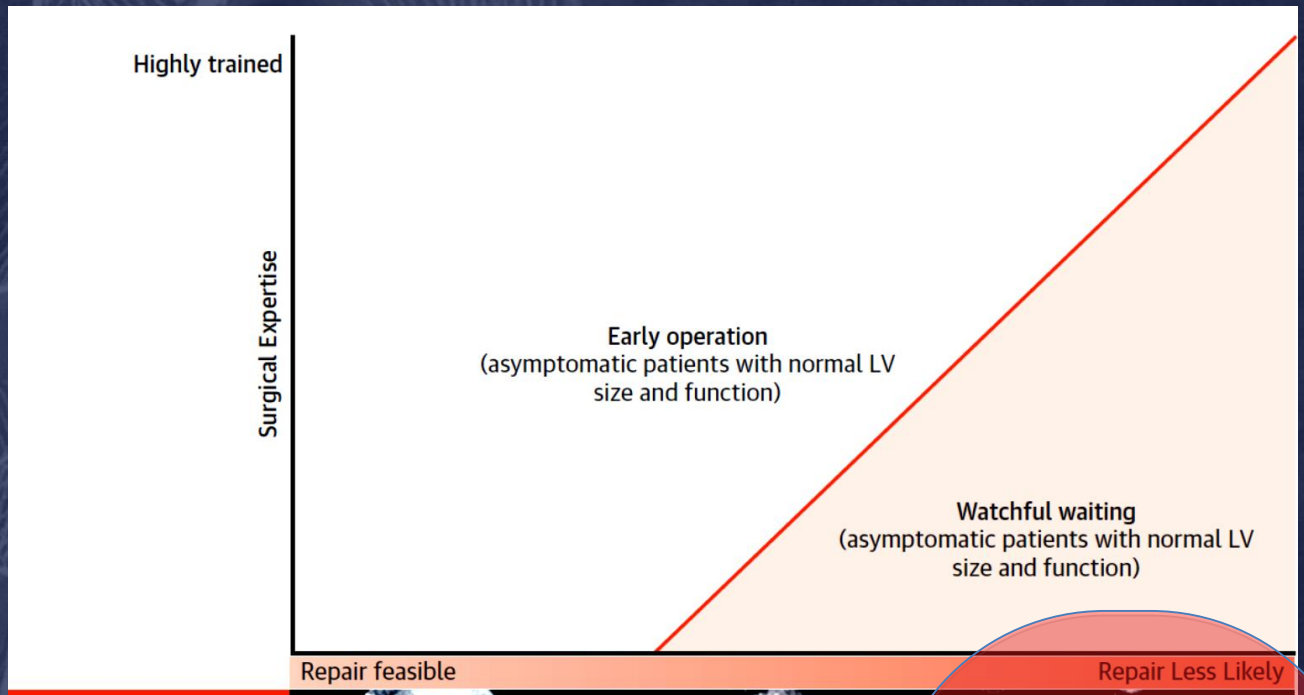
2017 ESC/EACTS Guidelines for the Management of Valvular Heart Disease (European Heart Journal 2017 - doi:10.1093/eurheartj/ehx391)

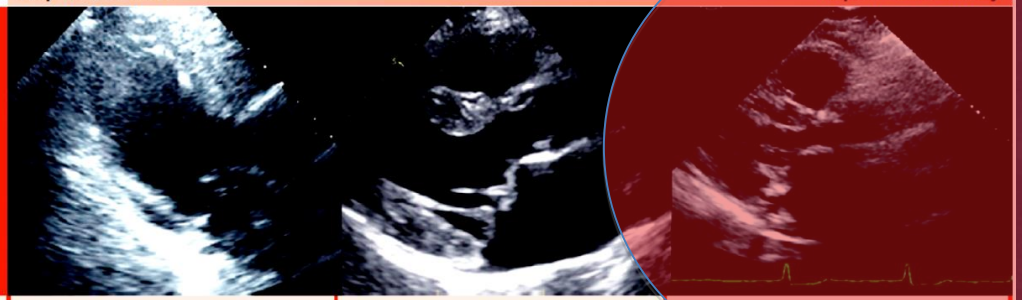
Eur Heart J. 2017;38:2739–91

Mitral Valve Regurgitation in the Contemporary Era

Insights Into Diagnosis, Management, and Future Directions

El Sabbagh, A. et al. J Am Coll Cardiol Img. 2018;11(4):628-43.



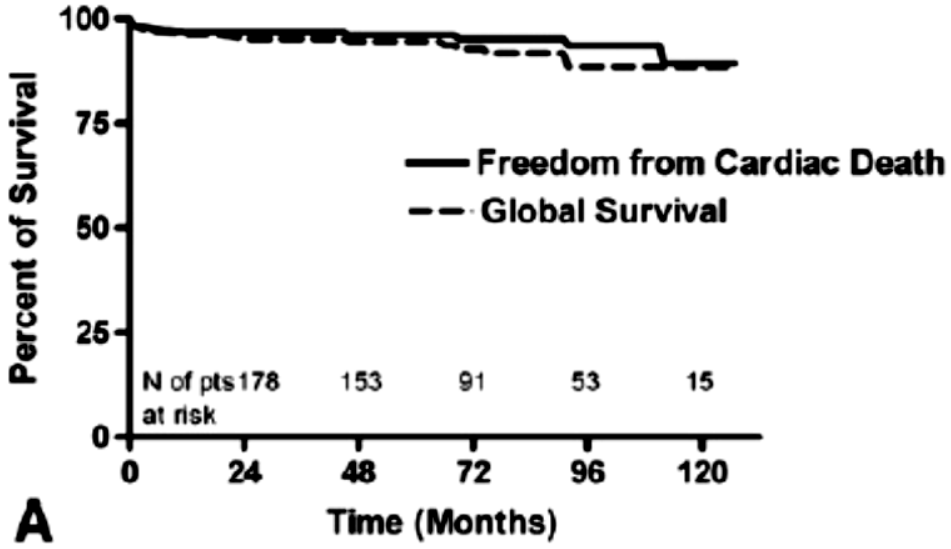


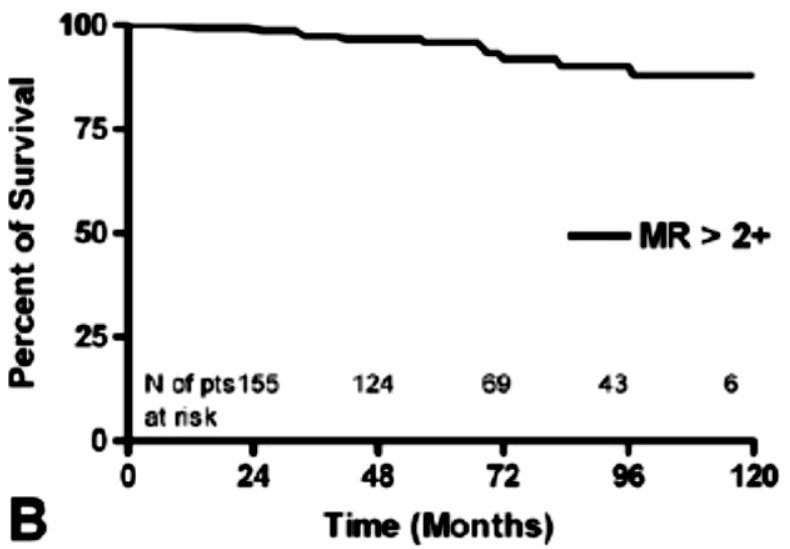
Primary MR			
Prolapse Segment	Posterior	Anterior	Bileaflet Severe Barlow
Calcification	None	Mild	Moderate
Annular dilatation	Mild	Moderate	Severe
Other		Perforation, Cleft	Rheumatic

Repair of Barlow's disease revisited: towards a new simple paradigm ?

Mitral valve reconstruction in Barlow disease: Long-term echographic results and implications for surgical management

Jérôme Jouan, MD,[a,b] Alain Berrebi, MD,[a,b] Sylvain Chauvaud, MD,[a,b] Philippe Menasché, MD, PhD,[a,b,c] Alain Carpentier, MD, PhD,[a,b] and Jean-Noël Fabiani, MD, PhD[a,b]

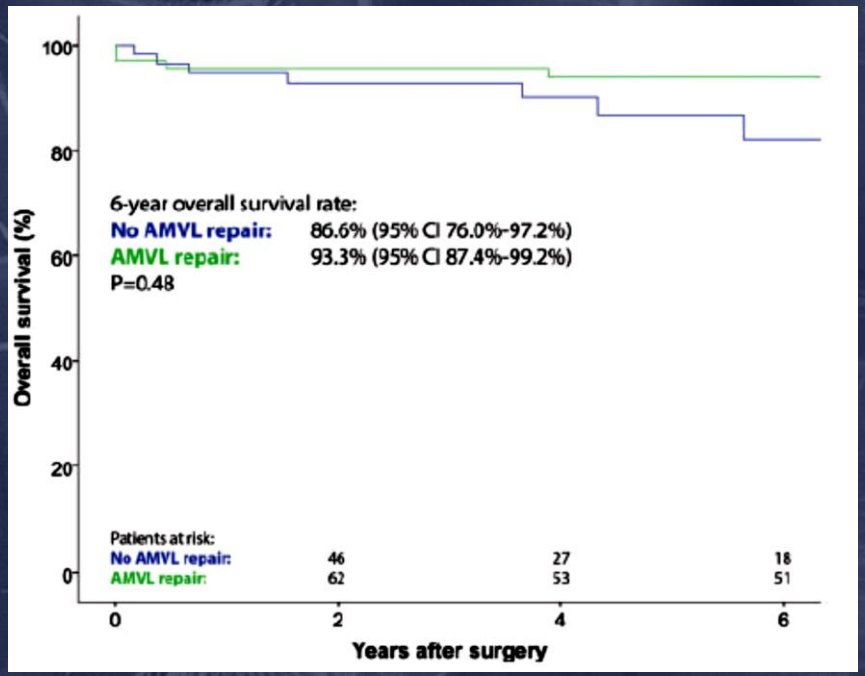


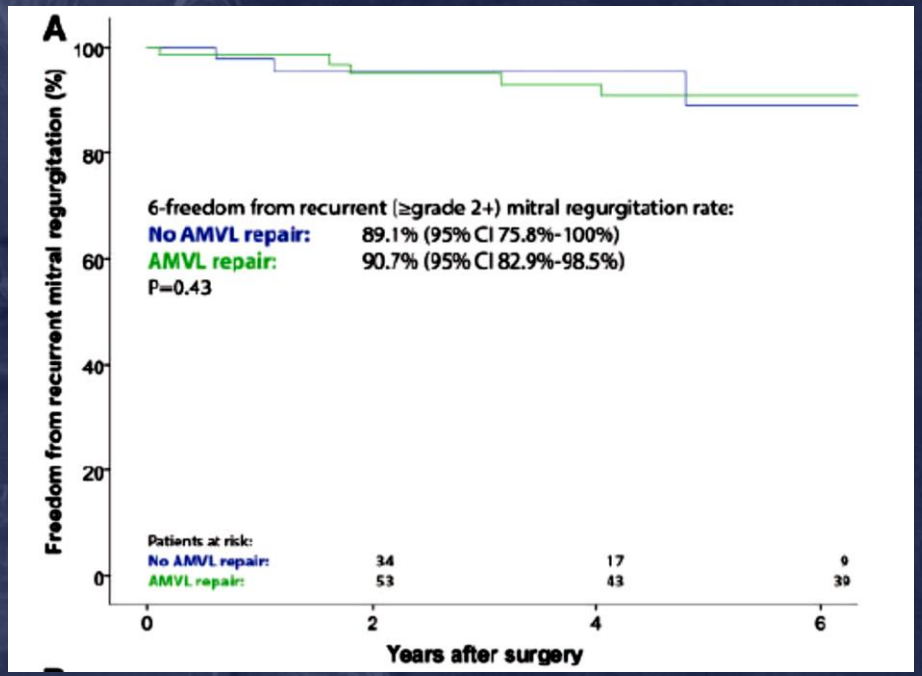


Conclusions: Provided that the fundamental principles of mitral valve reconstruction are respected, the surgical techniques are highly reproducible with good long-term results, similar to those published during the pioneering phase of this surgery. (J Thorac Cardiovasc Surg 2012;143:S17-20)

Mitral valve repair in Barlow's disease with bileaflet prolapse: the effect of annular stabilization on functional mitral valve leaflet prolapse†

Anton Tomšič[a,*], Yasmine L. Hiemstra[b], Daniella D. Bissessar[a], Thomas J. van Brakel[a], Michel I.M. Versteegh[a], Nina Ajmone Marsan[b], Robert J.M. Klautz[a] and Meindert Palmen[a]





Interactive CardioVascular and Thoracic Surgery 26 (2018) 559–565