



Insufficienza tricuspидale con protesi mitralica ben funzionante: quadri clinici, valutazione della funzione del ventricolo destro e risvolti terapeutici

L. Torracca

Cardiochirurgia

Ospedali Riuniti Ancona

Quadri clinici

- I pz con IT, anche severa, rimangono a lungo asintomatici!!!!
- Il grado di IT e' fortemente condizionato dalla terapia diuretica
- Quadri clinici atipici con astenia e dimagrimento
- Scompenso destro, dispnea, edemi declivi, epatomegalia

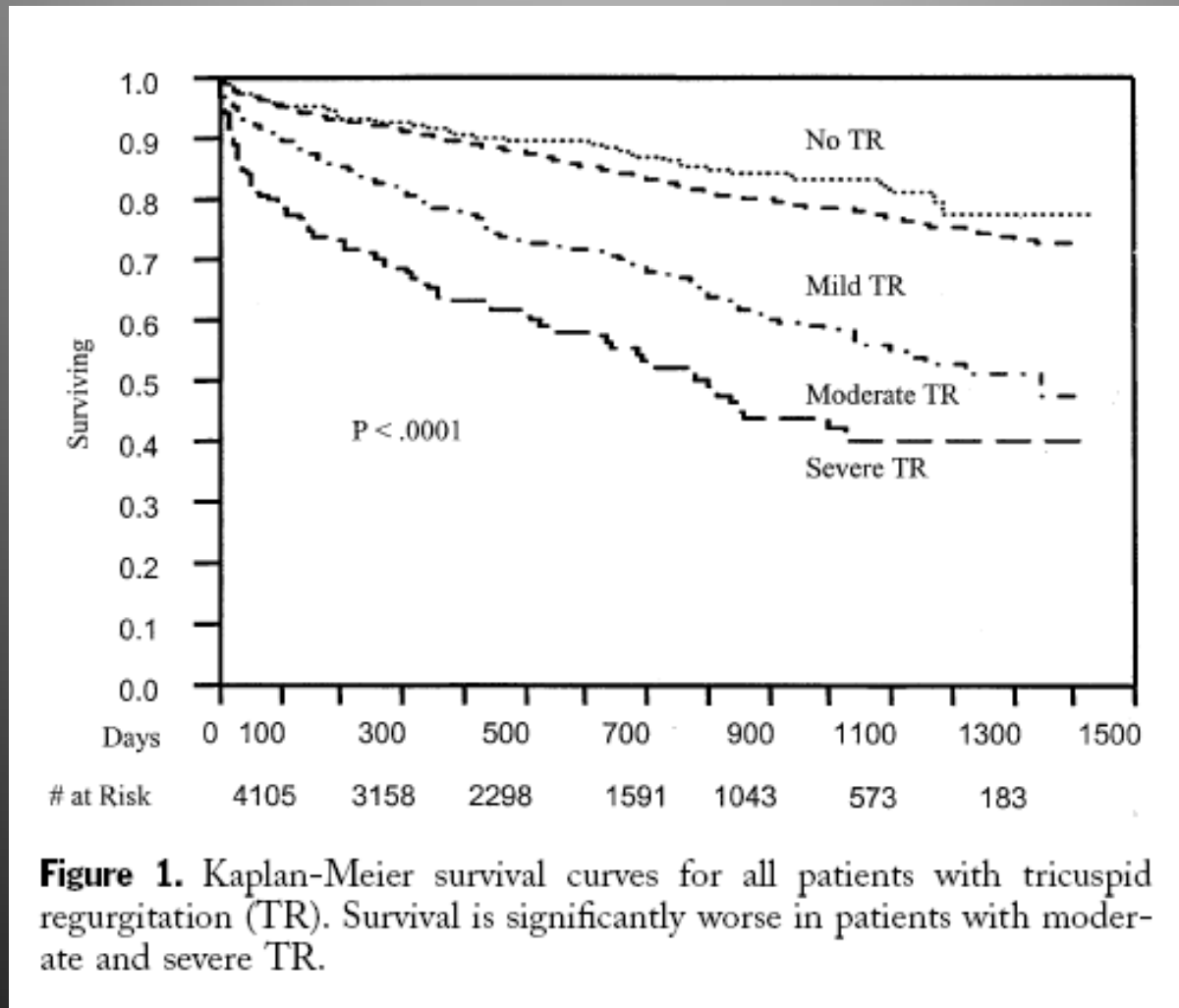
Incidenza del fenomeno

23-37% in pts with no or mild IT at the time of
left side surgery

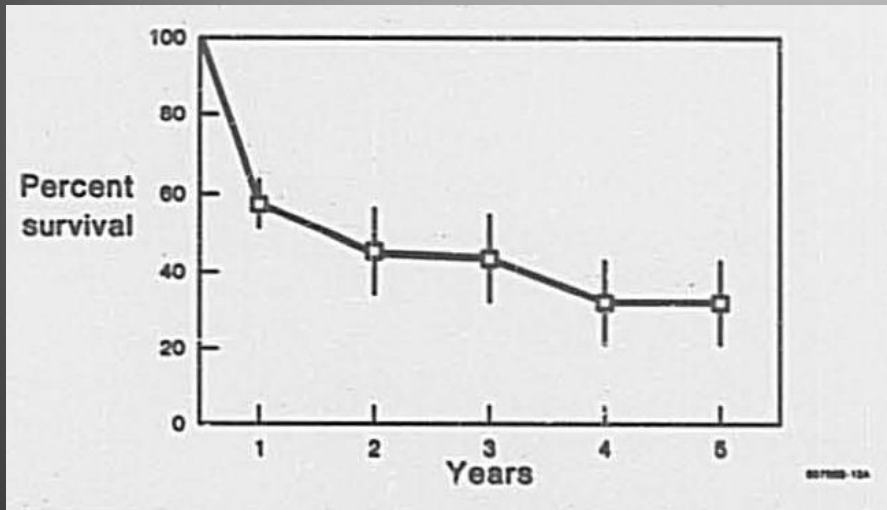
Fattori predittivi comparsa di TR dopo chirurgia mitralica

- Severita' IT prima della chirurgia mitralica
- Fibrillazione atriale
- Dimensioni dell'atrio sinistro (>60mm Matsuyama)
- Dilatazione dell'anello tricuspideale (40mm o 21mm/m²)
- Tethering dei lembi valvolari (th > 0.76 cm e TA > 1.63 cm)

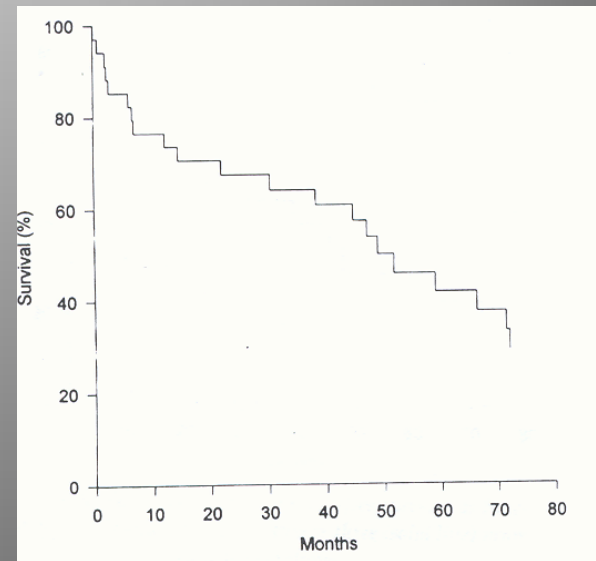
IMPATTO PROGNOSTICO



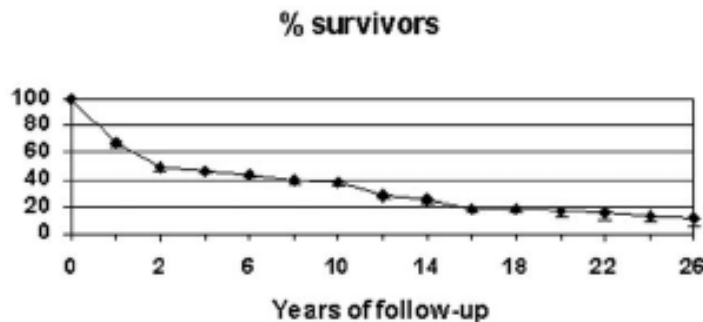
La Chirurgia nel REDO IT



Mayo Clinic Circulation 1984

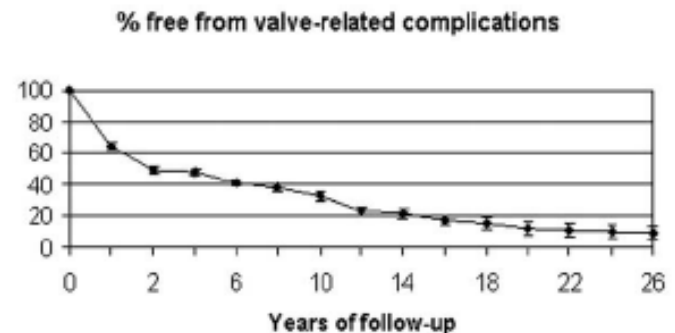


Mayo Clinic JHVD 1999



Patients at risk: 49 32 29 23 20 16 11 10 7 6 5 4 1

Figure 1. Actuarial survival curve after reoperations for failure of previous tricuspid valve repair.



Patients at risk: 44 30 27 22 16 10 9 7 6 5 4 2 1

Figure 2. Actuarial curve free from valve-related complications after reoperations for failure of previous tricuspid valve repair.

Table 16 Indications for tricuspid valve surgery

After left-sided valve surgery, surgery should be considered in patients with severe TR who are symptomatic or have progressive right ventricular dilatation/dysfunction, *in the absence of left-sided valve dysfunction, severe right or left ventricular dysfunction, and severe pulmonary vascular disease.*

IIa

C

<i>Class IIa</i>	<i>Weight of evidence/opinion is in favour of usefulness/efficacy.</i>	Should be considered
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Level of evidence C	Consensus of opinion of the experts and/or small studies, retrospective studies, registries.
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Isolated tricuspid valve surgery in patients with previous cardiac surgery

Bettina Pfannmüller, MD, Monica Moz, MD, Martin Misfeld, MD, PhD, Michael A. Borger, MD, PhD, Anne-Kathrin Funkat, PhD, Jens Garbade, MD, PhD, and Friedrich W. Mohr, MD, PhD

- 82 pts REDO TV surgery

84% TR

14,6% acute endocarditis

1,2% valve thrombosis

- ELECTIVE surgery 67%

- ✓ 30 days mortality 14.6%

Elective 4%

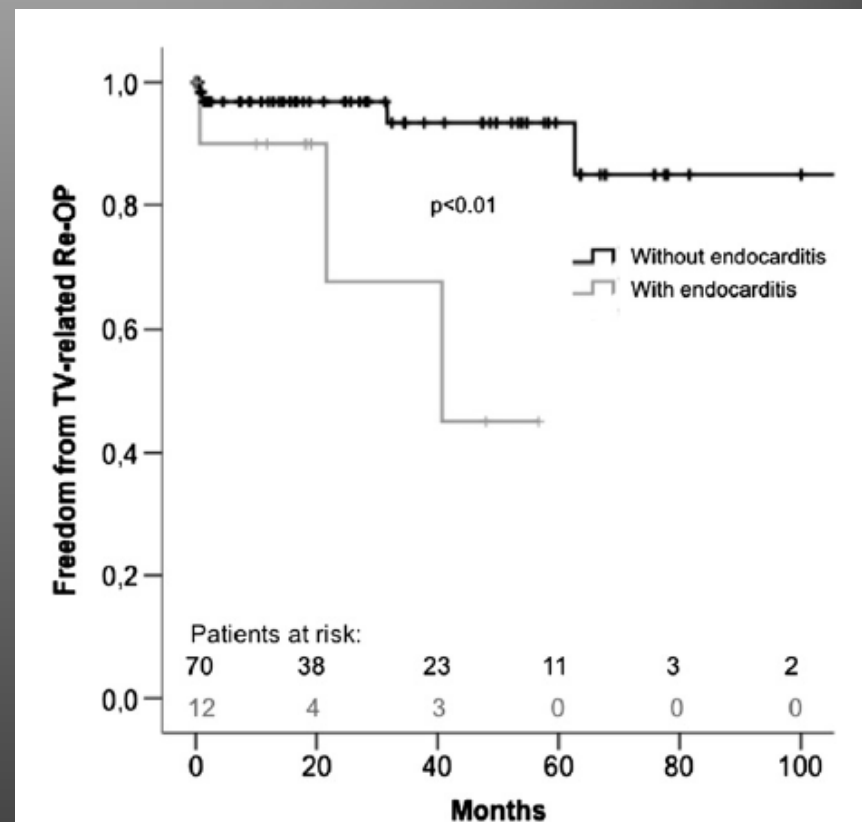
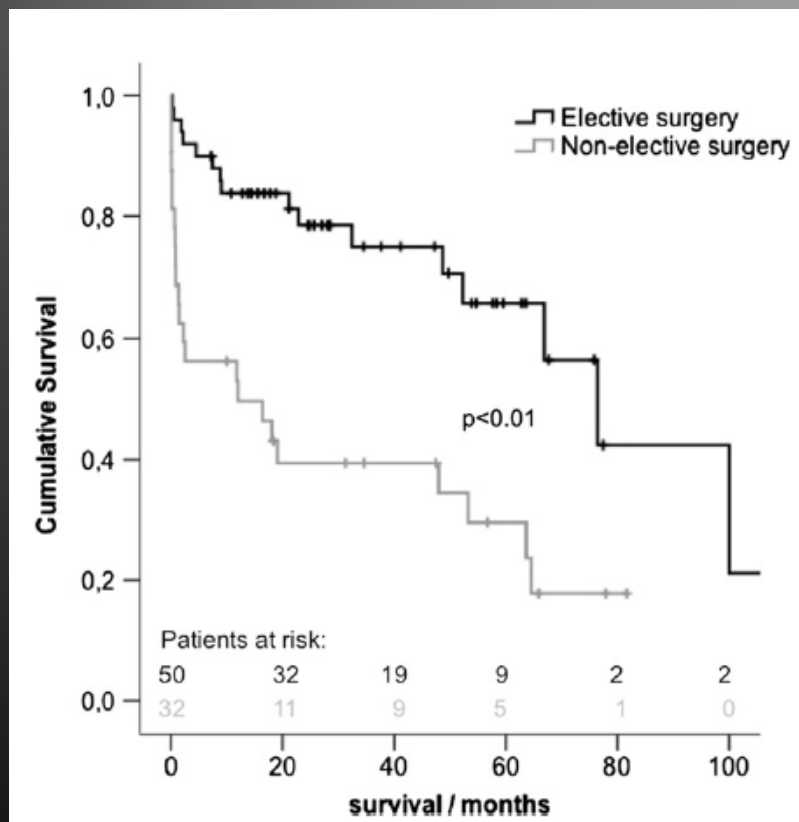
Non elective 31,2%

Endocarditis 25%

Non-endocarditis 12.9%

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La valutazione del ventricolo destro

- **Ecocardiografia**

TAPSE
MPI/RIMP
RVESA

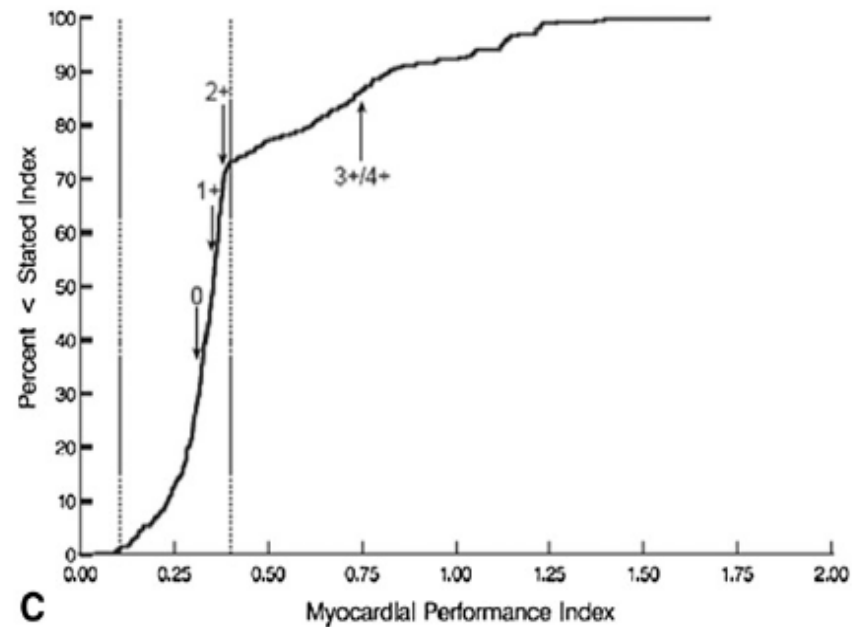
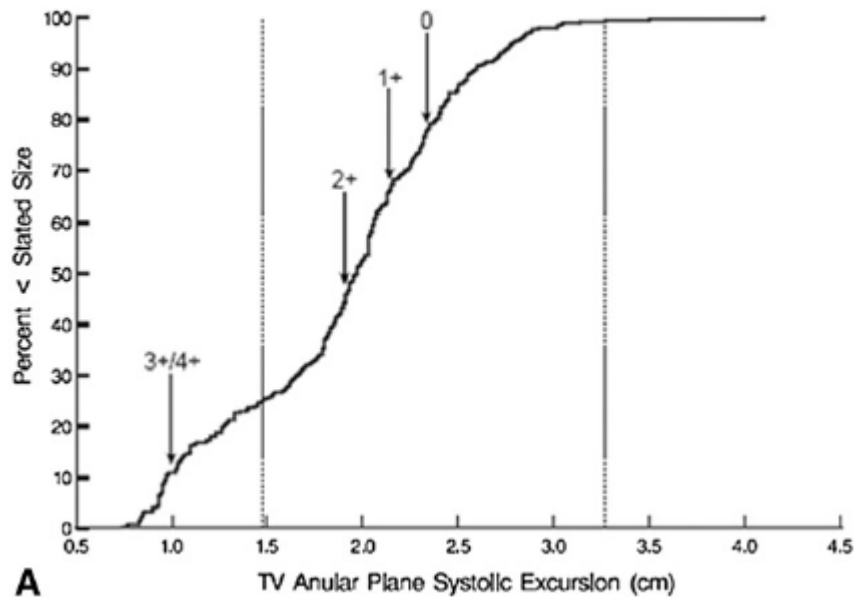
- **CT scan**

iESV
iEDV

- **MR**

RVEF
Late gadolinium
enhancement

Understanding right ventricular dysfunction and functional tricuspid regurgitation accompanying mitral valve disease



TAPSE and MPI are load sensitive index and could reflect RV dysfunction but also altered pre or afterload

Preoperative Factors Associated With Adverse Outcome After Tricuspid Valve Replacement

Yan Topilsky, MD; Amber D. Khanna, MD; Jae K. Oh, MD; Rick A. Nishimura, MD; Maurice Enriquez-Sarano, MD; Yang B. Jeon, MD; Thoralf M. Sundt, MD; Hartzell V. Schaff, MD; Soon J. Park, MD

In summary, patients with severe TR and a low RIMP (or short TCO) have high pressure in the RA and/or low systolic pulmonary artery pressure (reflecting a failing RV unable to generate high pressures) and are at increased risk of morbidity and mortality after TV surgery.

✓ LOW RIMP

✓ HIGH CHARLSON INDEX

✓ NYHA class IV



Independent

RISK FACTORS for all
cause MORTALITY

Determinants of Surgical Outcome in Patients With Isolated Tricuspid Regurgitation

Yong-Jin Kim, MD; Dong-A Kwon, MD; Hyung-Kwan Kim, MD; Jin-Shik Park, MD;
Seokyung Hahn, PhD; Kyung-Hwan Kim, MD; Ki-Bong Kim, MD; Dae-Won Sohn, MD;
Hyuk Ahn, MD; Byung-Hee Oh, MD; Young-Bae Park, MD

61 pts Severe TR

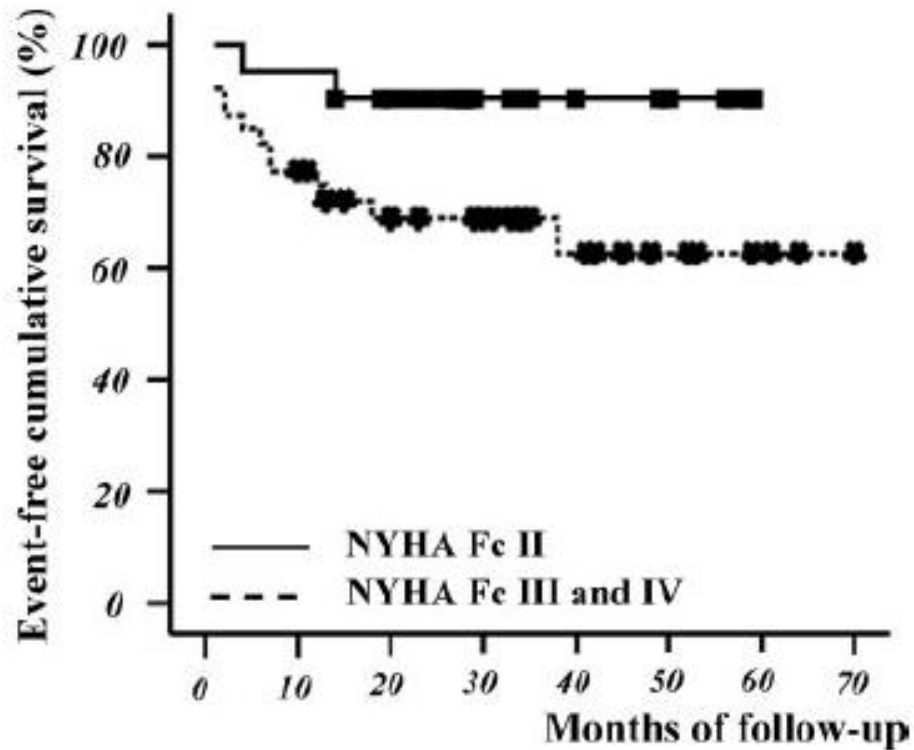
84% functional , 15% rheumatic, 1% cordal rupture

NYHA II 34%
III 57%
IV 9%

REDO post left side surgery 93%
Previous tricuspid surgery 17%

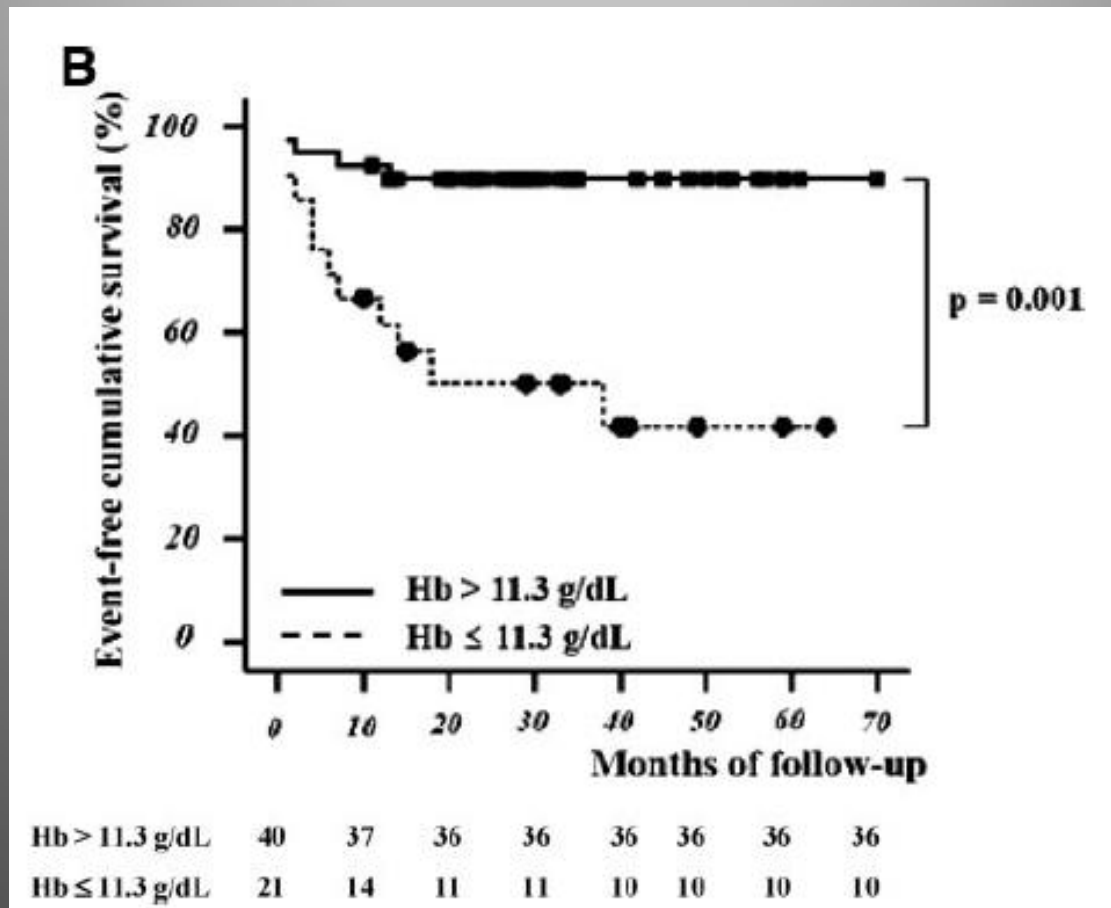


Operative mortality 9,8%
2 yrs event free 75%



NYHA Fe II	21	20	19	19	19	19	19	19
NYHA Fe III and IV	40	31	28	28	27	27	27	27

Operative mortality 4,8%
2 years event-free survival 90%



Low Hemoglobin (<11.3 g/dl) plus Thrombocitopenia



Hypersplenism due to chronic venous congestion

Late tricuspid surgery: predicting outcome with computed tomography

Daniel TL Chan, Wendy WM Lam, Flora HF Tsang, Cally KL Ho, Timmy WK Au and

Lik-Cheung Cheng

Asian Cardiovasc Thorac Ann 2011;19:128-132

DOI: 10.1177/0218492311399969

24 pts isolated TR surgery after previous left side surgery

- 12 poor outcome (7 death, 5 no clinical improvement)
- 12 good outcome

Table 2. Right ventricular computed tomography data in 24 patients

Variables	Operative Outcome		p Value
	Favourable	Unfavourable	
End-systolic volume (mL)	115.3 ± 35.3	157.4 ± 59.7	0.050
Indexed end-systolic volume (mL·m ⁻²)	77.8 ± 23.0	102.8 ± 31.9	0.043
End-diastolic volume (mL)	238.1 ± 59.5	327.3 ± 115.2	0.013
Indexed end-diastolic volume (mL·m ⁻²)	161.7 ± 41.7	214.0 ± 58.7	0.021
Right ventricular ejection fraction	51.7% ± 7.6%	52.2% ± 5.7%	0.950

iESV < 88ml/m²

iEDV < 188 ml/m²



Cutoff values for favourable outcome

La valutazione clinica

- Eta'
- Classe NYHA
- Emocromo e coagulazione
- Insufficienza renale
- Insufficienza epatica
- Durata della malattia

Chirurgia IT REDO

- Plastica tricuspидale quando possibile
- Sostituzione valvolare se rischio di IT residua
- Chirurgia mininvasiva
 - *Elimina il rischio della risternotomia*
 - *Limita lo scollamento delle aderenze*
 - *Riduce il sanguinamento postoperatorio*

A simplified technique for caval occlusion in reoperative small thoracotomies

Filippo Capestro, MD, Sacha Matteucci, MD, Giuseppe Rescigno, MD, and Lucia Torracca, MD, Ancona, Italy

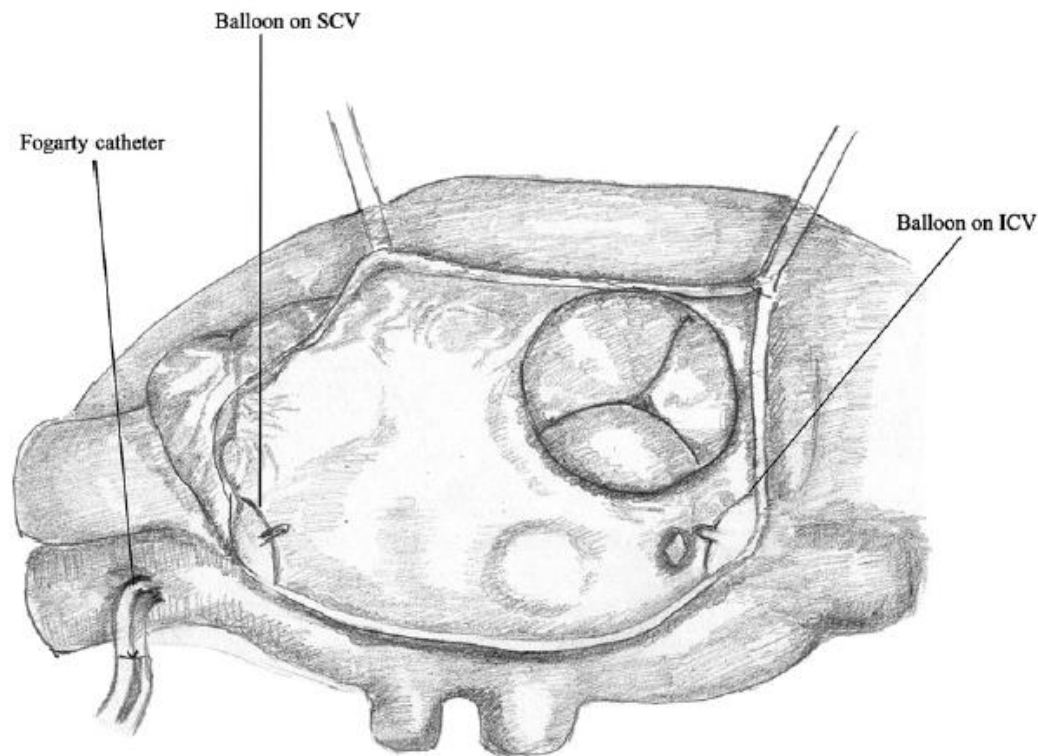
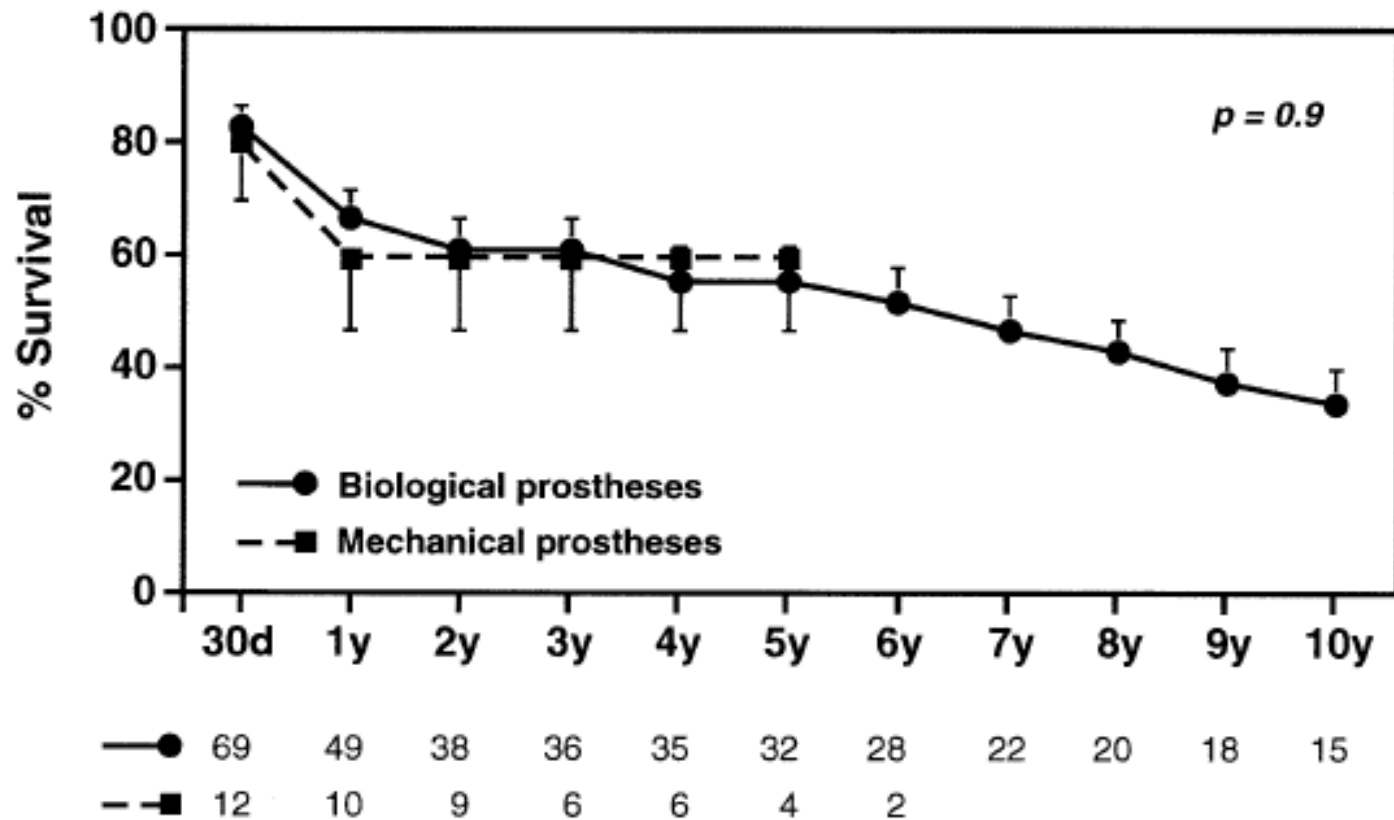


FIGURE 2. Caval occlusion with Fogarty catheters. *SCV*, Superior vena cava; *ICV*, inferior vena cava.

La scelta della protesi



Conclusioni

- Il monitoraggio del paziente con IT post chirurgia del cuore sinistro deve essere frequente
- La valutazione della funzione del ventricolo destro deve essere multiparametrica
- La valutazione TC e RMN possono coadiuvare i dati eco
- L'indicazione alla chirurgia deve essere ***precoce e elettiva*** per limitare il rischio chirurgico e ottimizzare il beneficio clinico