

PLACE

PLATFORM OF LABORATORIES FOR ADVANCES IN CARDIAC EXPERIENCE

9^a Edizione



ROMA

30 Settembre - 1 Ottobre 2022

Centro Congressi di Confindustria

Auditorium della Tecnica

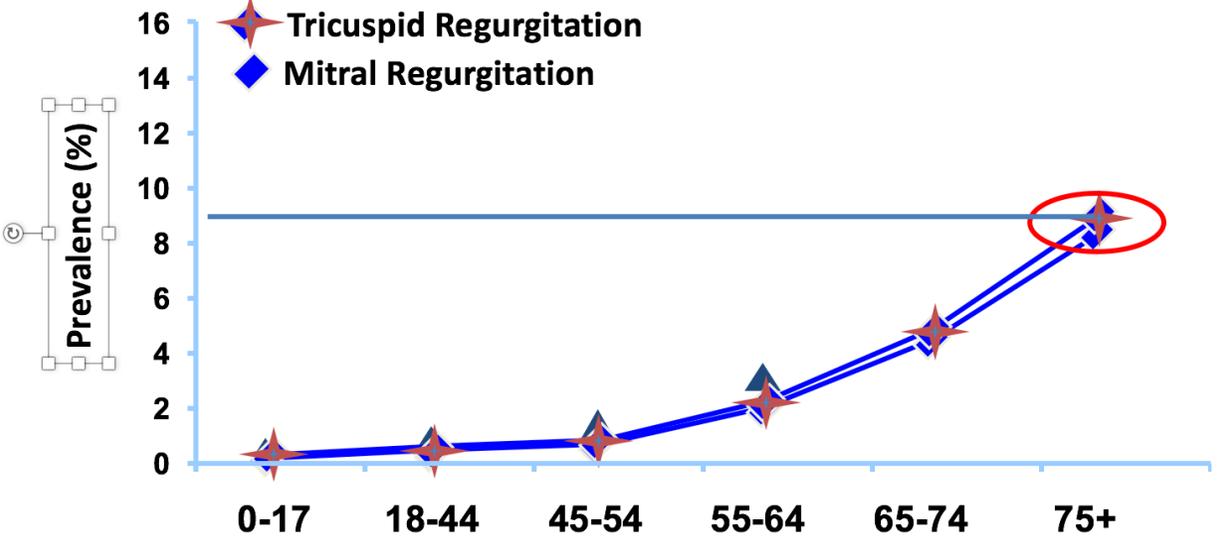


Indicazioni e trattamento della valvola tricuspide

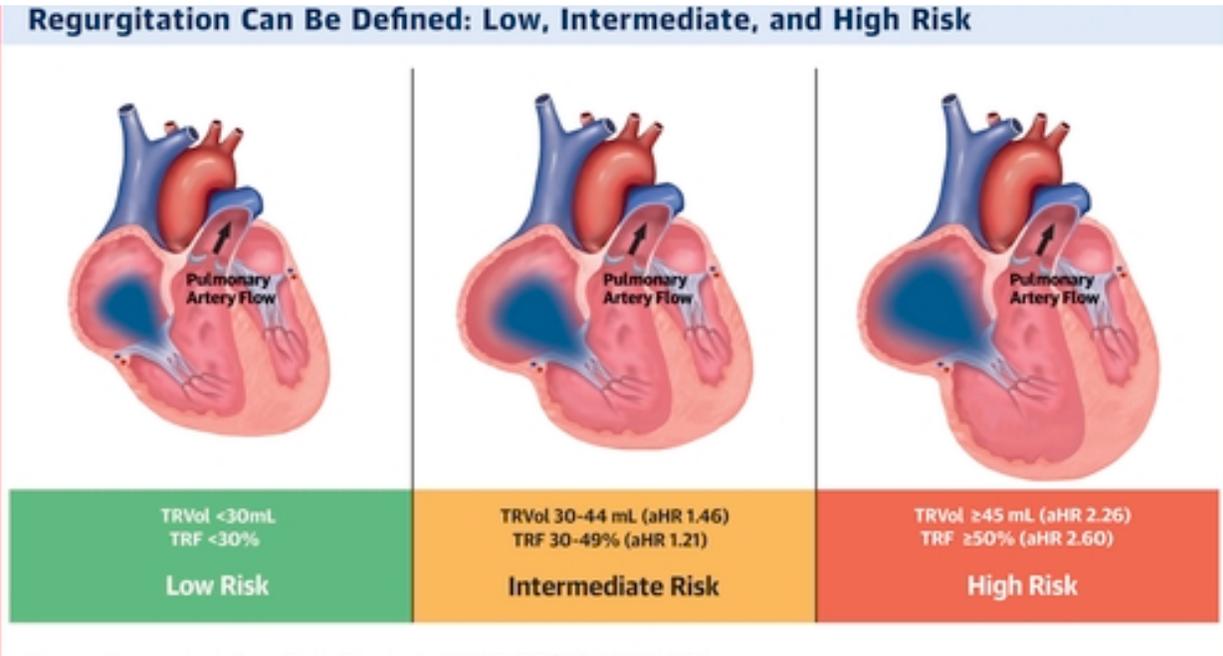
Francesco Bedogni
IRCCS Policlinico San Donato
Milano

Prevalence and Prognostic Impact of TR

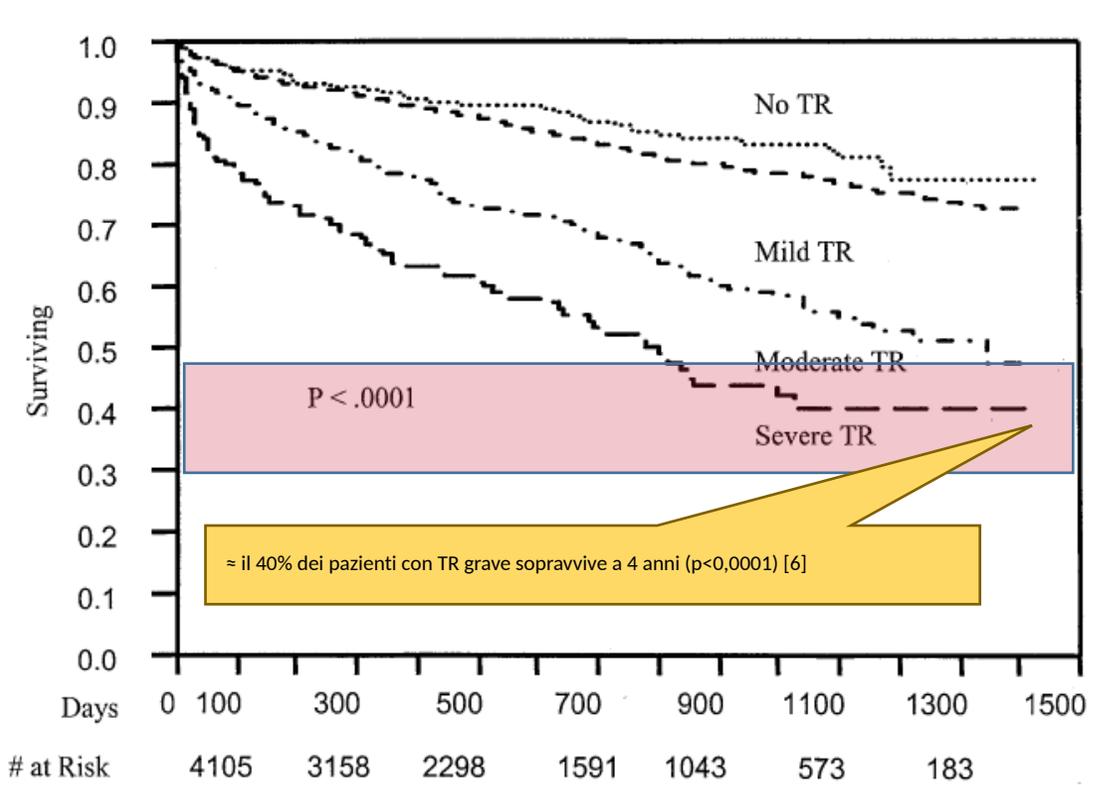
Functional Tricuspid and Mitral Regurgitation have the same incidence & prevalence and are related to aging*



* Diagnosed in Olmsted County, MN, USA Data presented by Prof. M. Enriquez-Sarano - Mayo Clinic
CONFIDENTIAL



Clinical Impact of Tricuspid Regurgitation



Moderate / severe TR (3-level grading) vs. no/mild TR patients showed

↑ **1.95-fold risk increase of all-cause mortality**

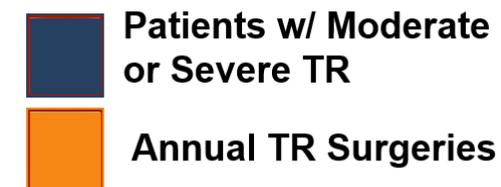
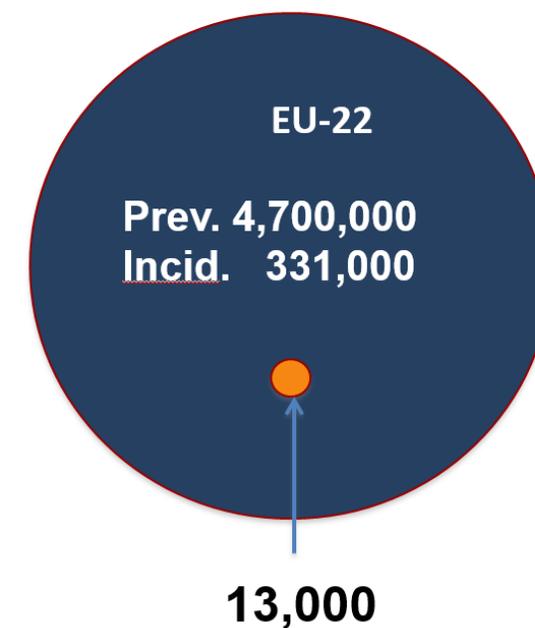
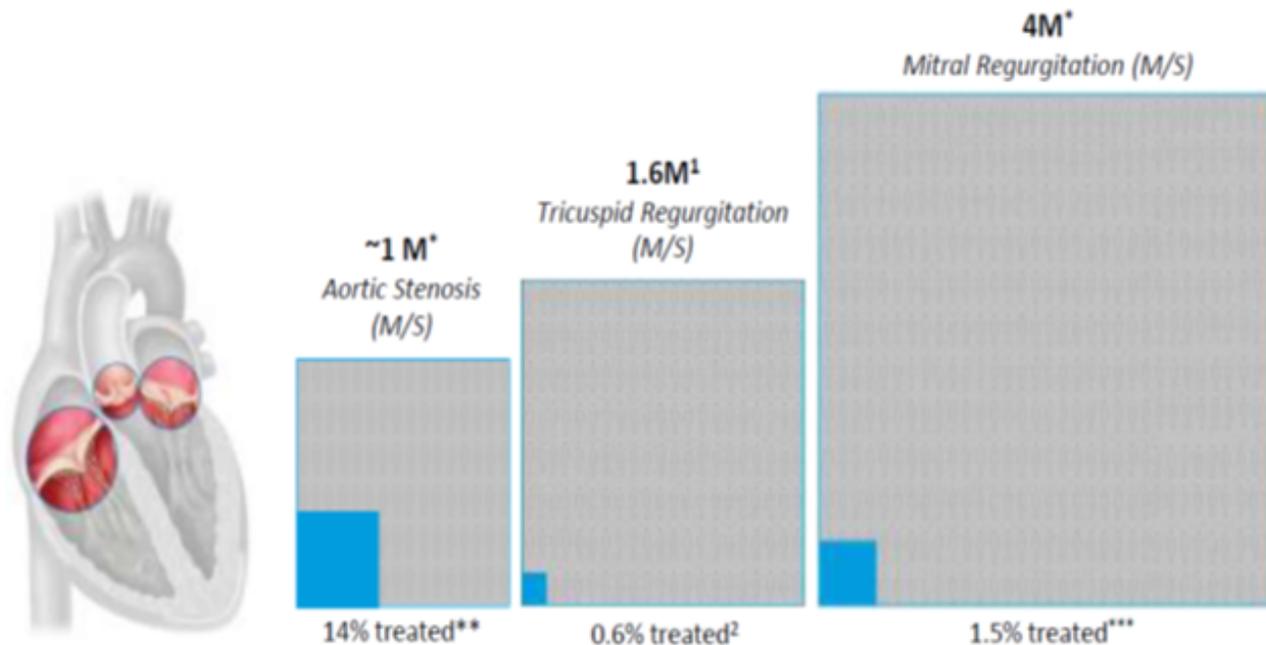
↑ **2.56-fold risk increase of cardiac mortality**

↑ **1.73-fold risk increase of HF-hospitalization**

Nath et al. 2004. Impact of Tricuspid Regurgitation on Long-Term Survival. JACC Vol. 43, No. 3, 2004; February 4, 2004:405-9

Wang N et al. Tricuspid regurgitation is associated with independent of pulmonary pressures and right heart failure: a systematic review and meta-analysis. European Heart Journal (2019) 40, 476-484

The Forgotten Valve



1. Stuge O, Liddicoat J. Emerging opportunities for cardiac surgeons within structural heart disease. J Thorac Cardiovasc Surg. 2006; 132 (6) p.1258-1261, Table 2.

2. Millennium Research Group. US Markets for Heart Valve Devices 2014. 2013; RPUS12HV13:151

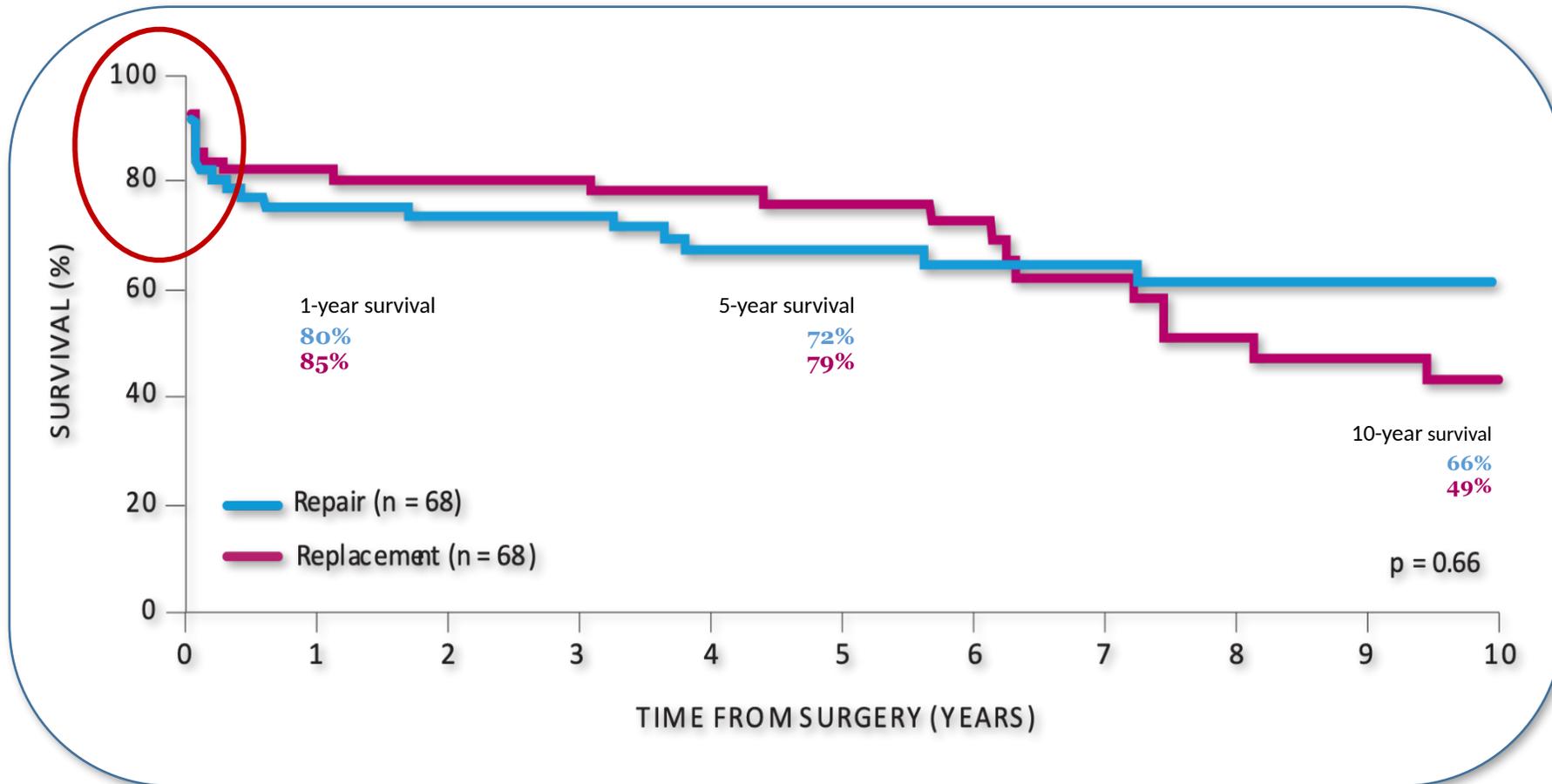
*Calculations made based on data from refs 2 and 3.

**Calculation made based on data from Mills J, Furlong C. CANACCORD: Biomedical Devices and Services. Nov 8, 2016 and Millennium Research Group. US Markets for Heart Valve Devices 2014. 2013 ;RPUS12HV13:92.

***Data on Abbot file.

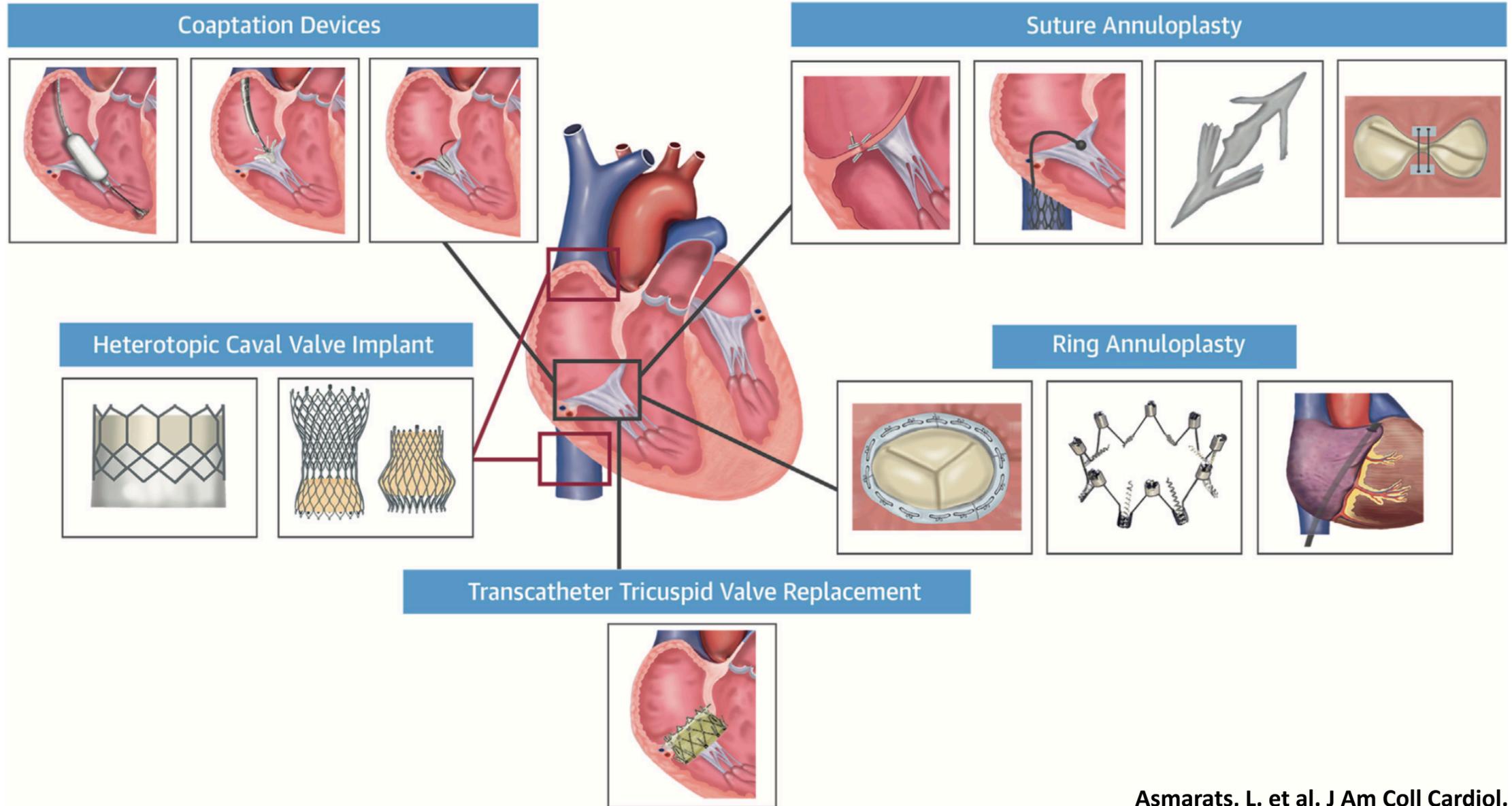
Trattamento chirurgico dell'insufficienza tricuspidalica

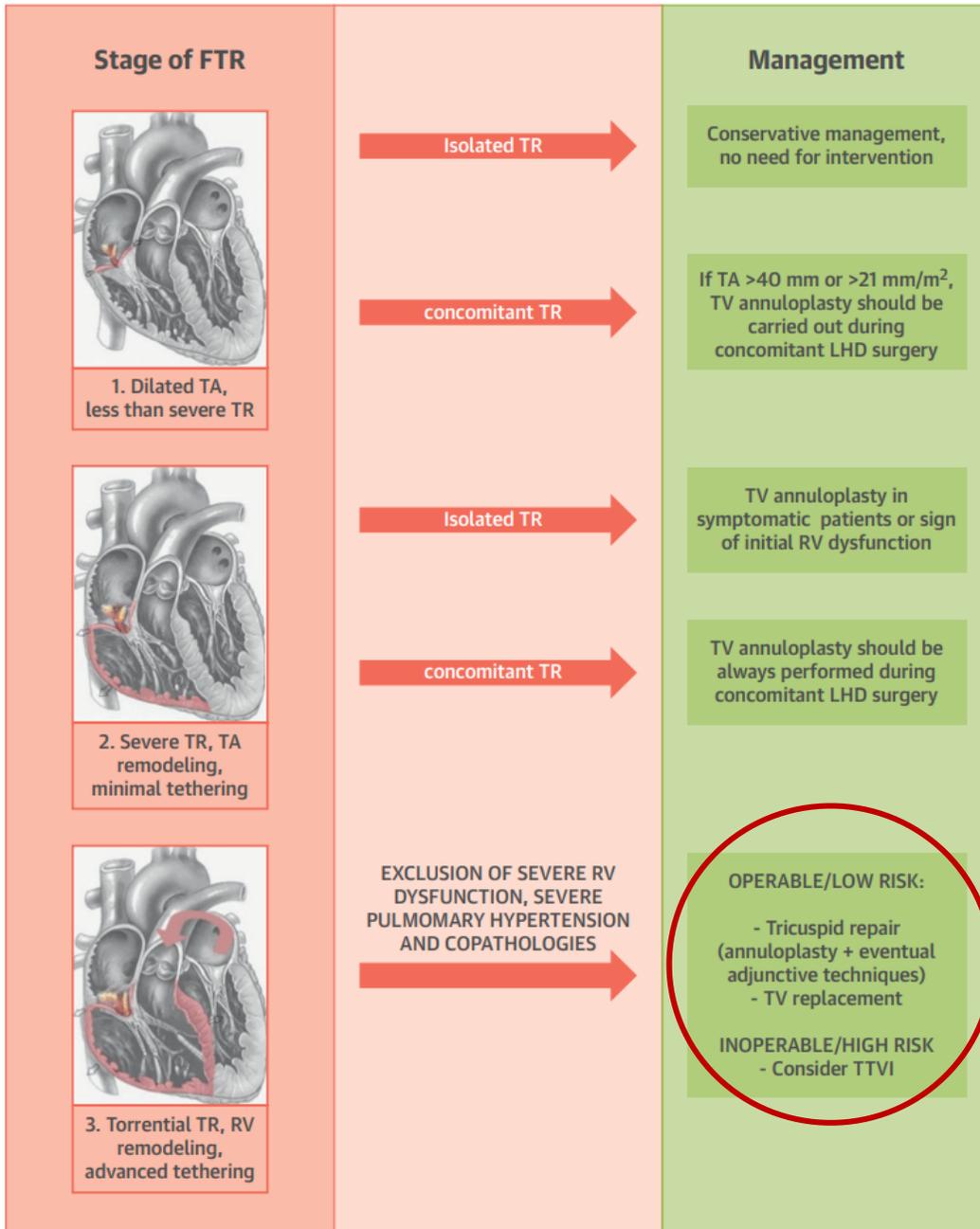
La chirurgia per il trattamento del rigurgito tricuspidalico è eseguita raramente ed è associata con una mortalità acuta e a lungo termine importante.



- Evidenza clinica limitata
- Elevato mortalità operatoria
- (fra l'8 ed il 13%)
- Comorbidità aggiuntive spesso presenti
- Età avanzata
- Ricomparsa del IT

Transcatheter Tricuspid Landscape



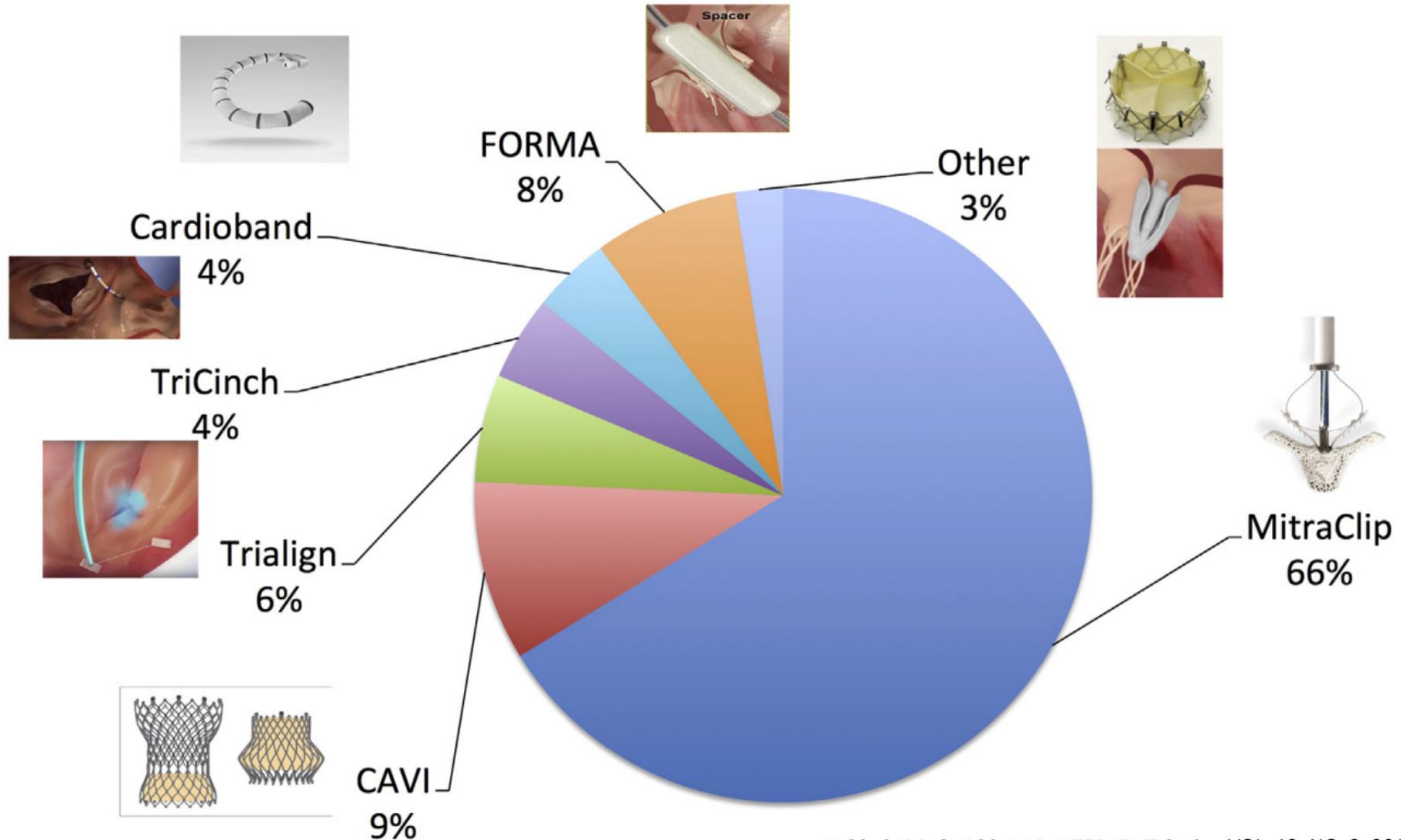


Recommendations on secondary tricuspid regurgitation

Surgery is recommended in patients with severe secondary tricuspid regurgitation undergoing left-sided valve surgery. ^{423–427}	I	B
Surgery should be considered in patients with mild or moderate secondary tricuspid regurgitation with a dilated annulus (≥ 40 mm or >21 mm/m ² by 2D echocardiography) undergoing left-sided valve surgery. ^{423,425–427}	IIa	B
Surgery should be considered in patients with severe secondary tricuspid regurgitation (with or without previous left-sided surgery) who are symptomatic or have RV dilatation, in the absence of severe RV or LV dysfunction and severe pulmonary vascular disease/hypertension. ^{418,433 e}	IIa	B
Transcatheter treatment of symptomatic secondary severe tricuspid regurgitation may be considered in <u>inoperable patients at a Heart Valve Centre with expertise in the treatment of tricuspid valve disease.</u> ^{f1}	IIb	C

Mid-Term Results From the International TriValve Registry

FIGURE 1 Distribution of the Devices Used in the Registry



Results on TTVI

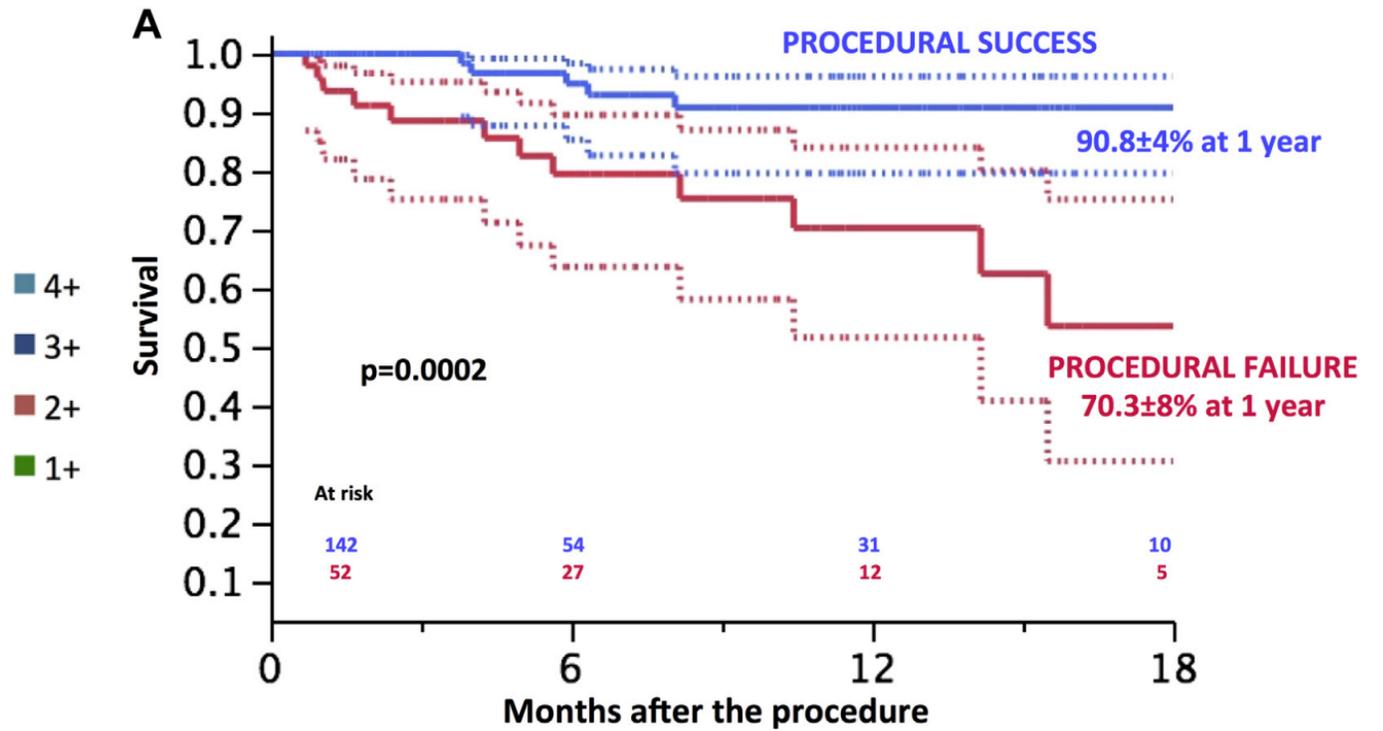
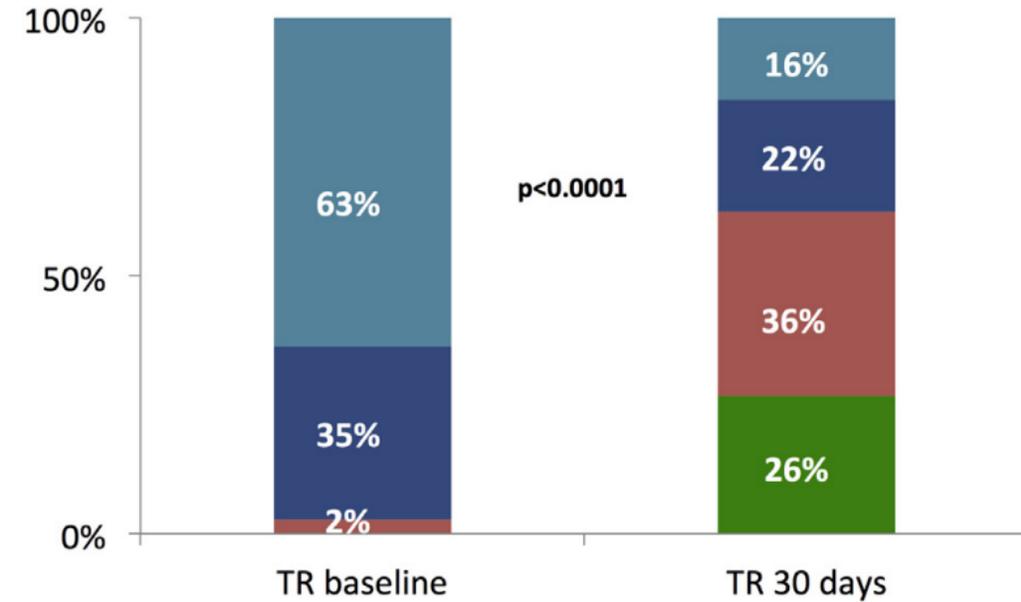


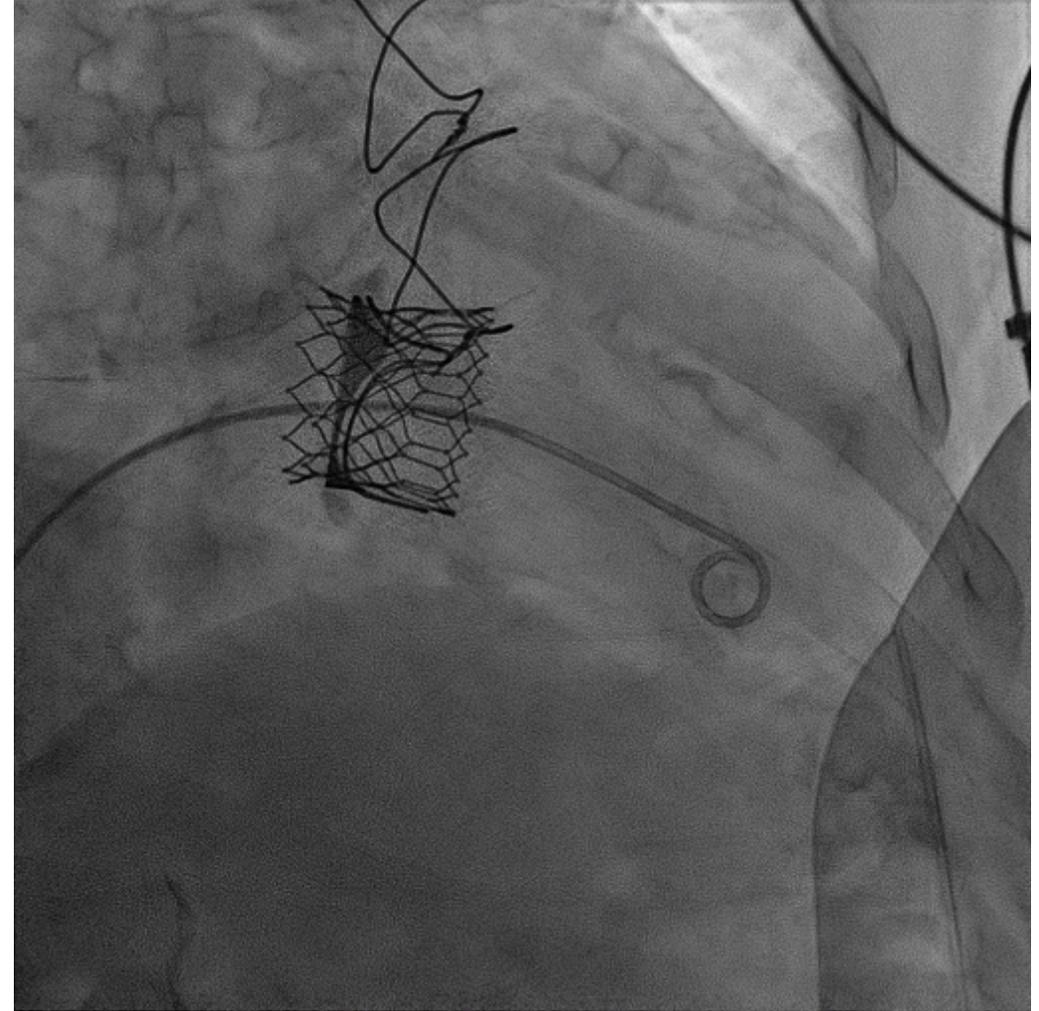
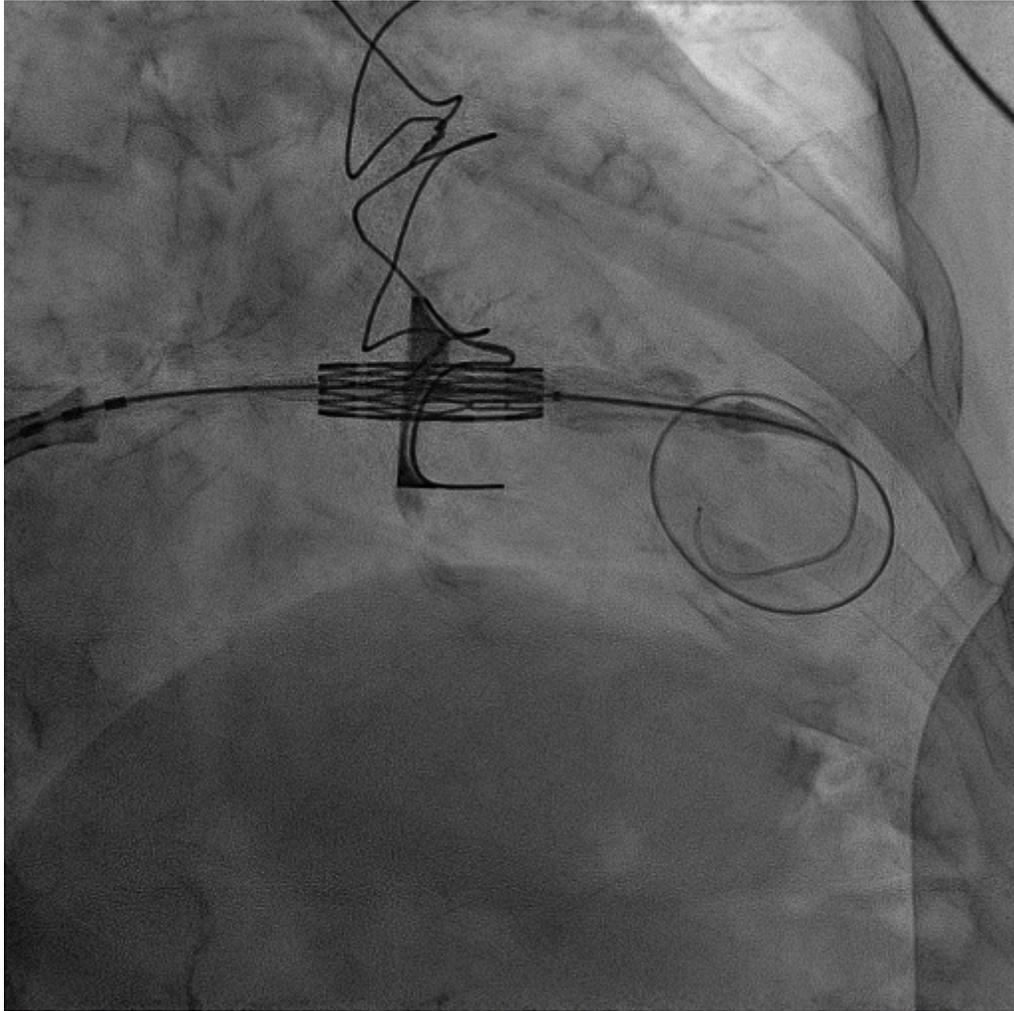
TABLE 5 Univariate and Multivariate Analysis of Mortality at Follow-Up

	Univariate*		Multivariate*	
	HR (CI 95%)	p Value	HR (CI 95%)	p Value
Procedural success	0.2 (0.1-1.15)	0.0001	0.18 (0.02-2.3)	0.01
TR reduction $\geq 1+$	0.4 (0.06-0.8)	0.02	0.8 (0.1-1.2)	0.80
TAPSE	3.6 (0.2-46.0)	0.30		
sPAP	5.6 (0.7-38.0)	0.09	17.0 (1.2-252.0)	0.03

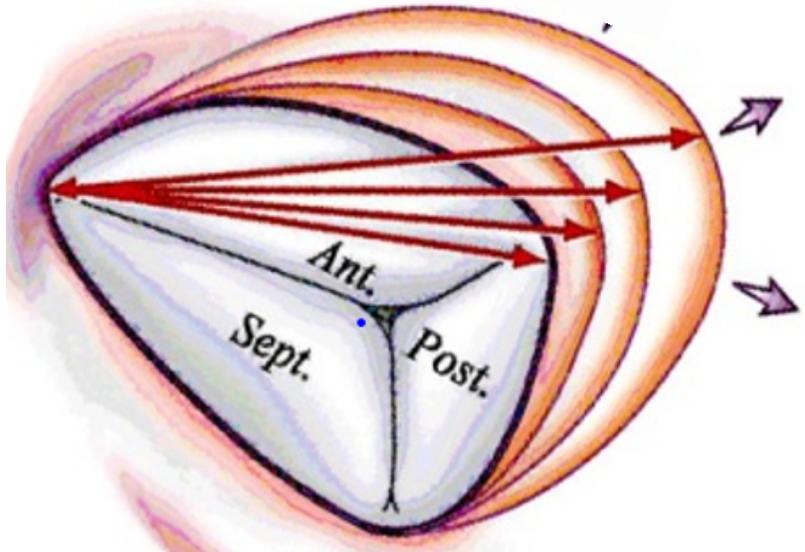
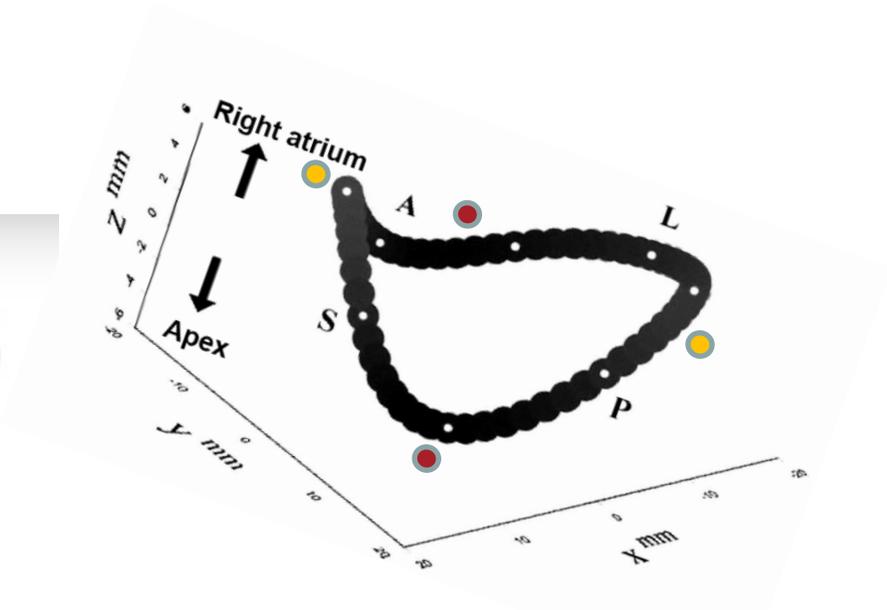
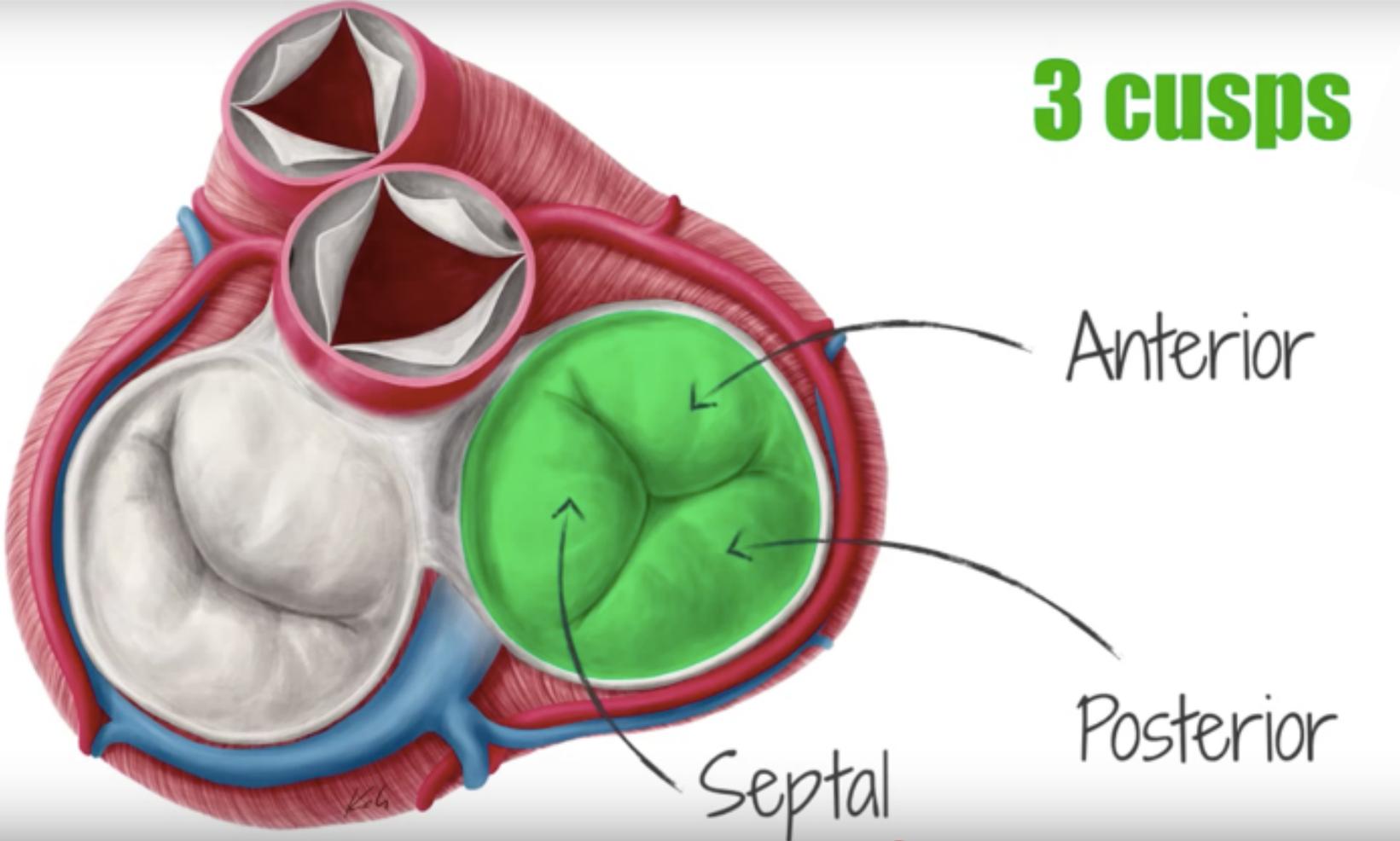
Tricuspid Valve in Valve



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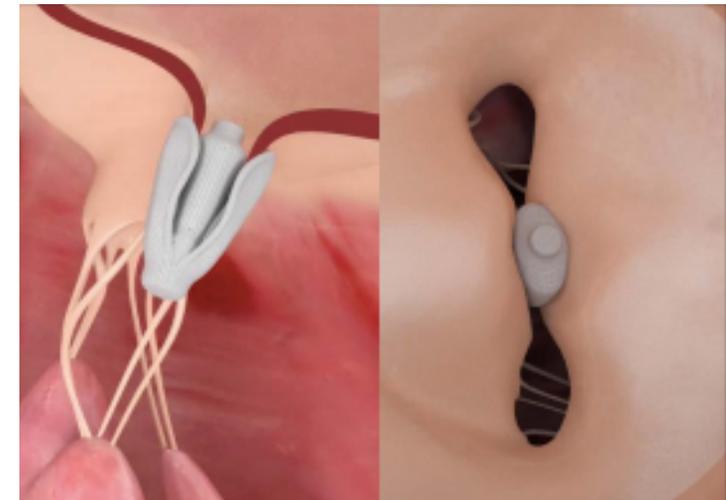
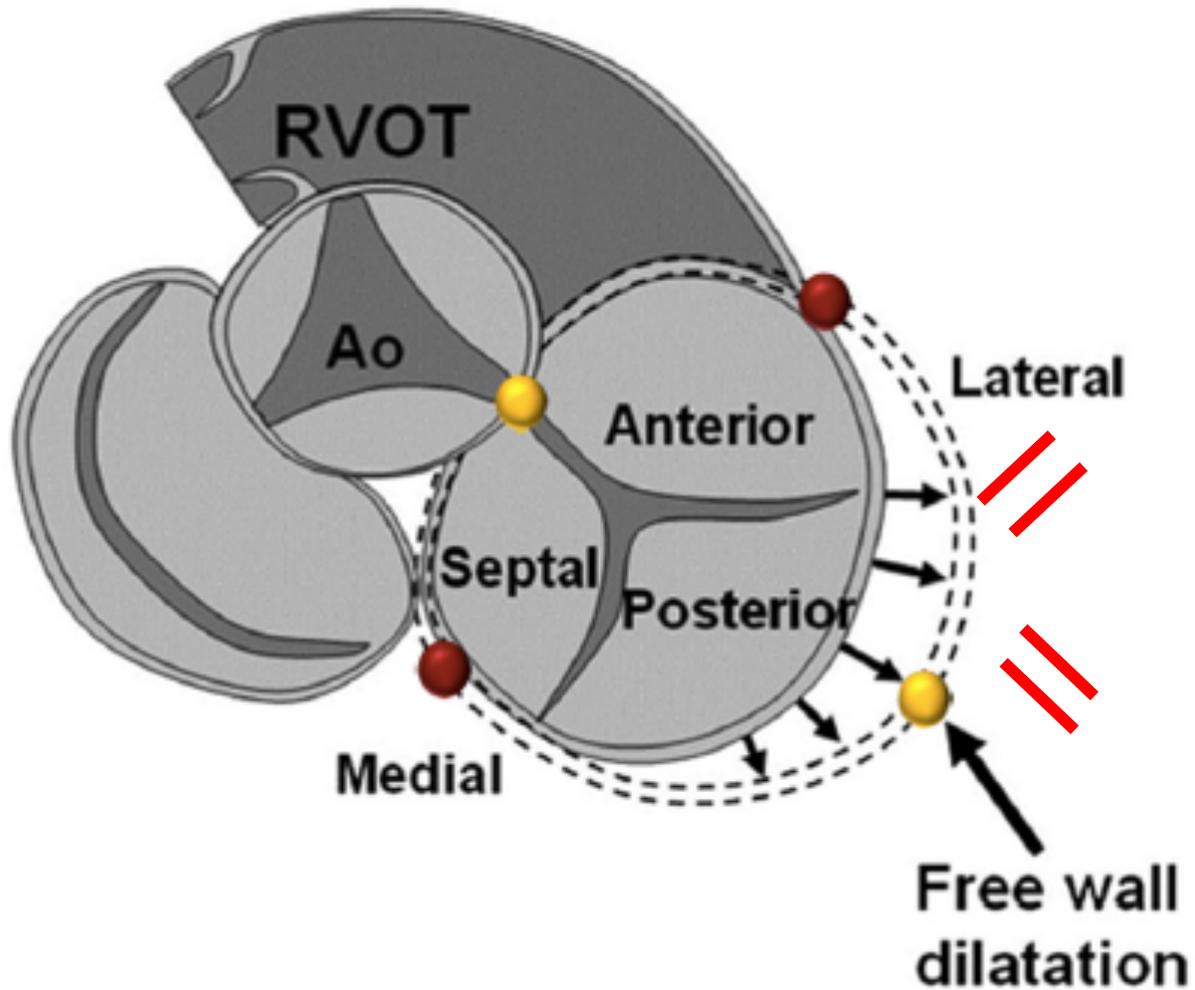
Tricuspid valve: a complex 3-dimensional structure



MitraClip on Tricuspid Valve

Is it possible to transfer the Mitral knowledge into the Tricuspid valve?

Functional TR

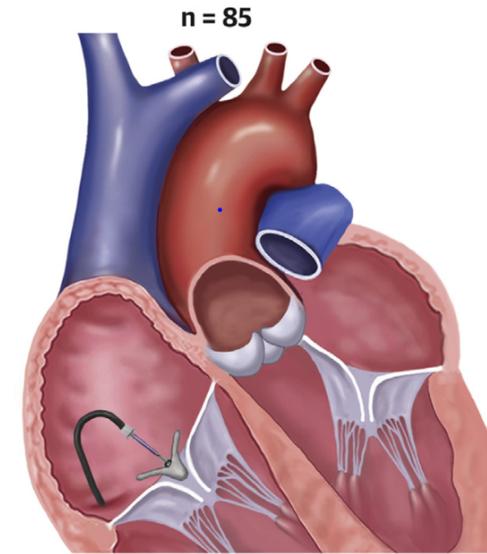


Transcatheter Edge-to-Edge Repair for Treatment of Tricuspid Regurgitation



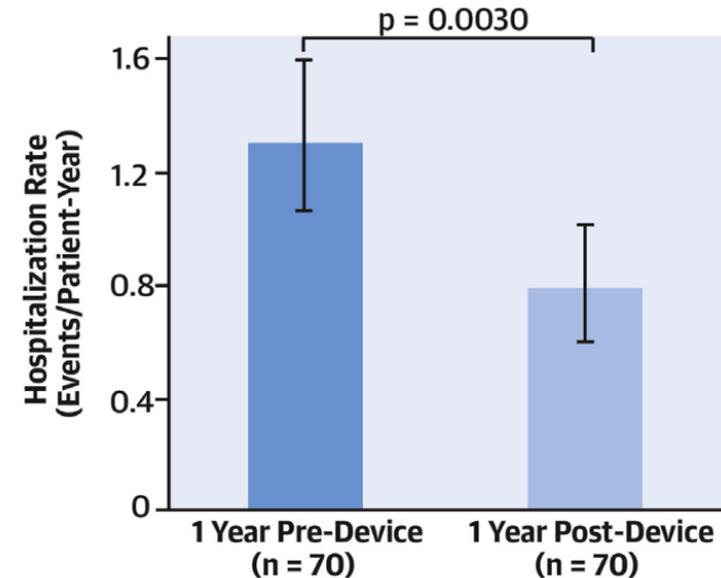
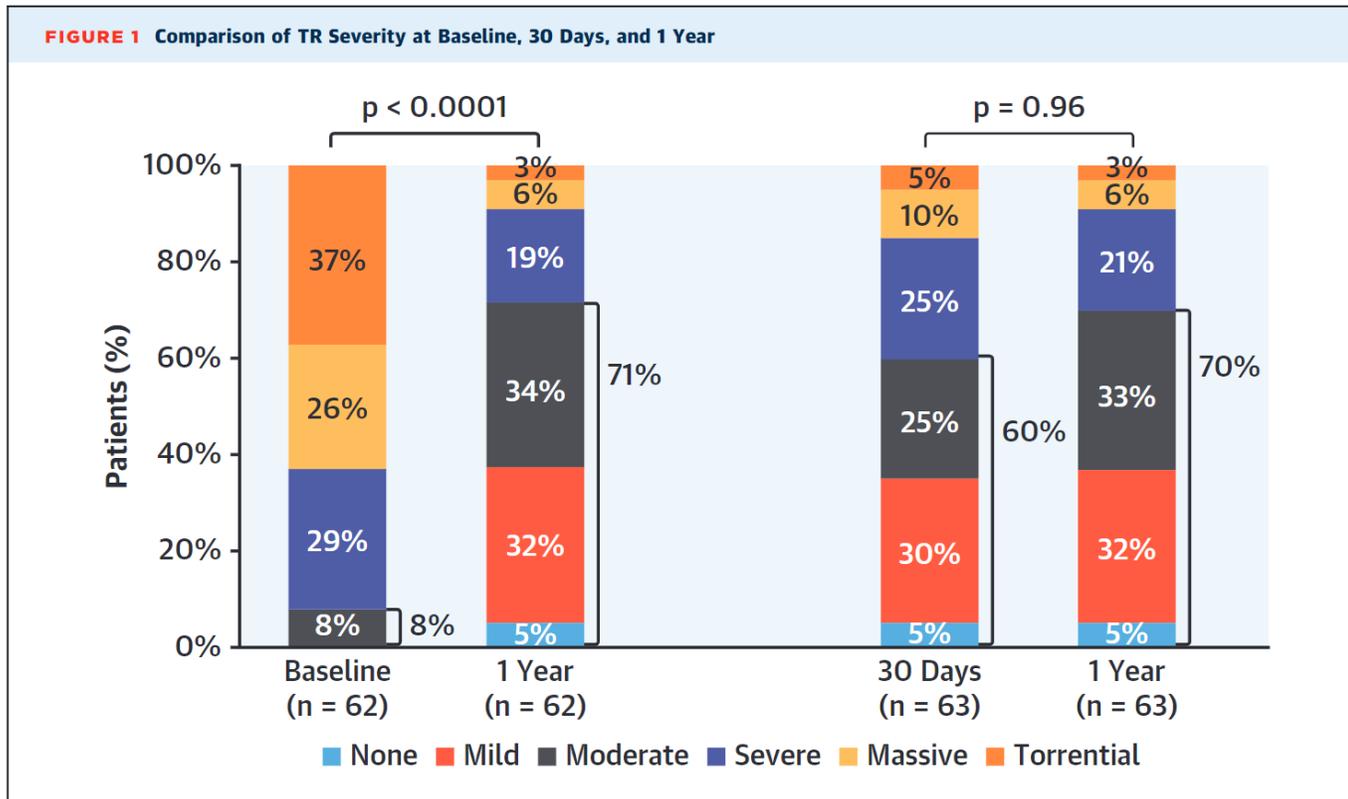
Philipp Lurz, MD, PhD,^a Ralph Stephan von Bardeleben, MD,^b Marcel Weber, MD,^c Marta Sitges, MD, PhD,^d Paul Sorajja, MD,^e Jörg Hausleiter, MD,^f Paolo Denti, MD,^g Jean-Noël Trochu, MD, PhD,^h Michael Nabauer, MD,^f Gilbert H.L. Tang, MD, MSc, MBA,ⁱ Patric Biaggi, MD,^j Shih-Wa Ying, MSc,^k Phillip M. Trusty, PhD,^k Abdellaziz Dahou, MD, PhD,^l Rebecca T. Hahn, MD,^{l,m} Georg Nickenig, MD,^c on behalf of the TRILUMINATE Investigators

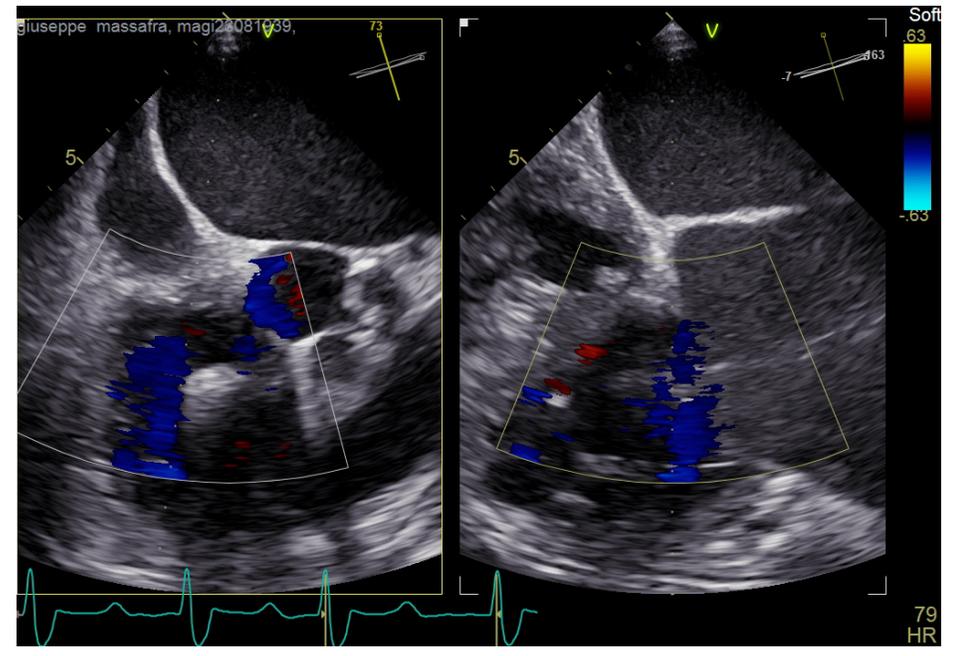
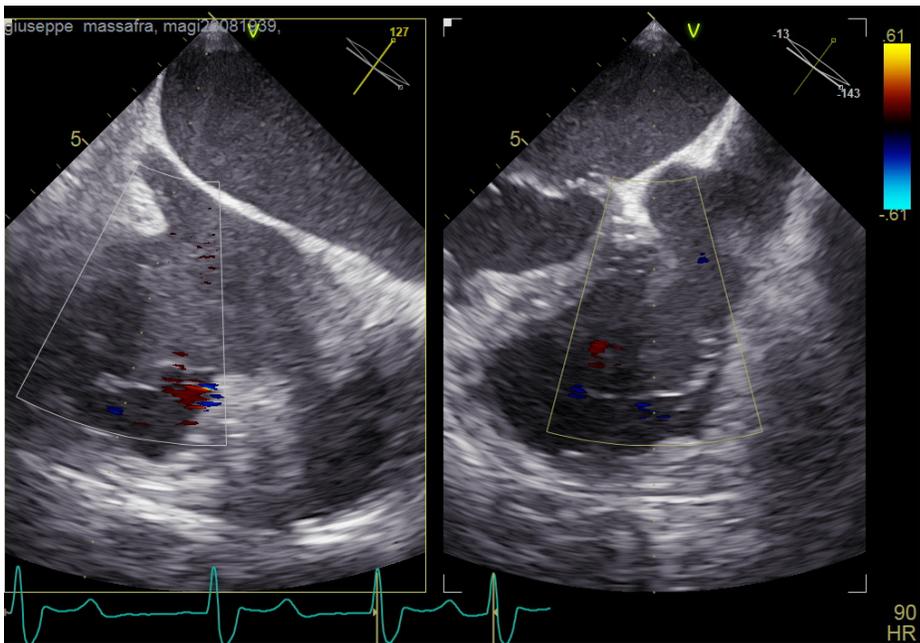
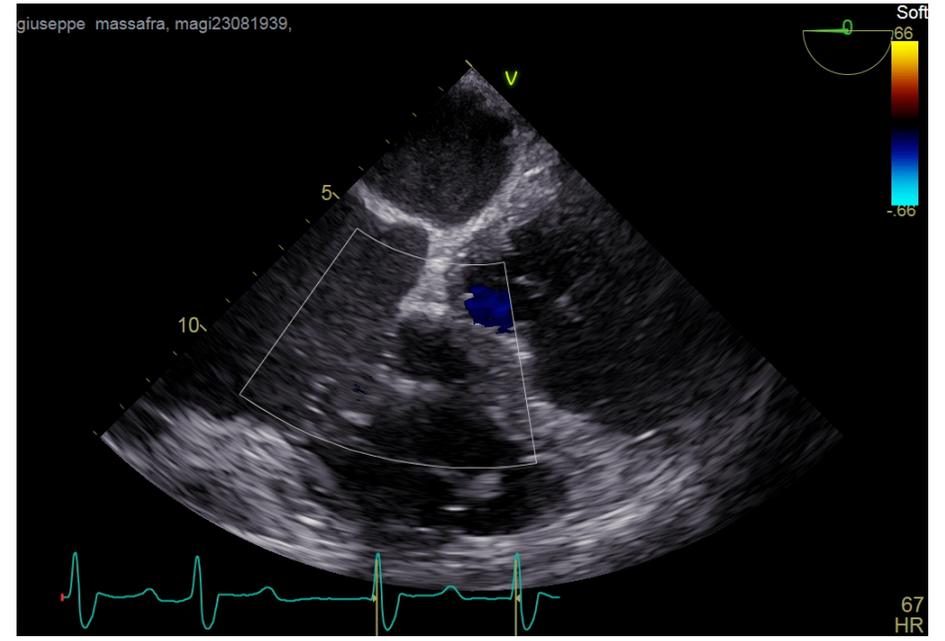
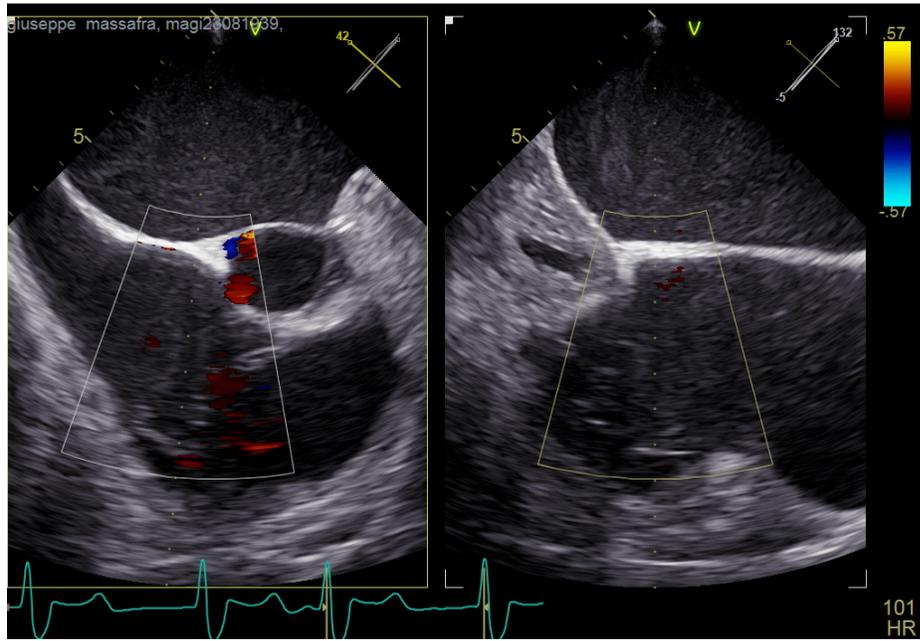
JACC VOL. 77, NO. 3, 2021
 JANUARY 26, 2021:229-39

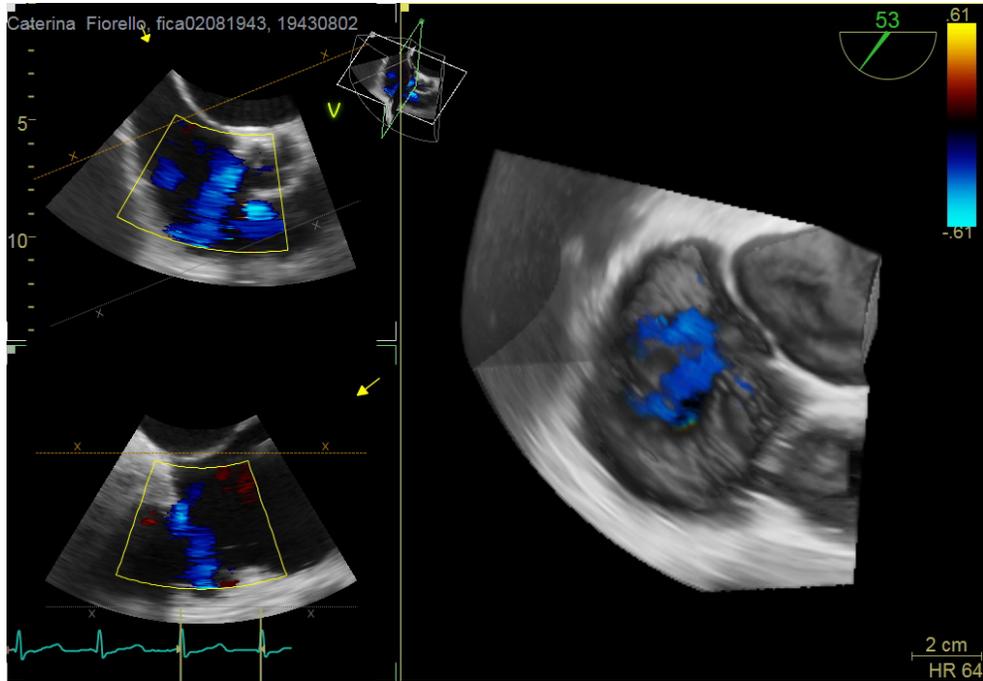
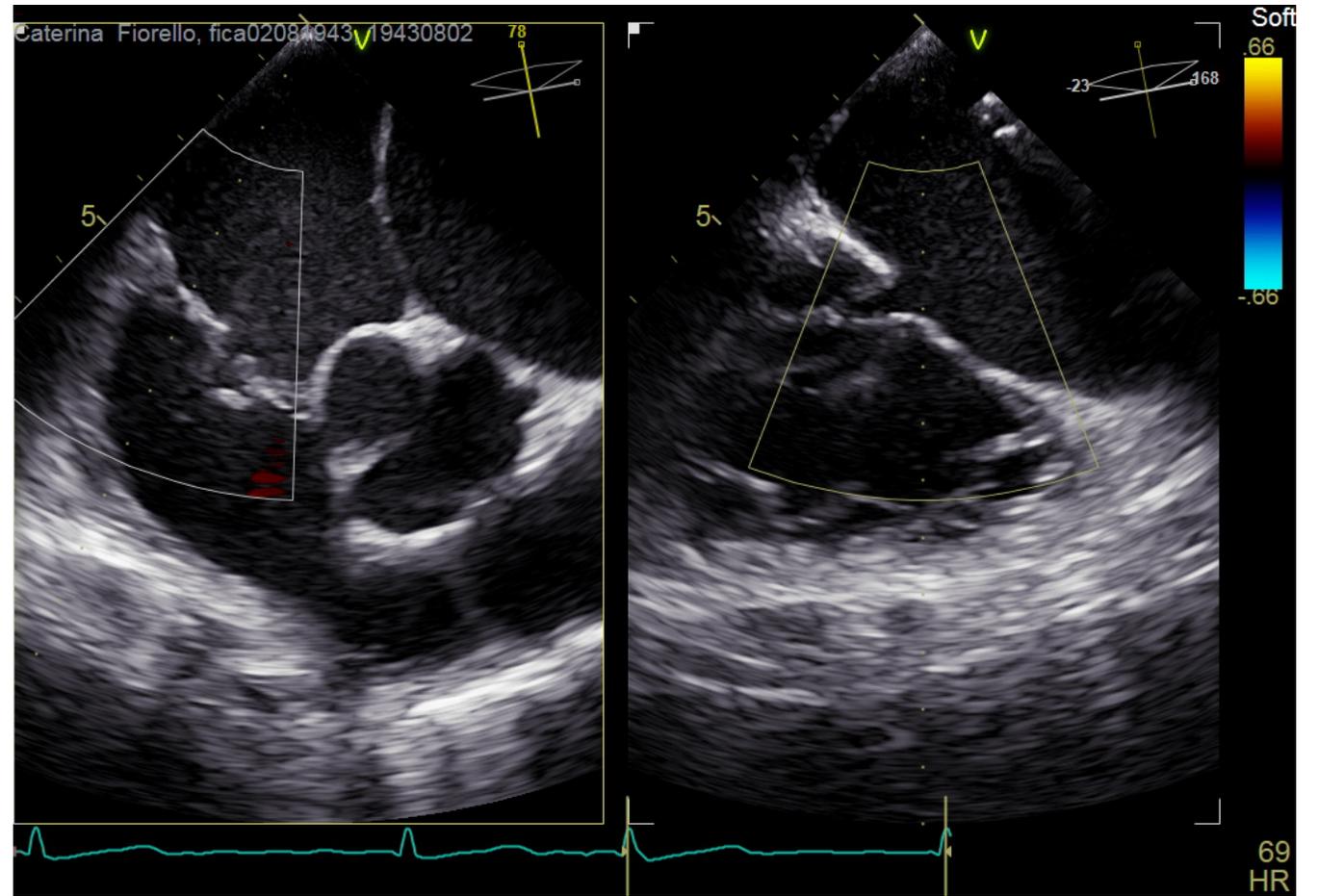
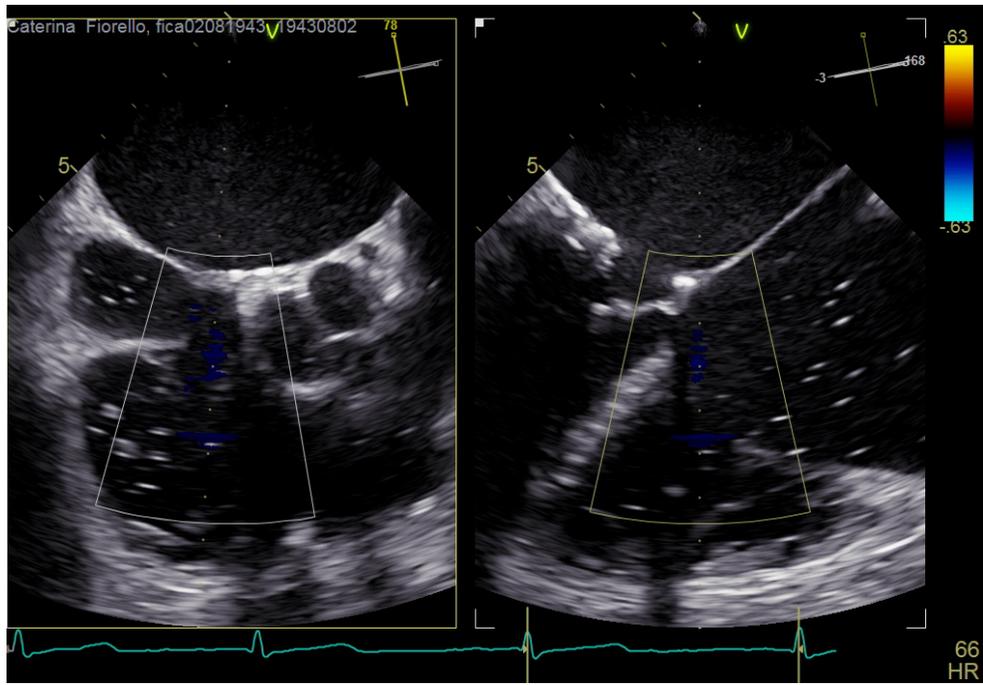


Major Adverse Events: 7.1%
 Cardiovascular Mortality: 4.8%

40% Reduction in Hospitalizations

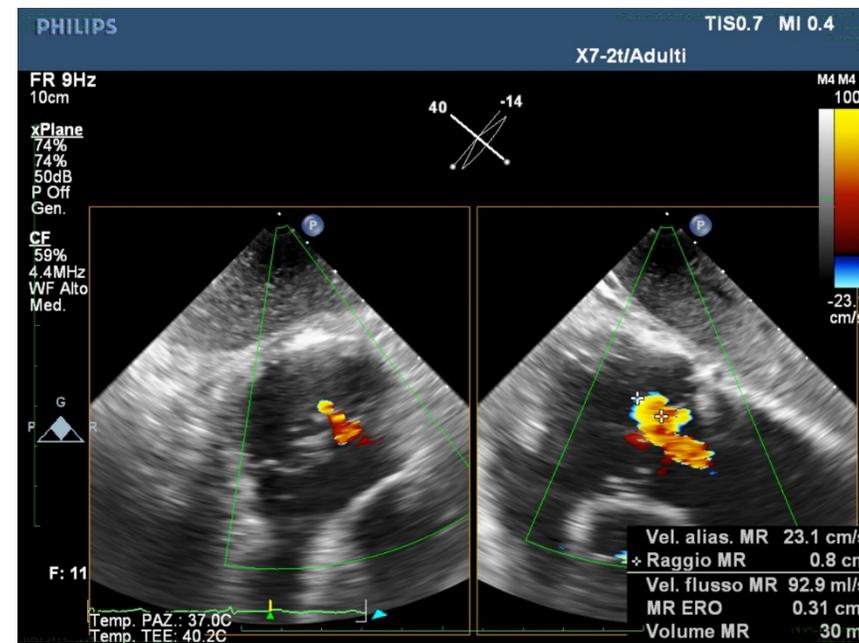
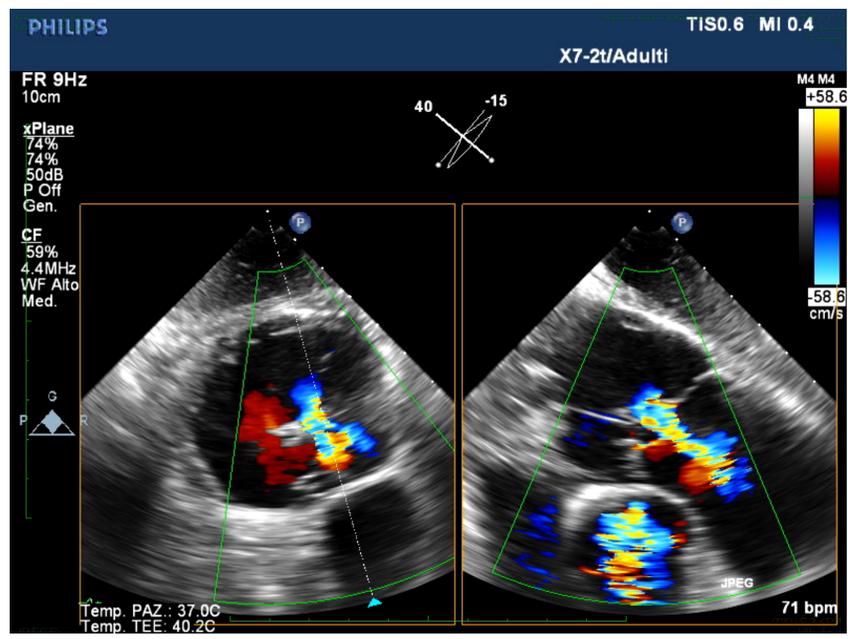




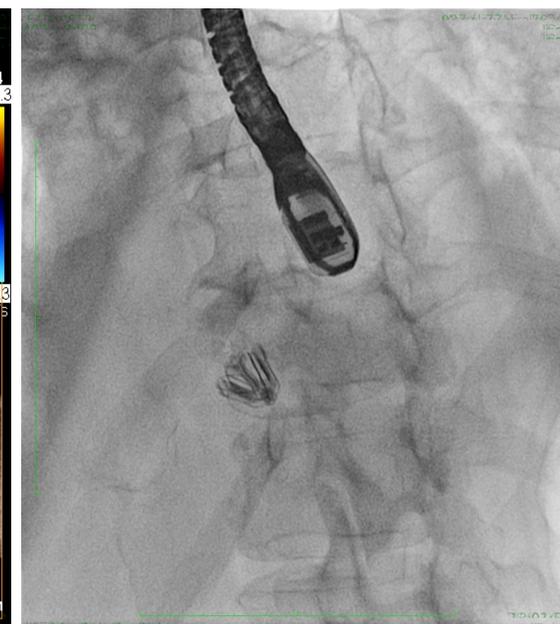
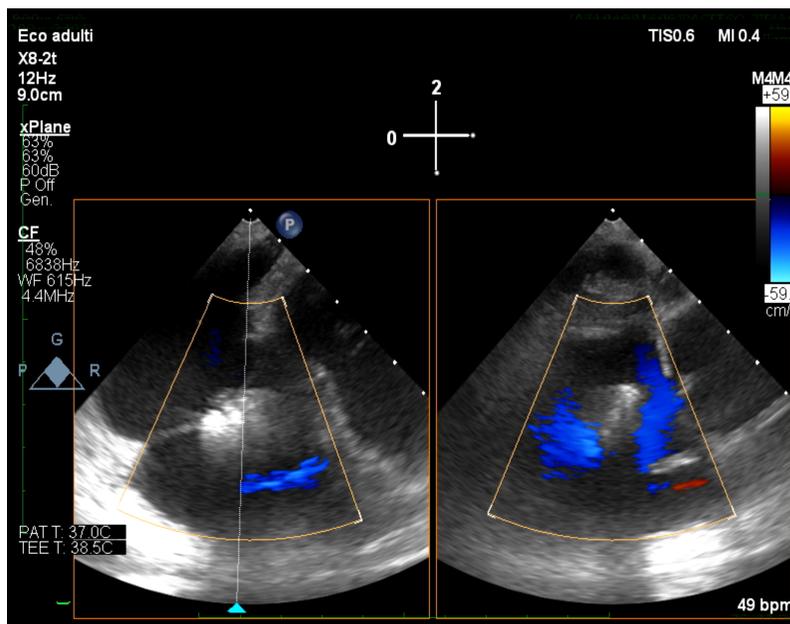
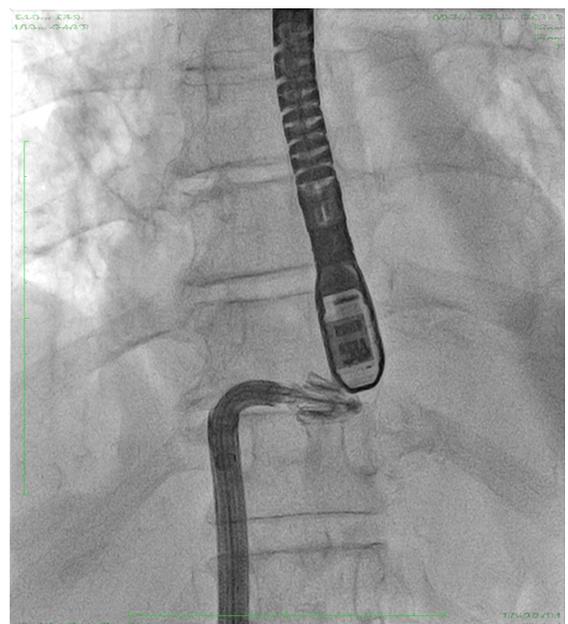


PASCAL Tricuspid Repair System

Baseline



Intraprocedural and final result

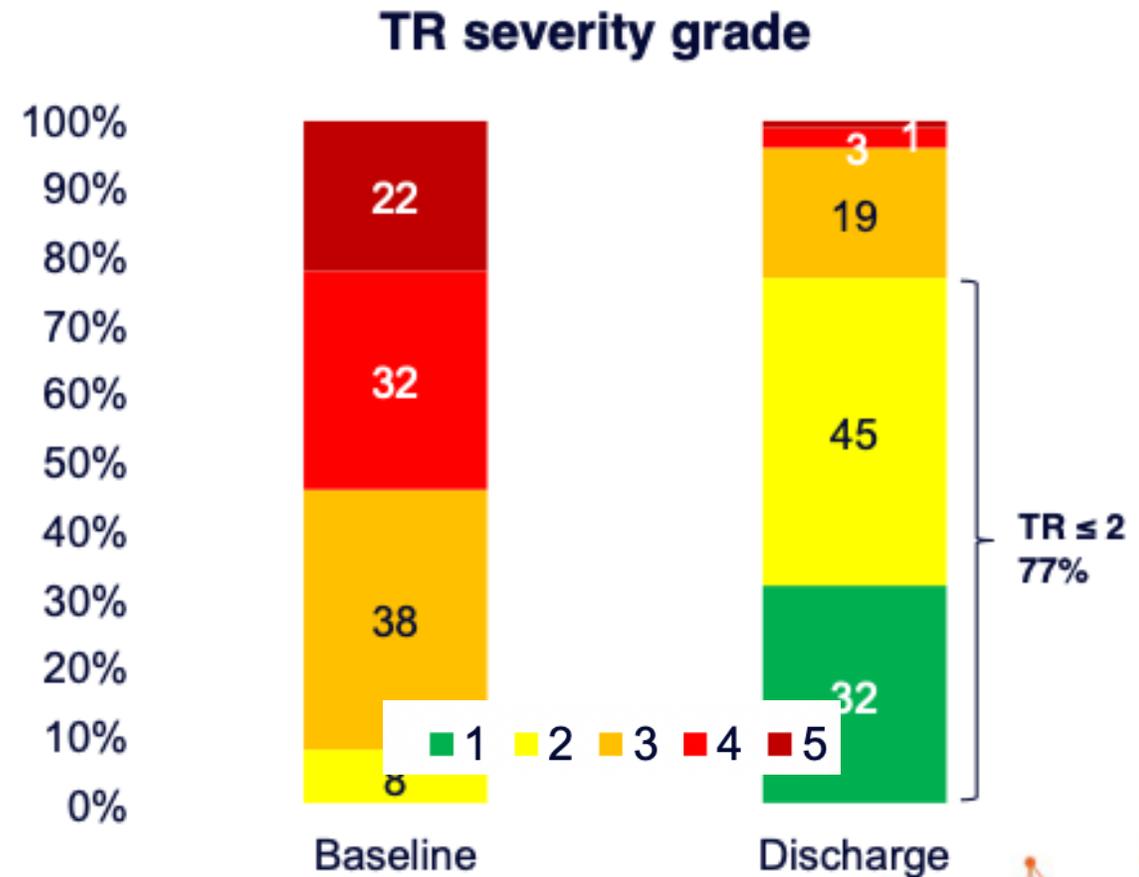


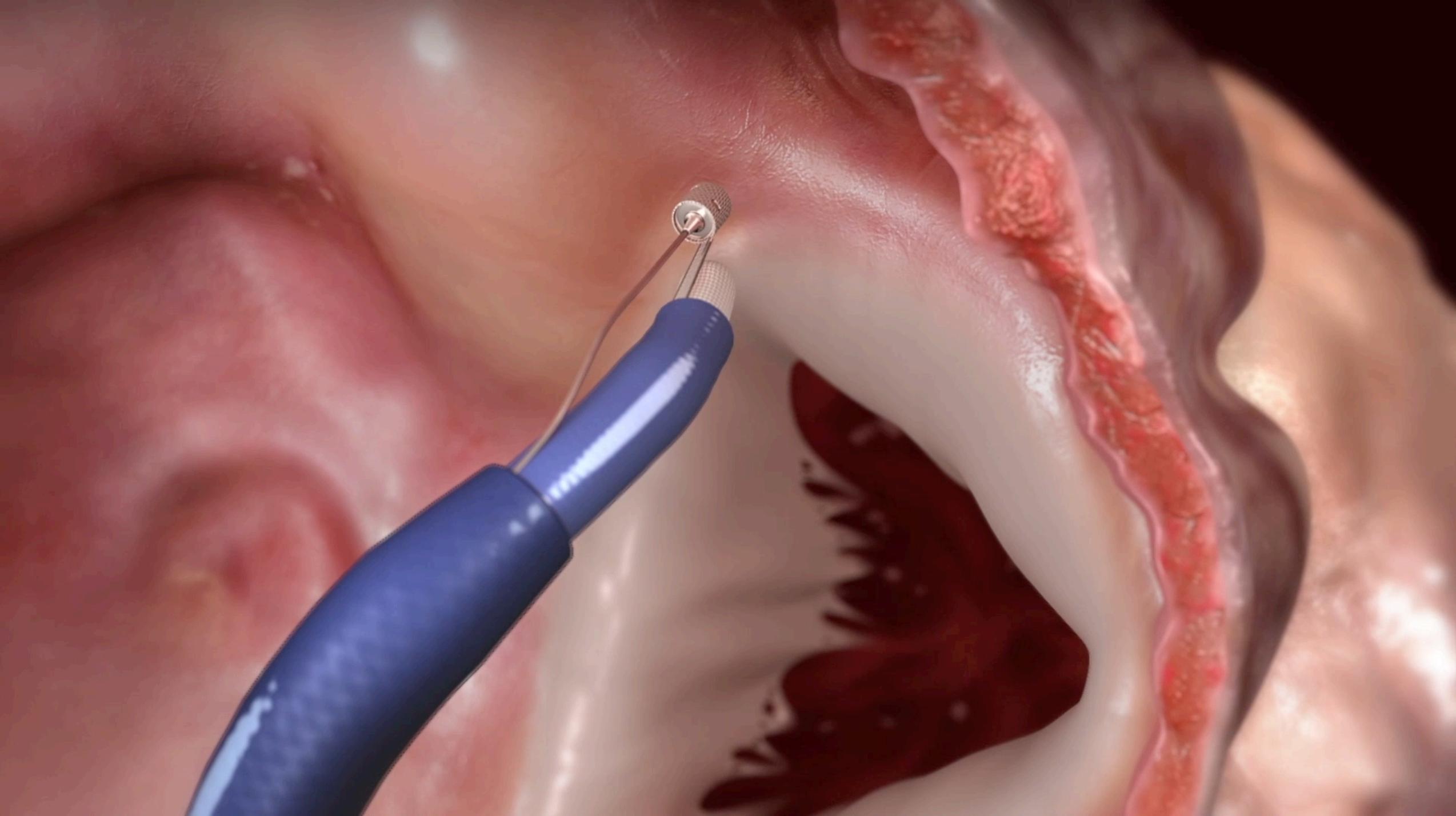
First Commercial Multicenter experience with the PASCAL transcatheter valve repair system for TR

Jörg Hausleiter

Procedural & In-Hospital Outcomes

Procedural outcome, %	
Technical success	98.4
Number of devices, n	1.7 ± 0.6
Procedure time, min	94 ± 43
Concomitant mitral TEER	9
SLDA (n=5)	2
Access site compl.* (n=2)	1
Other adverse event	0





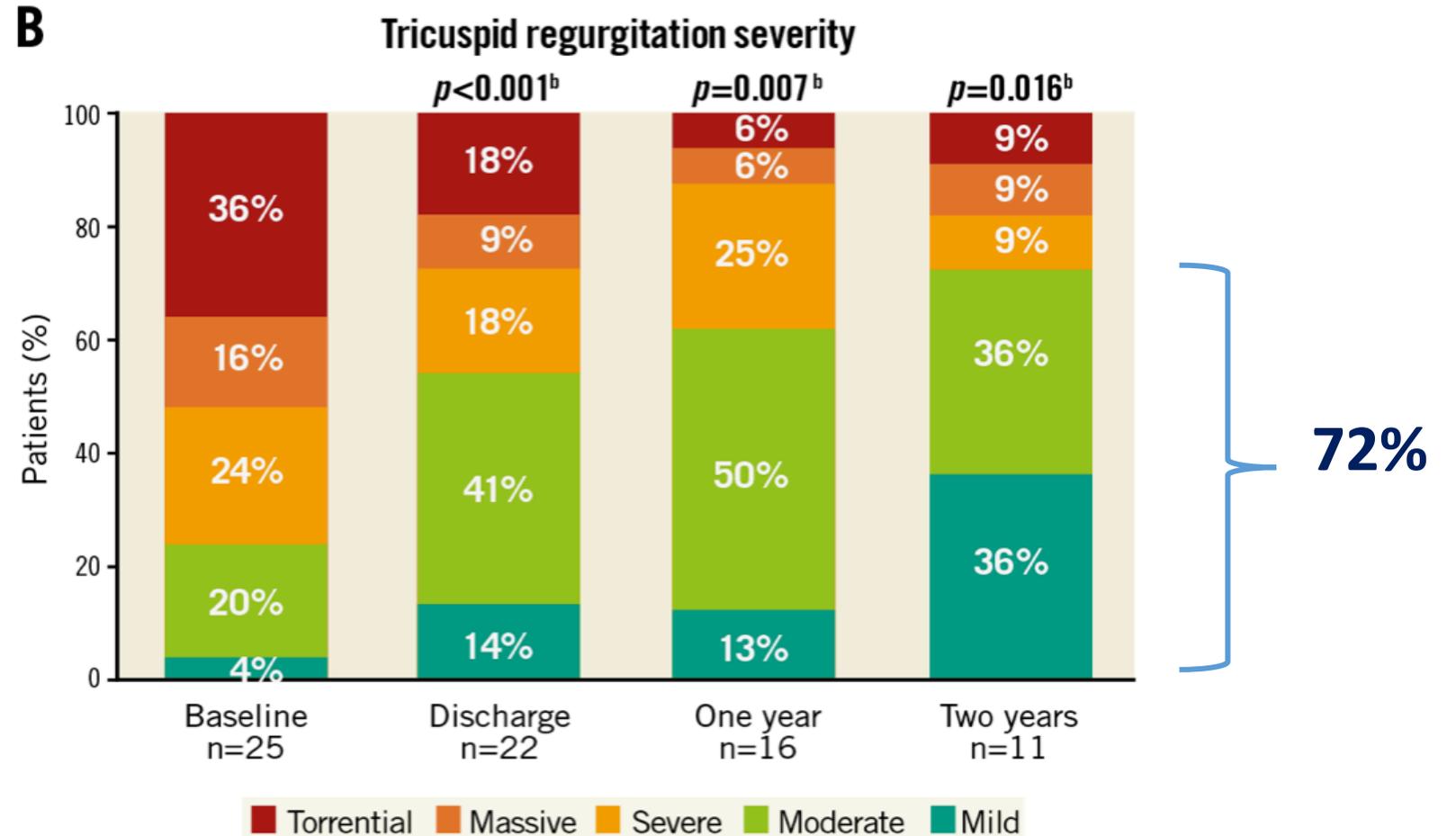
TRI-REPAIR Study

Technical success

30/30 -- 100%

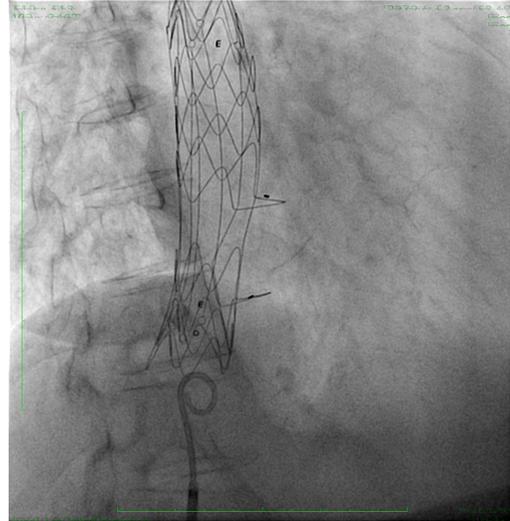
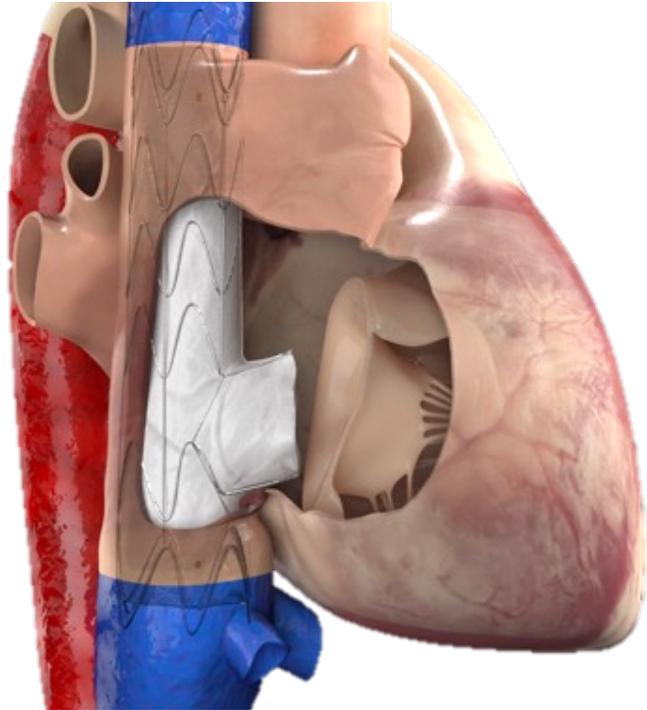


Sustained TR reduction at 2 years

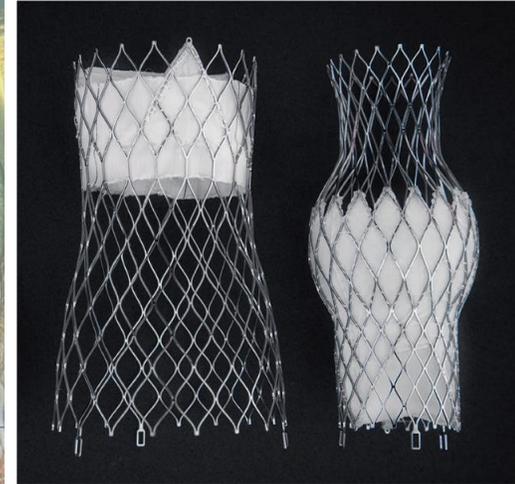


Caval Grafts

Tricento



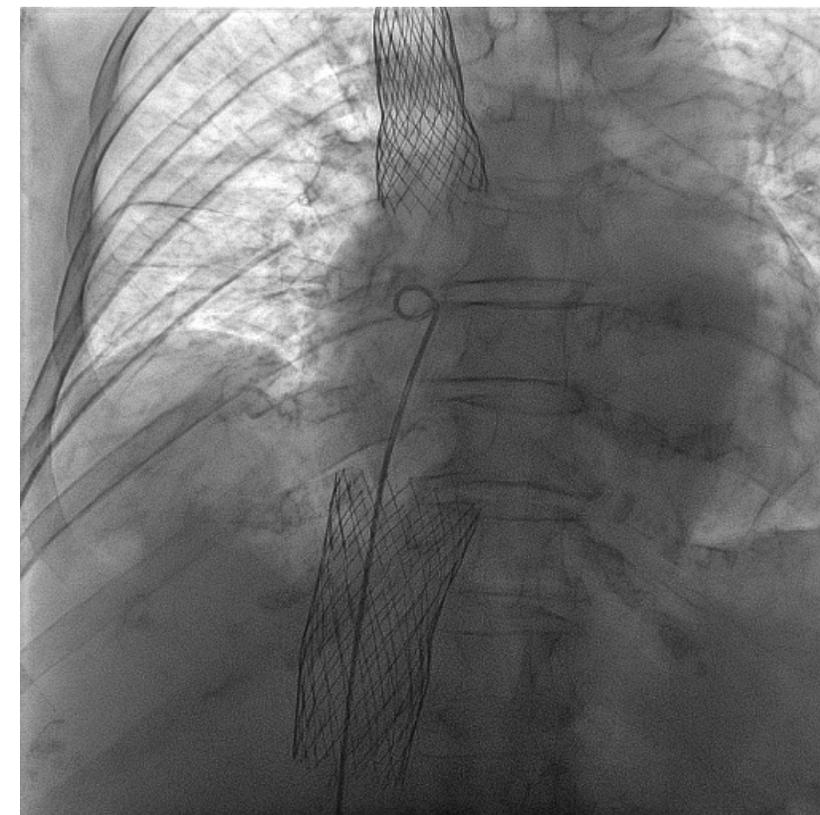
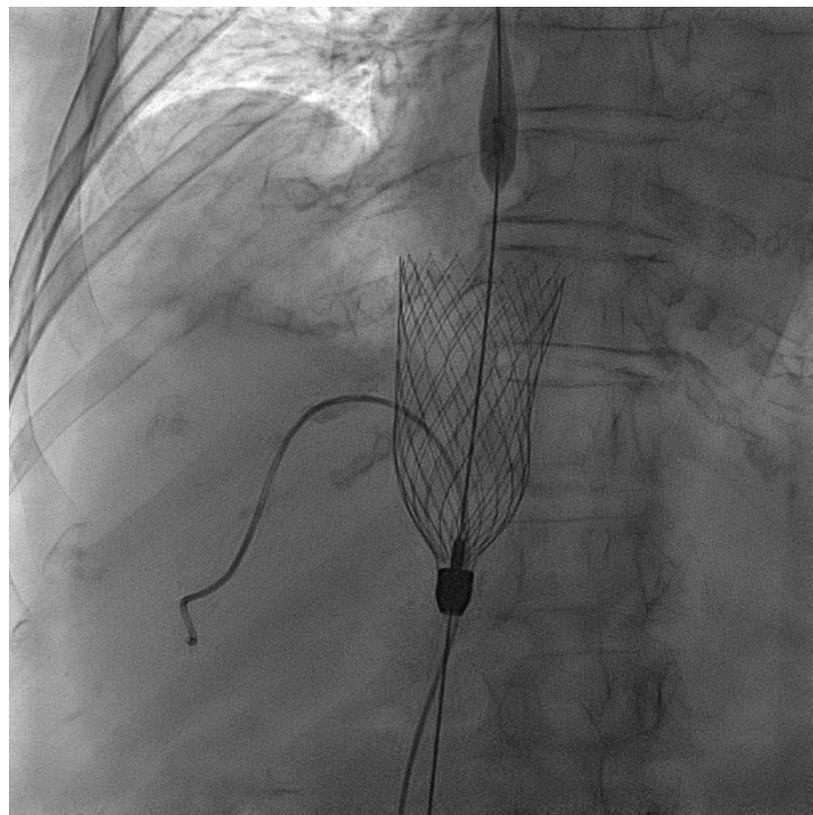
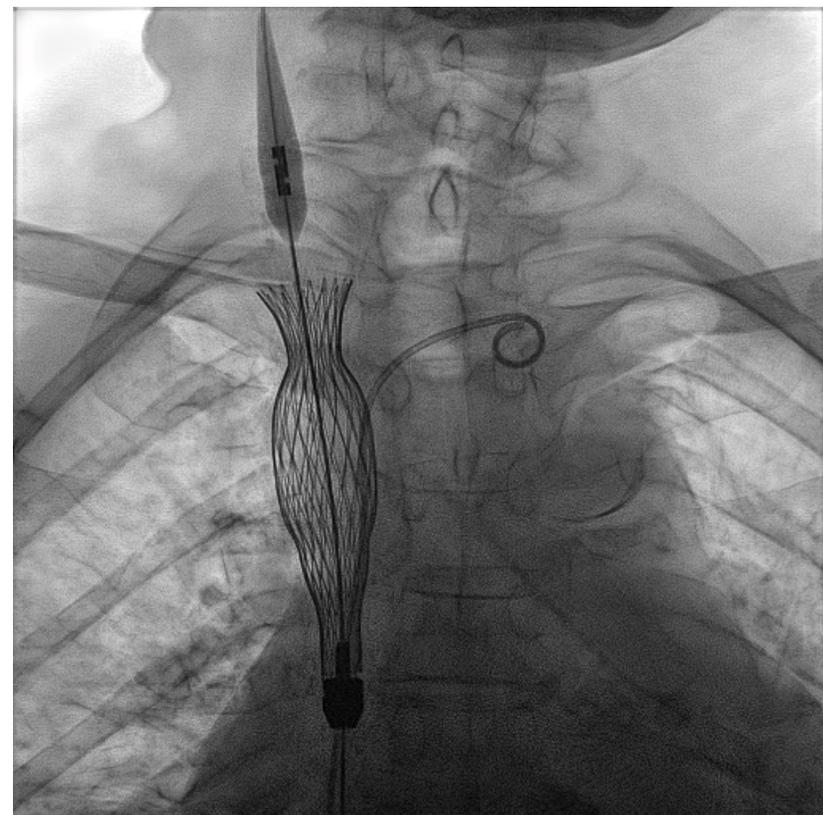
TricValve



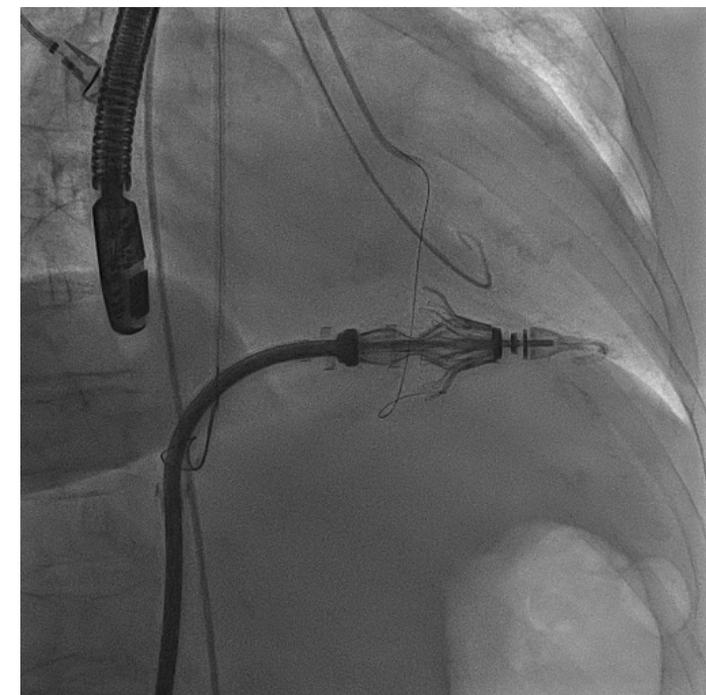
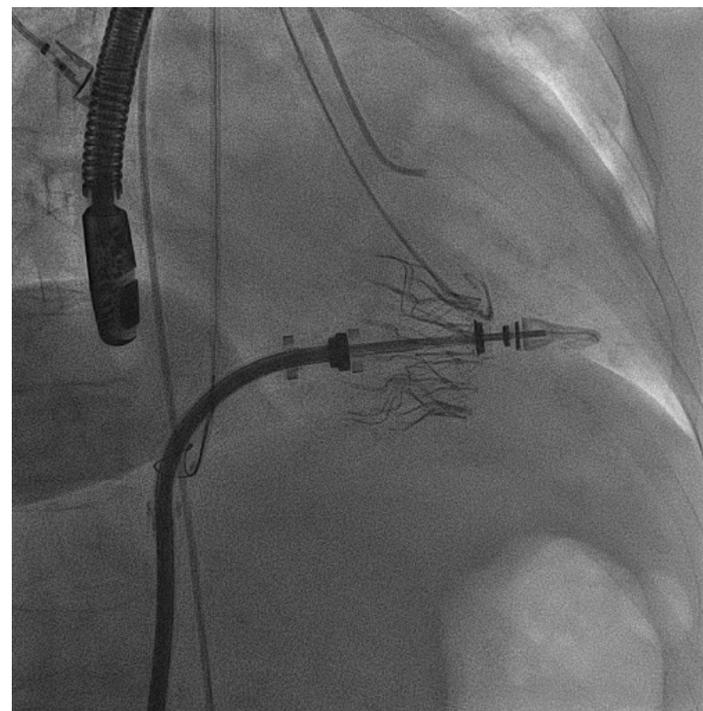
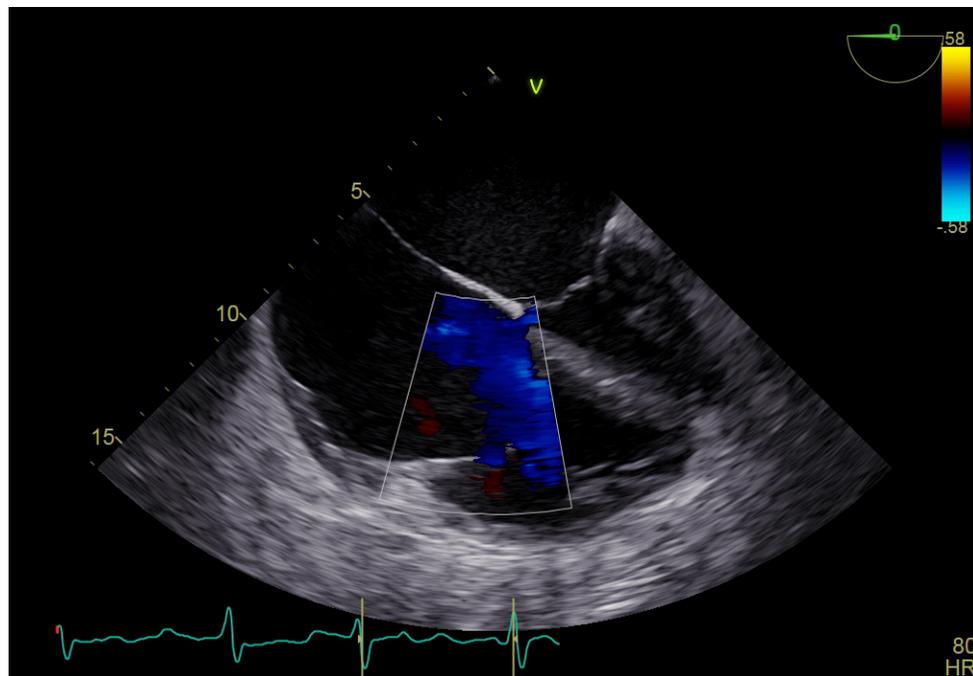
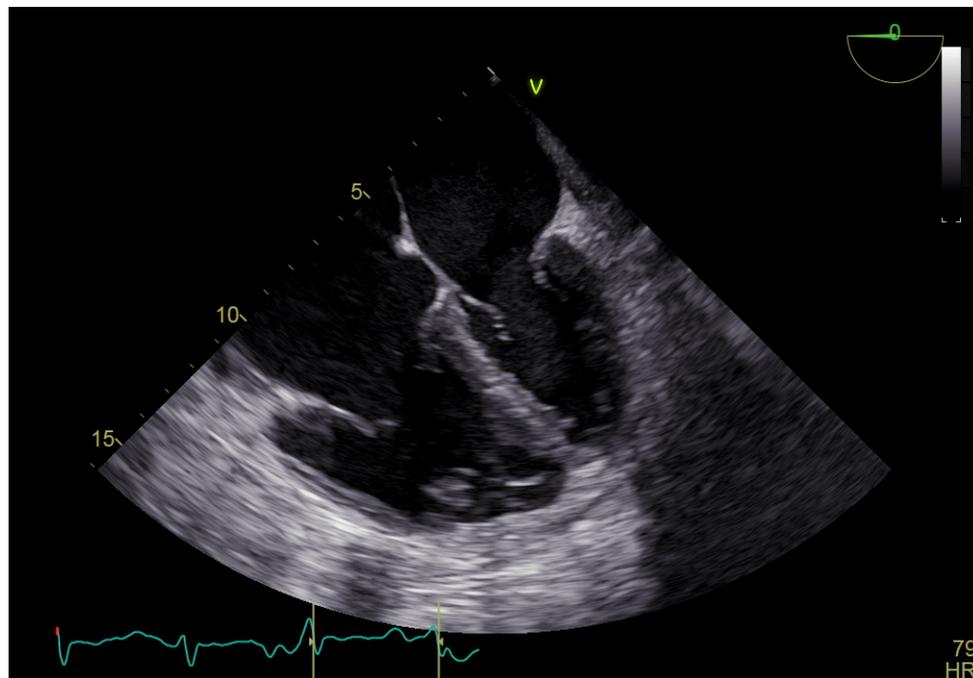
TricValve

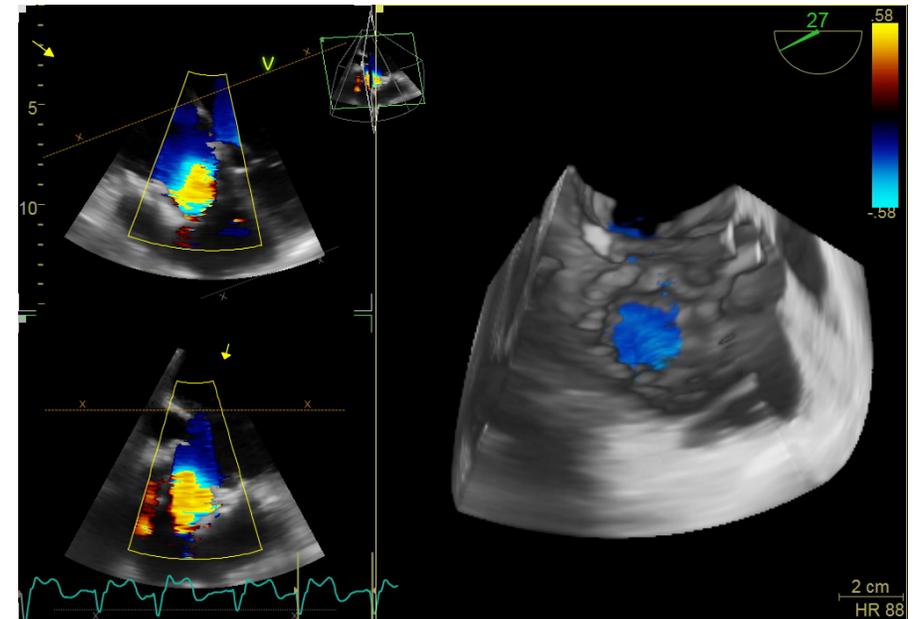
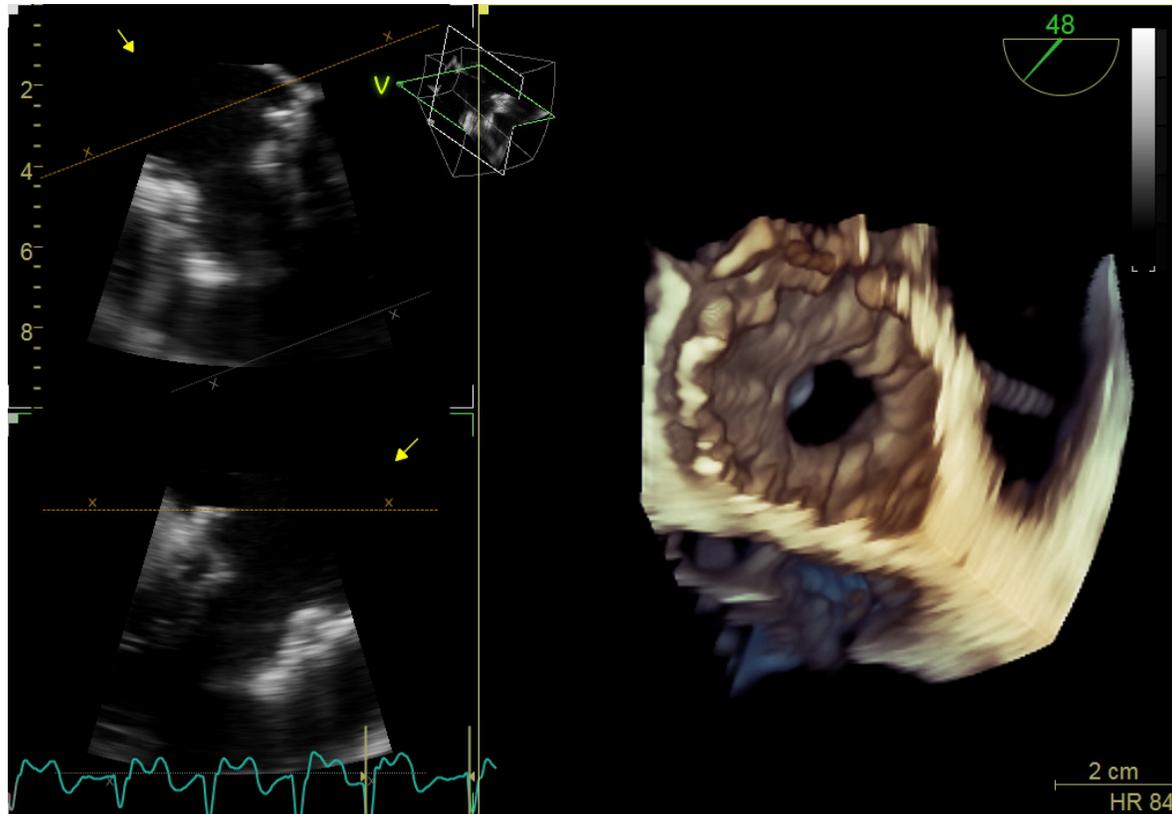
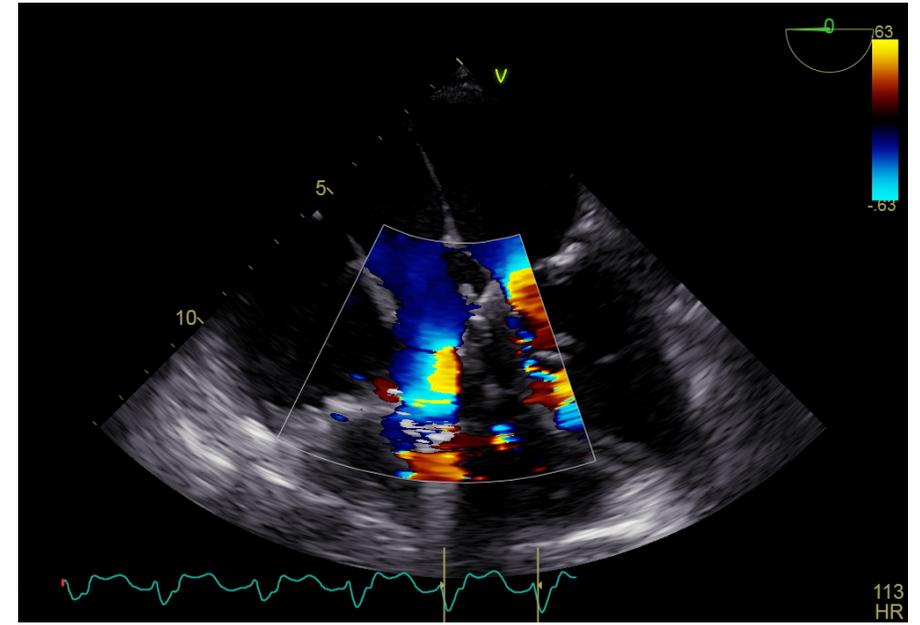
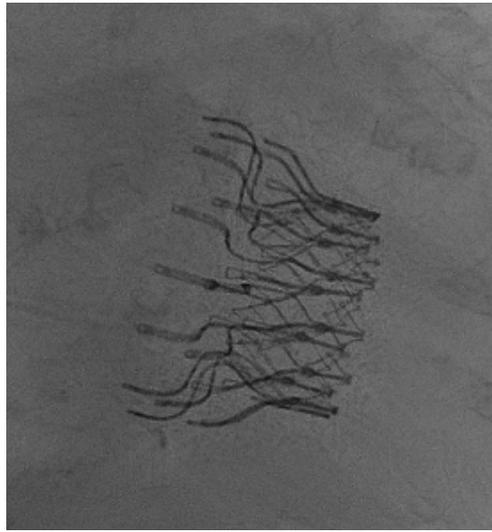


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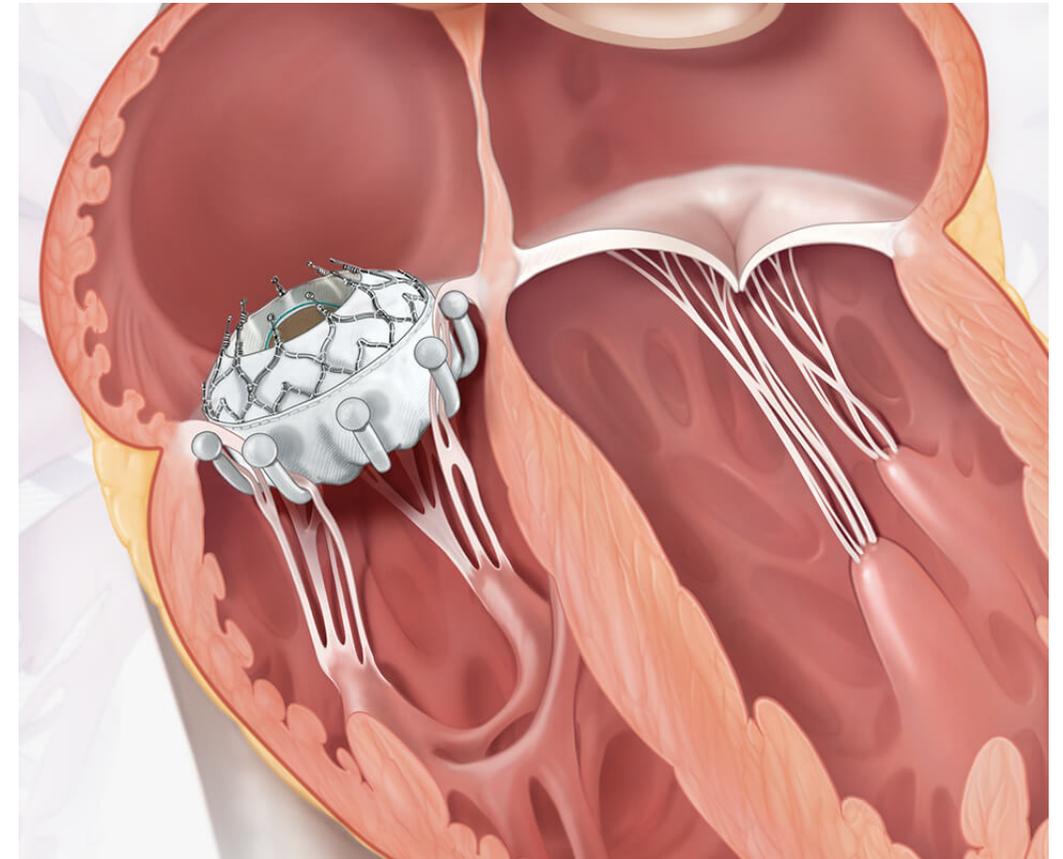
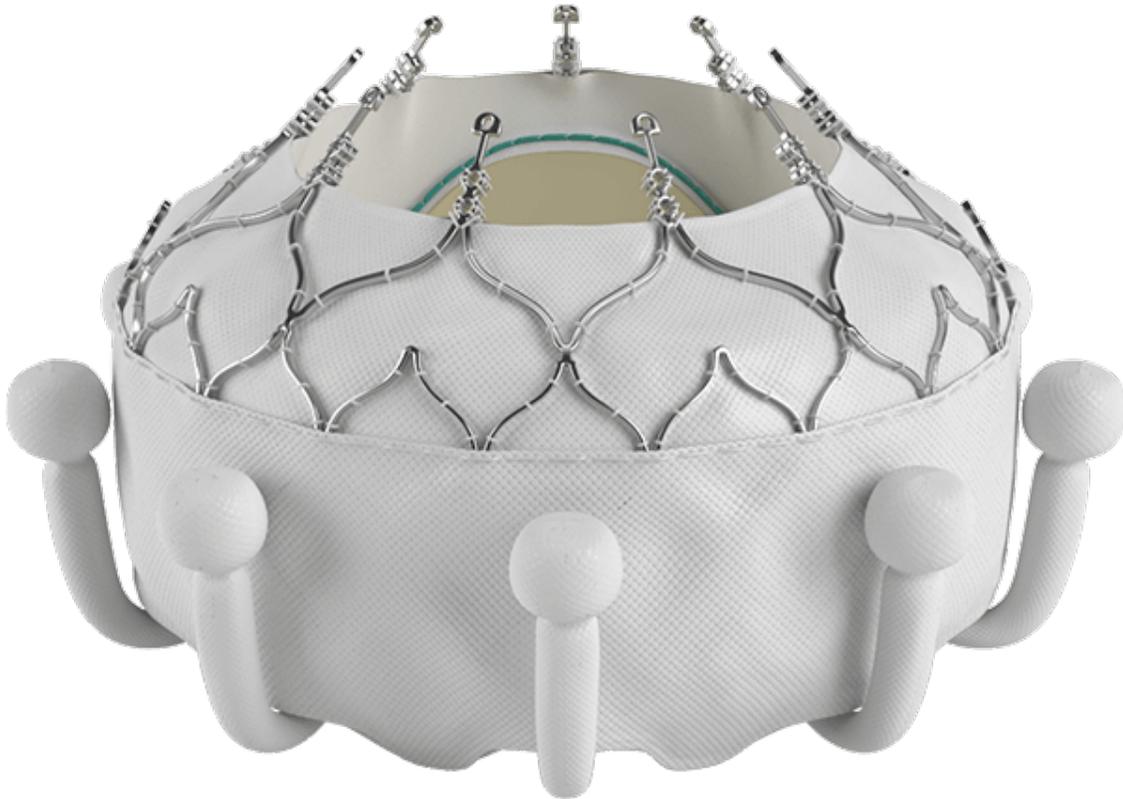


Cardiovalve in Tricuspid





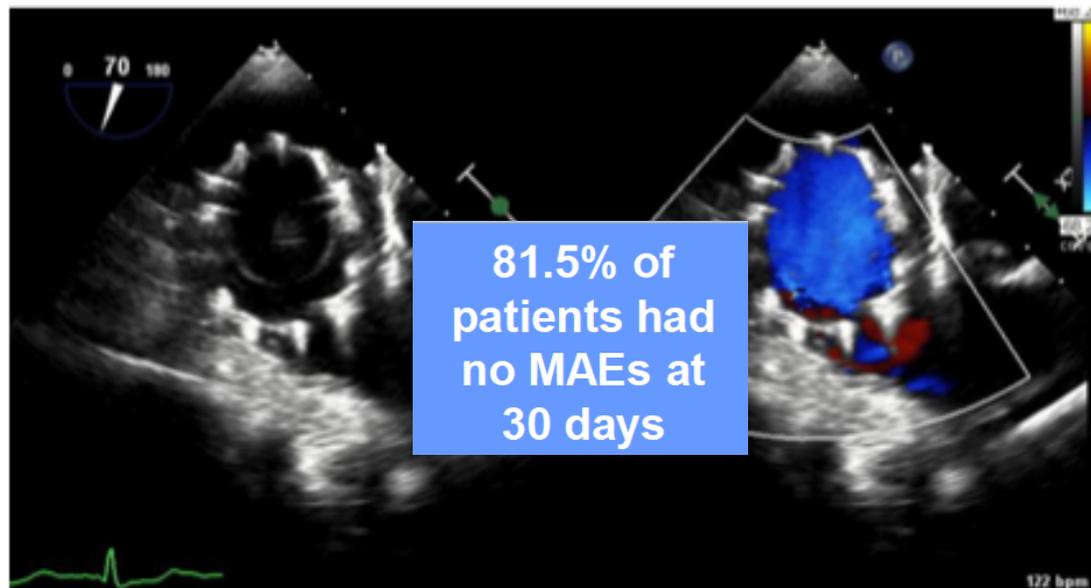
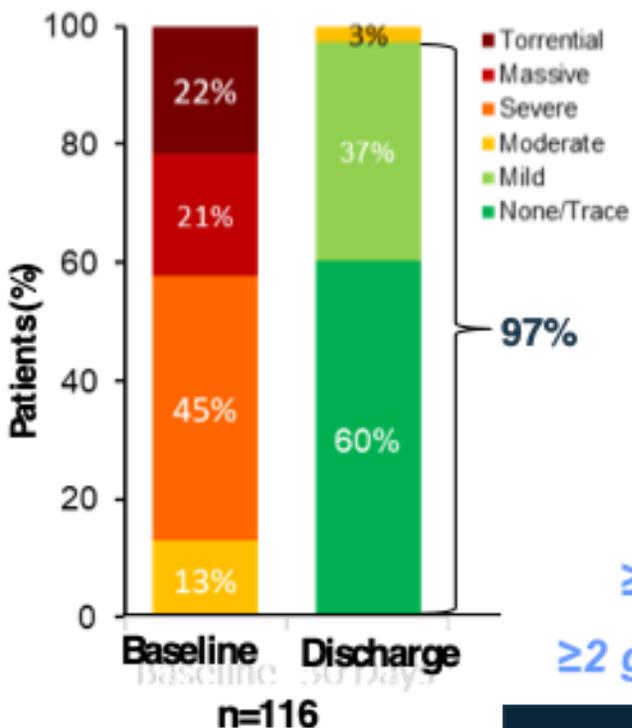
Evoque Percutaneous trans-septal Tricuspid Valve



Significant Reduction in TR Severity by Core Lab¹ at 6 Months

TR Severity at Discharge

p < 0.001^a



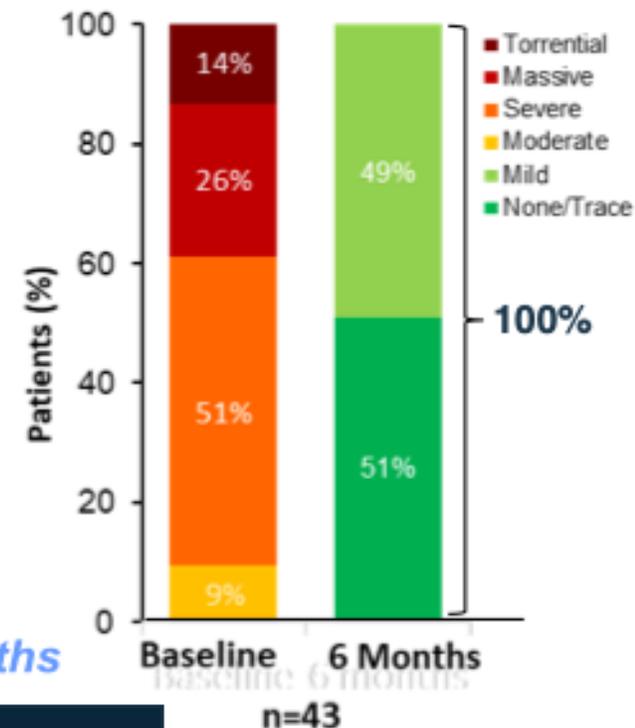
No residual TR post implant with EVOQUE valve

≥1 grade reduction in 100% at discharge and 6 months

≥2 grade reduction in 95% at discharge and 98% at 6 months

TR Severity at 6 Months

p < 0.001^a



Major Adverse Events	N=124 ^a
	N (%)
Cardiovascular mortality	3 (2.4%)

Conclusions

- The treatment of TV is an emerging hot topic in the field of valve heart diseases therapies:

Large unmet clinical need

- Percutaneous TV technologies may be useful for a large amount of high risk patients
- Imaging is a crucial point for cases selection
- The experience of Cardiac Surgery in repair/replacement is irreplaceable in new percutaneous devices development
- Case selection is crucial for every single device and RCT and large registries are needed