

Le difficoltà intraprocedurali ed i possibili rimedi della TAVI “classica”



ECO CARDIOCHIRURGIA®
ECO-RM-TC CHIRURGIA-INTERVENTISTICA

9 e 10 aprile 2015

CORSO MONOGRAFICO

MILANO

LA STENOSI
VALVOLARE AORTICA
E L'INSUFFICIENZA
MITRALICA

Diagnosi, indicazione ad
interventismo o cardiocirurgia

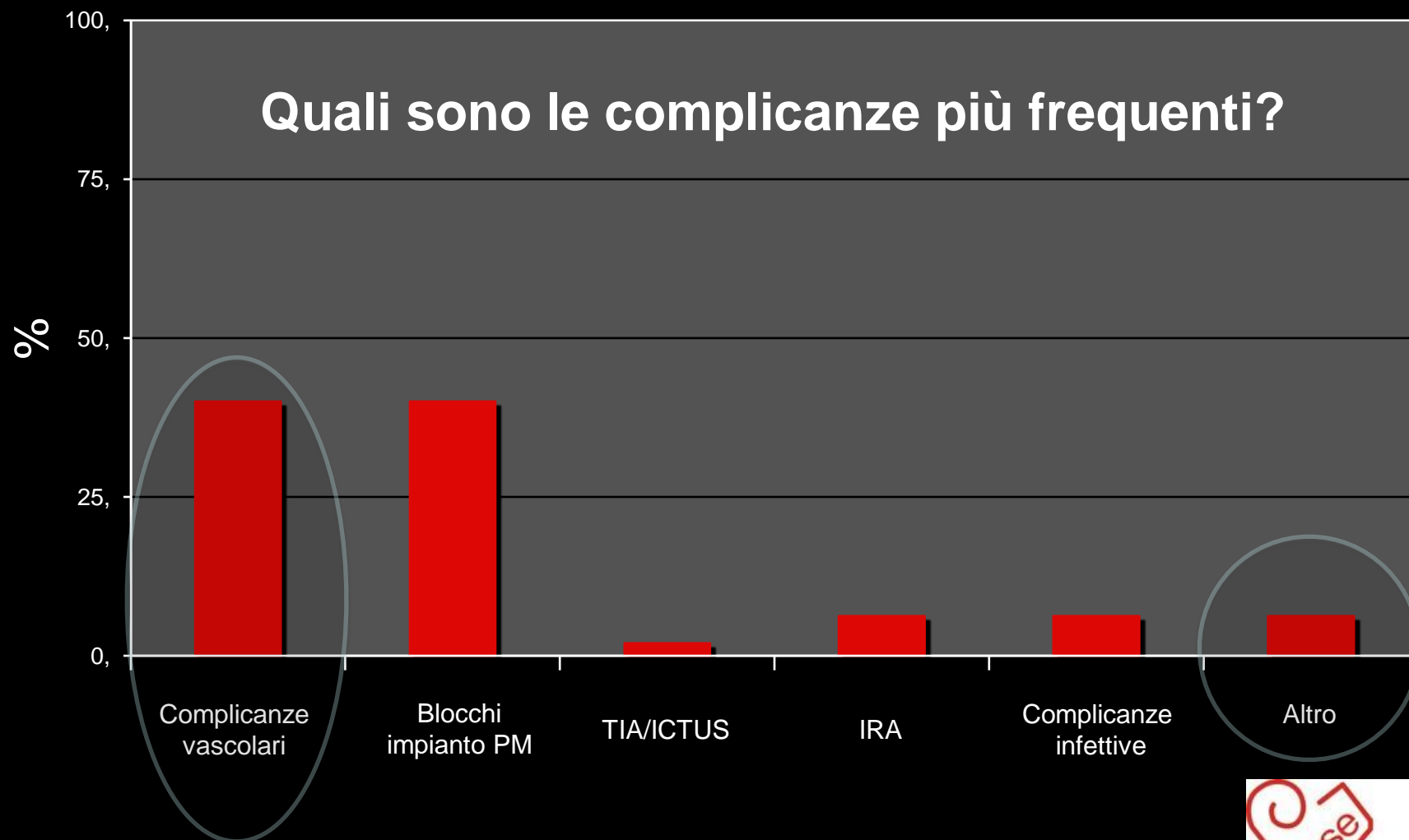
Corrado Lettieri

S.O.S. di Emodinamica
Dipartimento Cardio-Toraco-Vascolare



Azienda Ospedaliera “Carlo Poma”
Mantova

SURVEY sulla TAVI in Lombardia (18 Cath Lab)



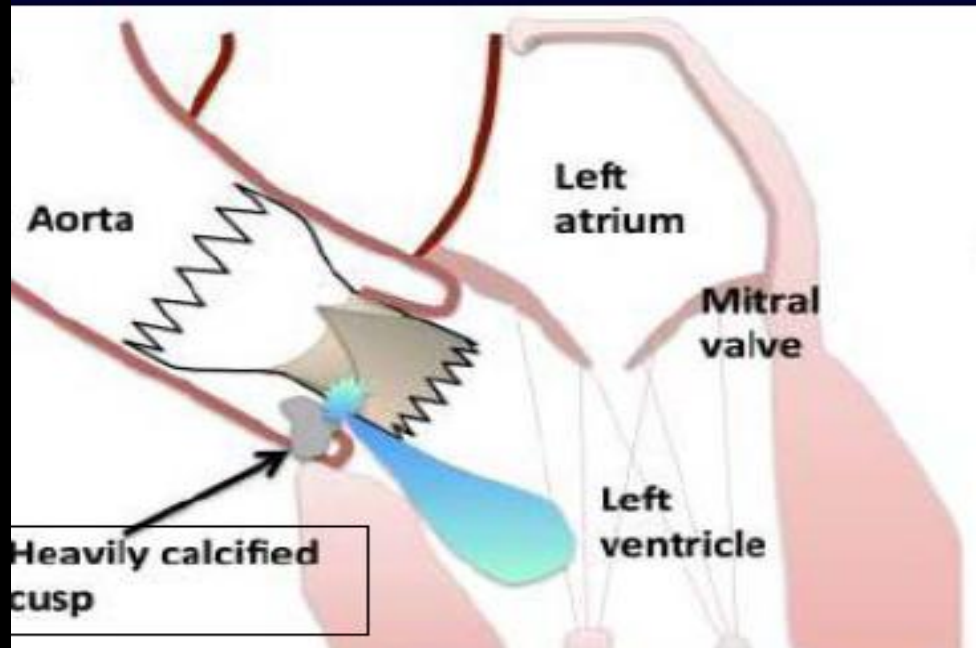
DIFFICOLTA' INTRAPROCEDURALI, COMPLICANZE E TRATTAMENTO

- ✓ **Leak paraprotetici**
- ✓ **Interferenza con la mitrale**
- ✓ **Rottura dell'anulus aortico**
 - ✓ **Occlusione coronarica**
 - ✓ **Complicanze vascolari**

DIFFICOLTA' INTRAPROCEDURALI E TRATTAMENTO

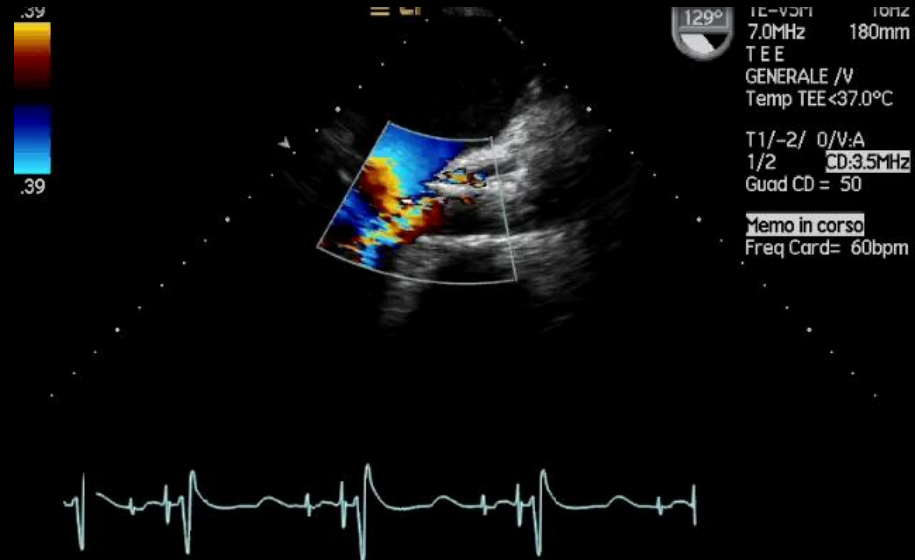
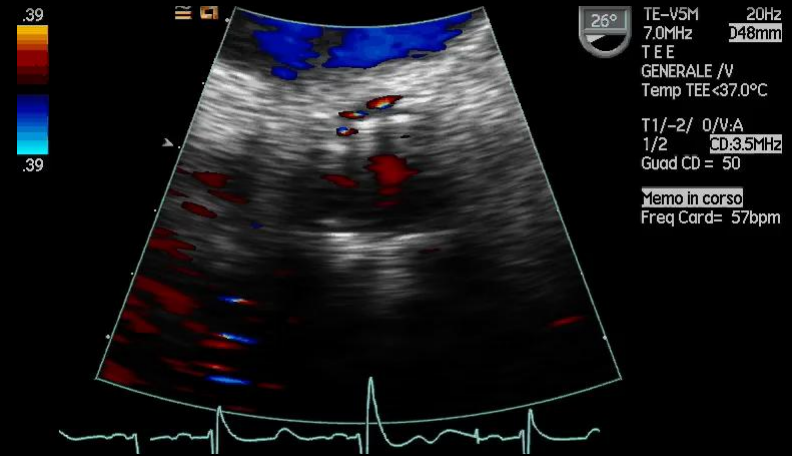
LEAKS PARAPROTESICI

Marcate calcificazioni delle cuspidi



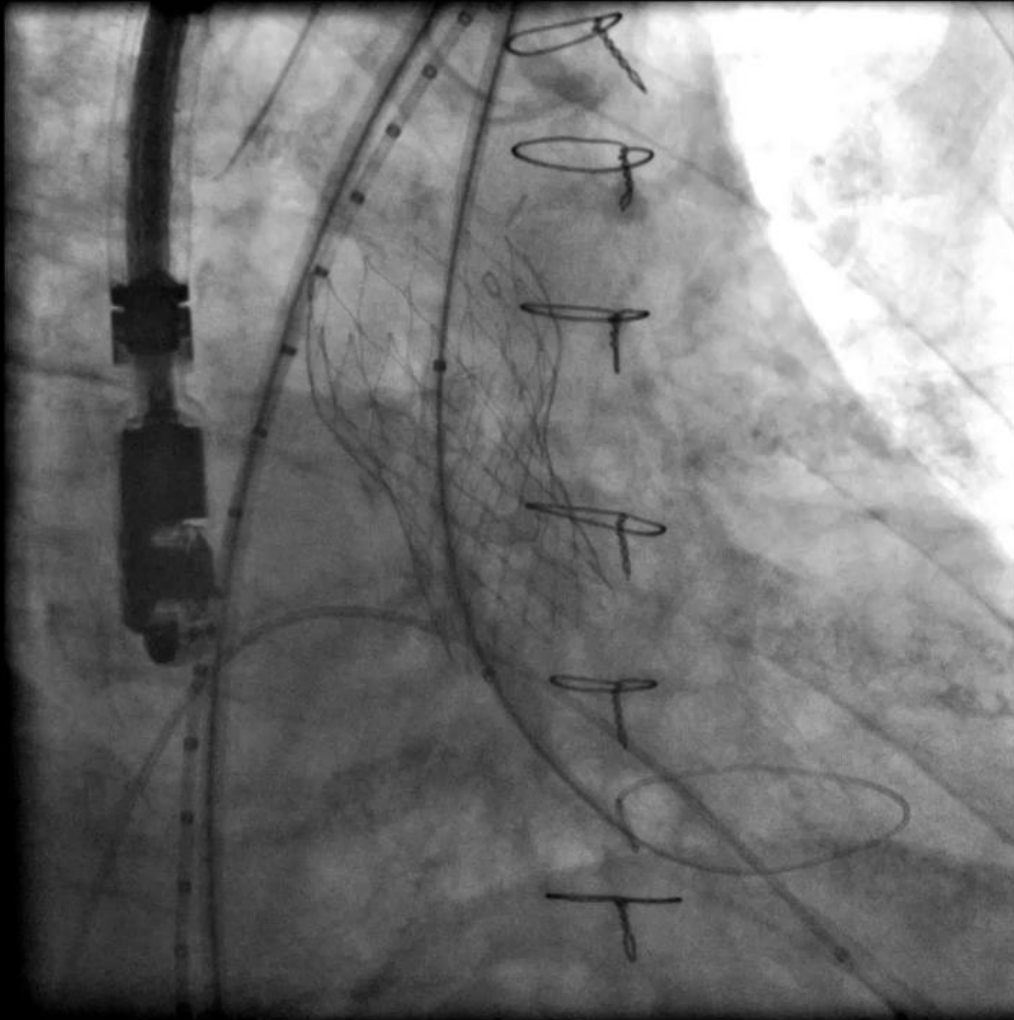
LEAKS PARAPROTESICI

Marcate calcificazioni delle cuspidi



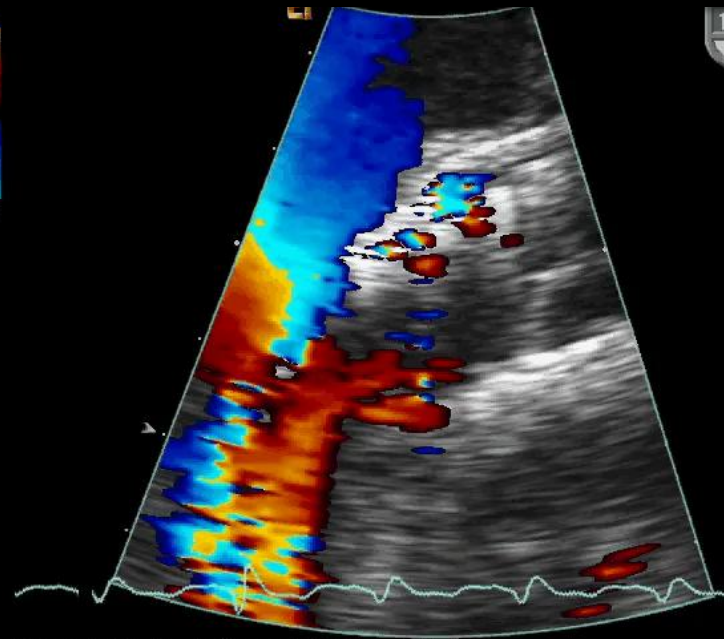
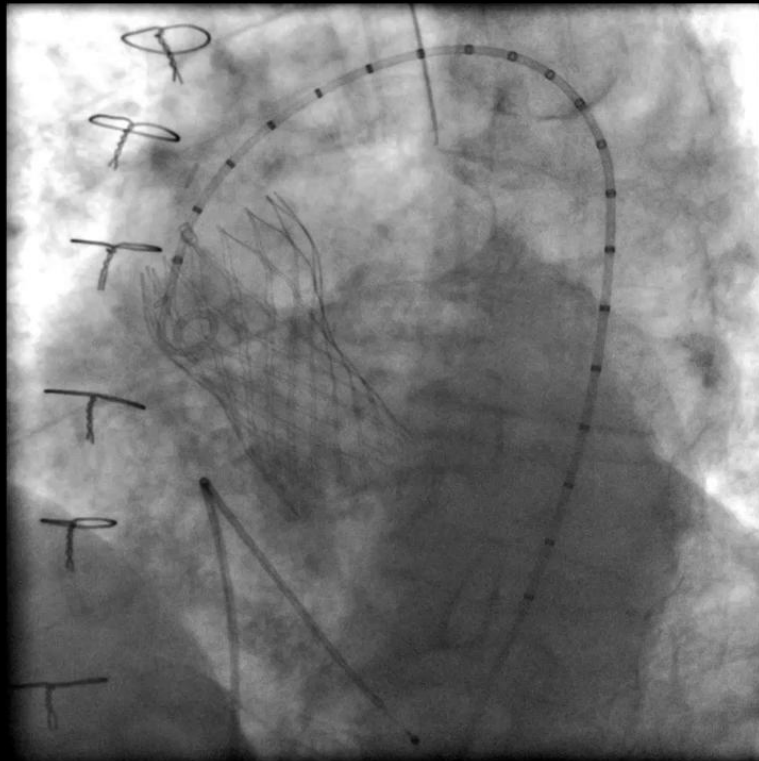
LEAKS PARAPROTESICI

Marcate calcificazioni delle cuspidi



LEAKS PARAPROTESICI

Marcate calcificazioni delle cuspidi

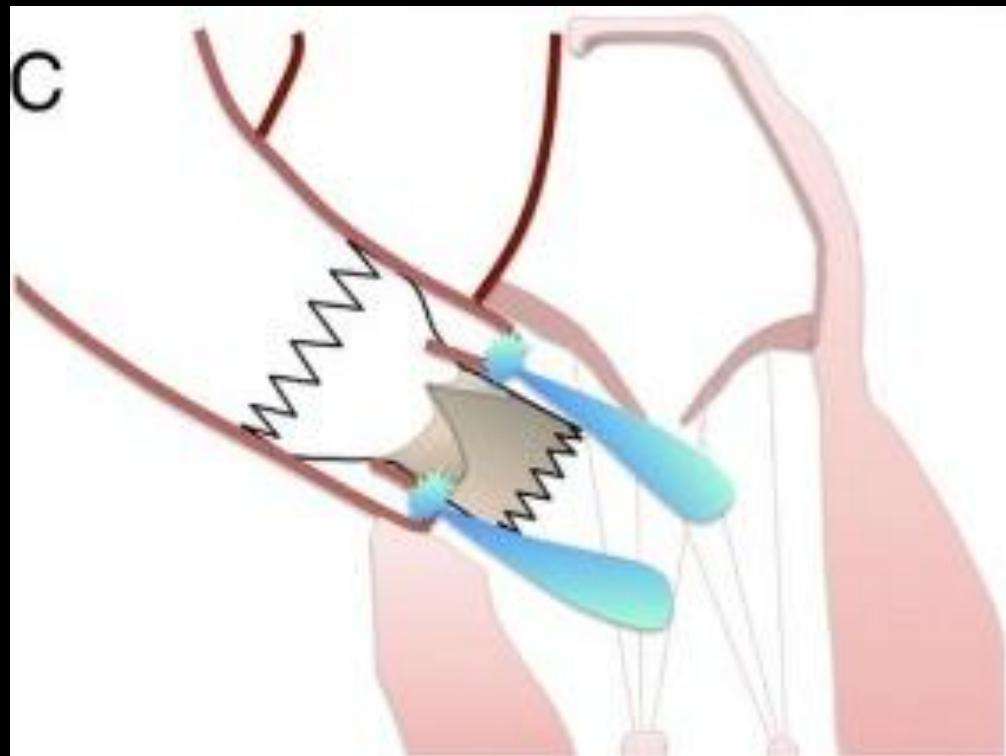


132° IE-VSM 2/HZ
7.0MHz 024mm
TEE
GENERALE
Temp TEE <37.0°C
T1/-2/ 0/V.A
1/2 CD:3.5MHz
Quad CD = 49
Memo in corso
Freq Card= 86bpm

DIFFICOLTA' INTRAPROCEDURALI E TRATTAMENTO

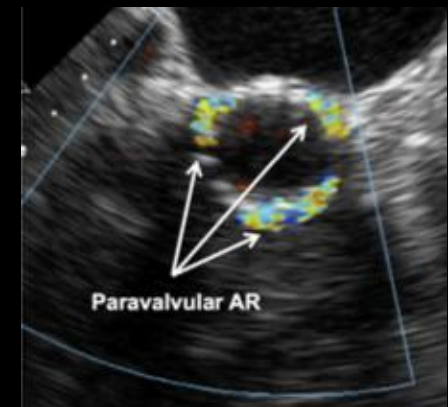
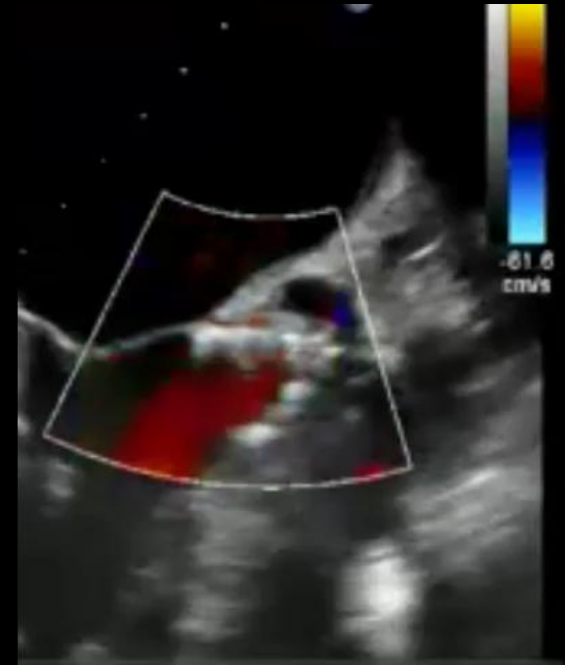
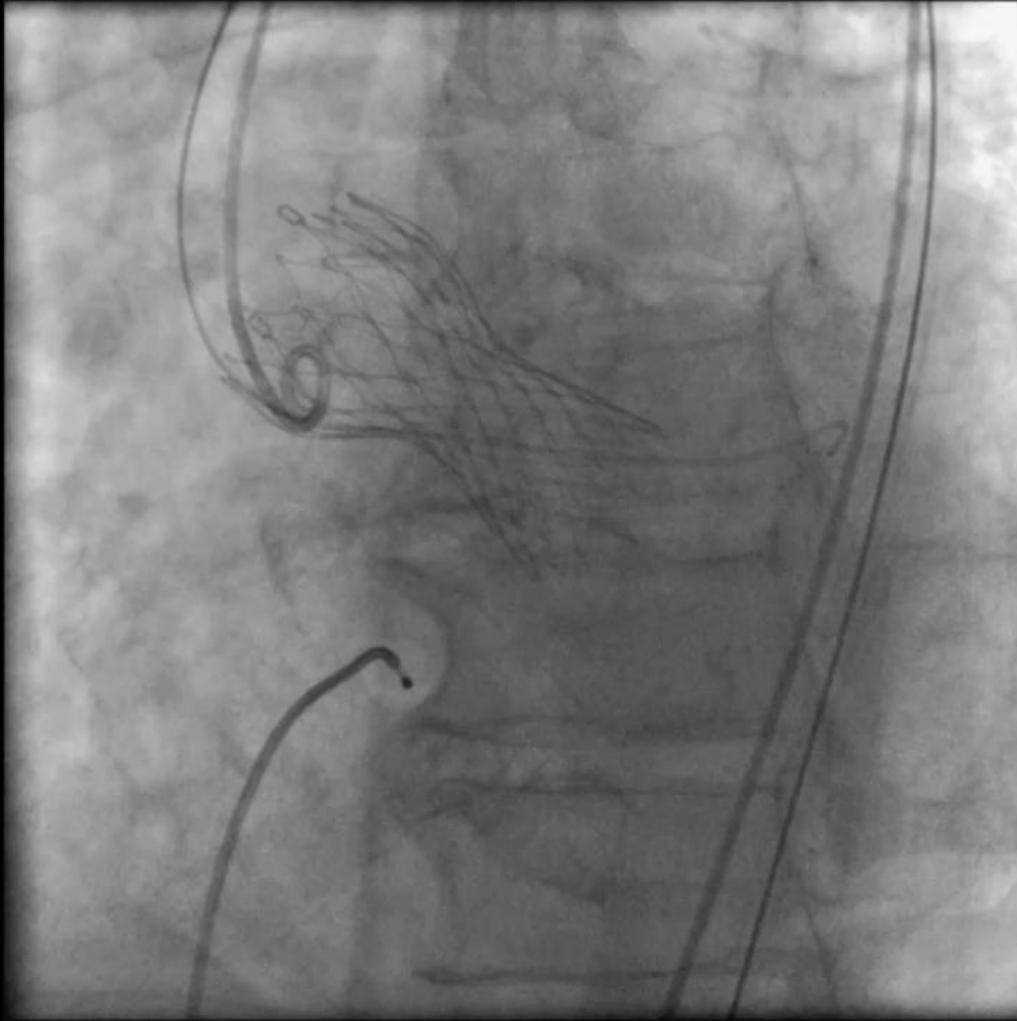
LEAKS PARAPROTESICI

Impianto "basso"



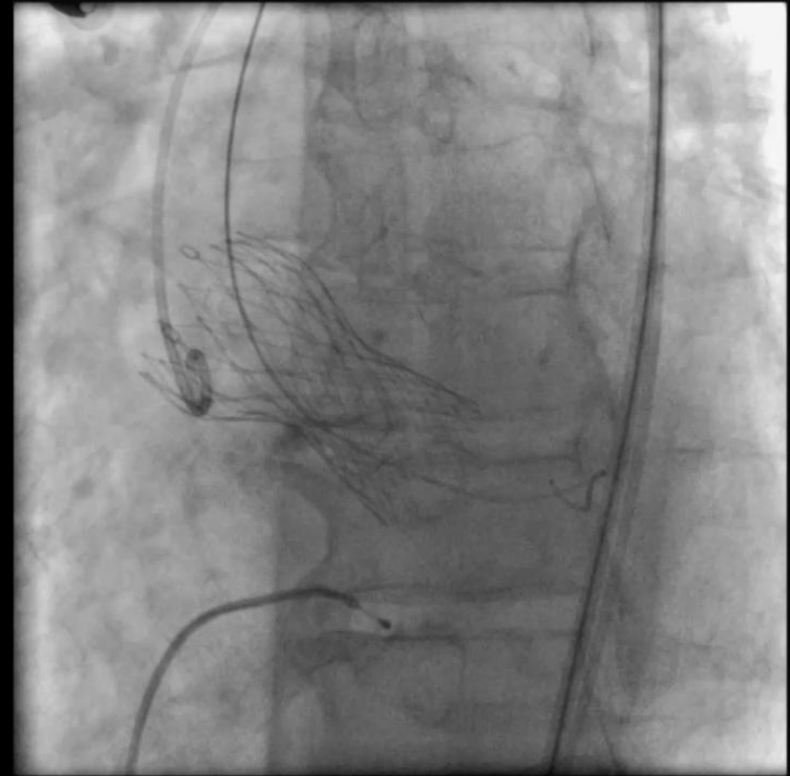
LEAKS PARAPROTESICI

Impianto basso



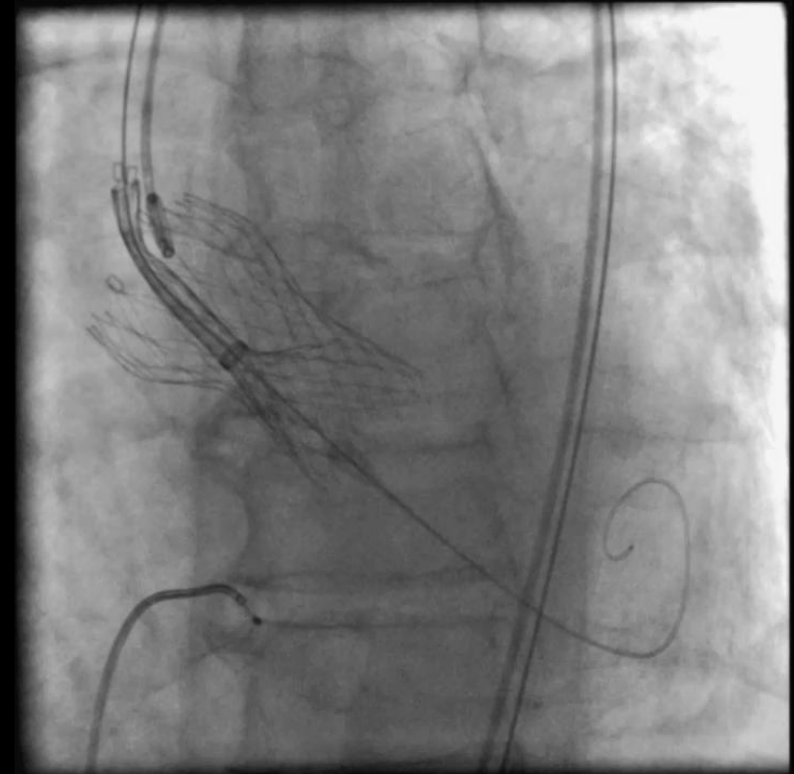
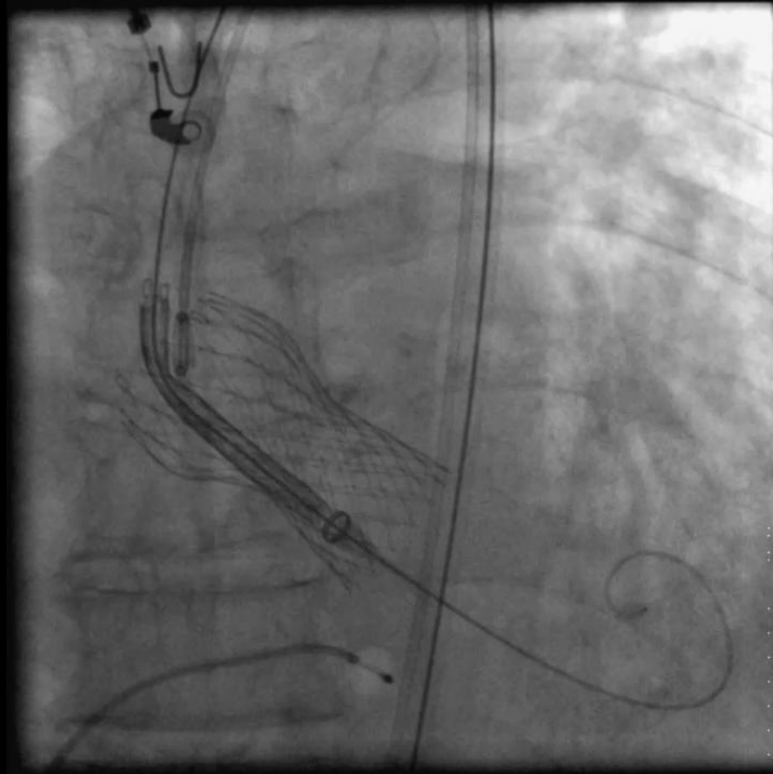
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Impianto basso



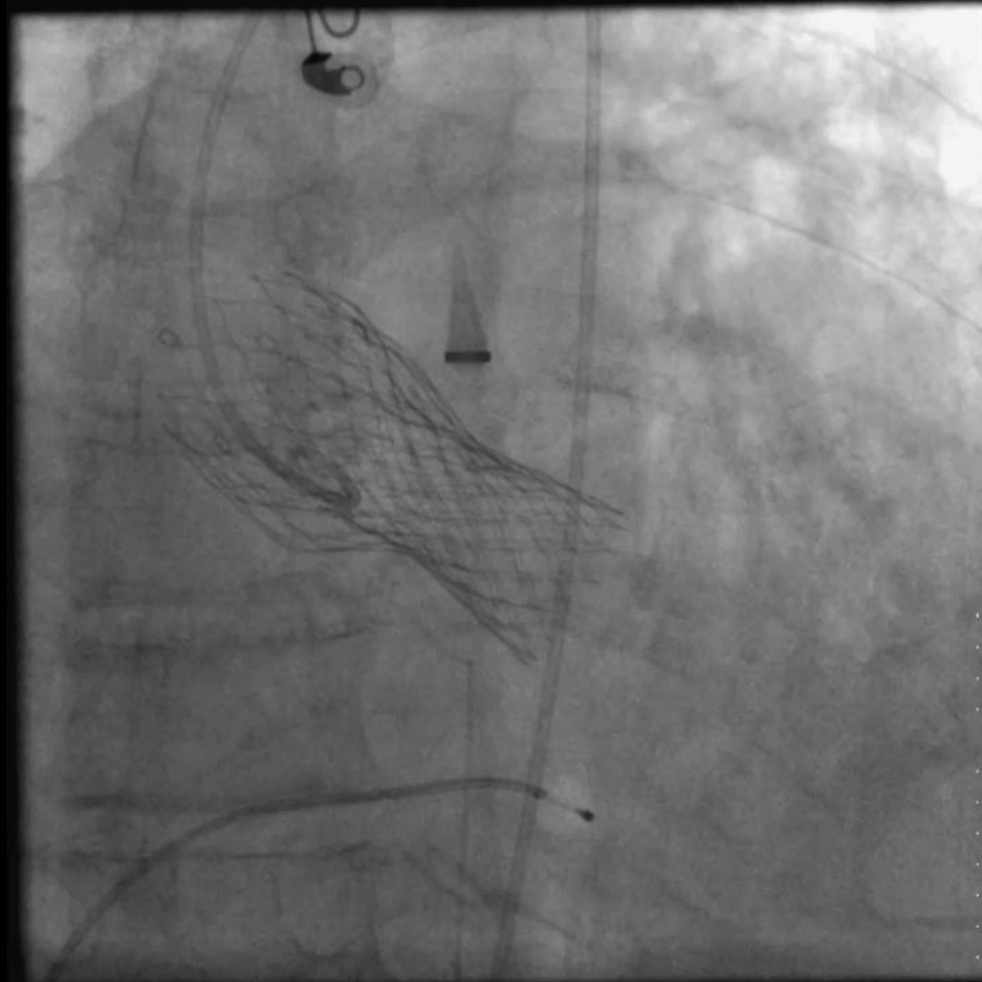
LEAKS PARAPROTESICI

Impianto basso



LEAKS PARAPROTESICI

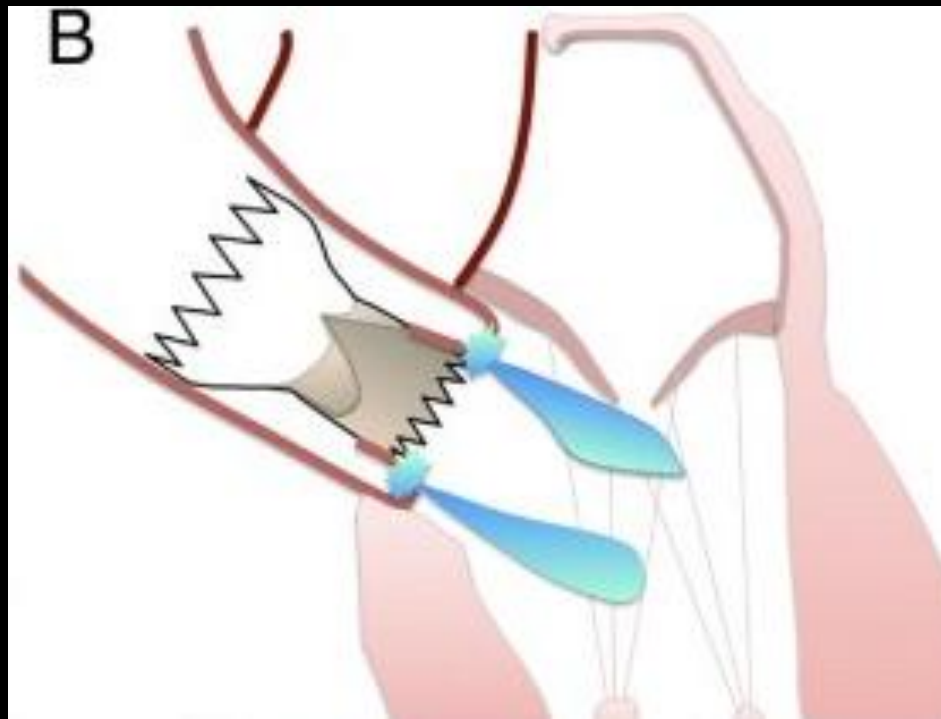
Impianto basso



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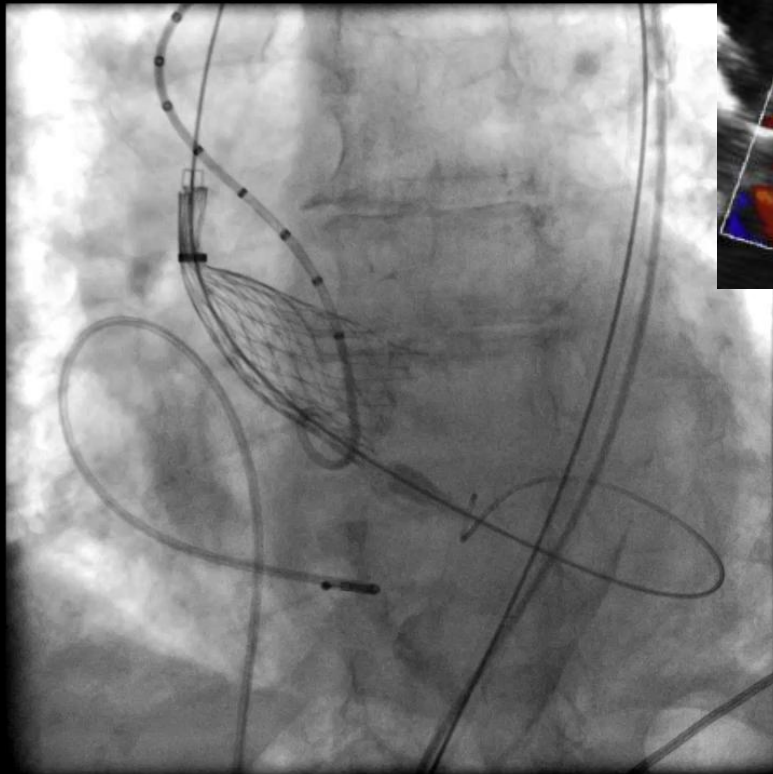
LEAKS PARAPROTESICI

Impianto sovranulare

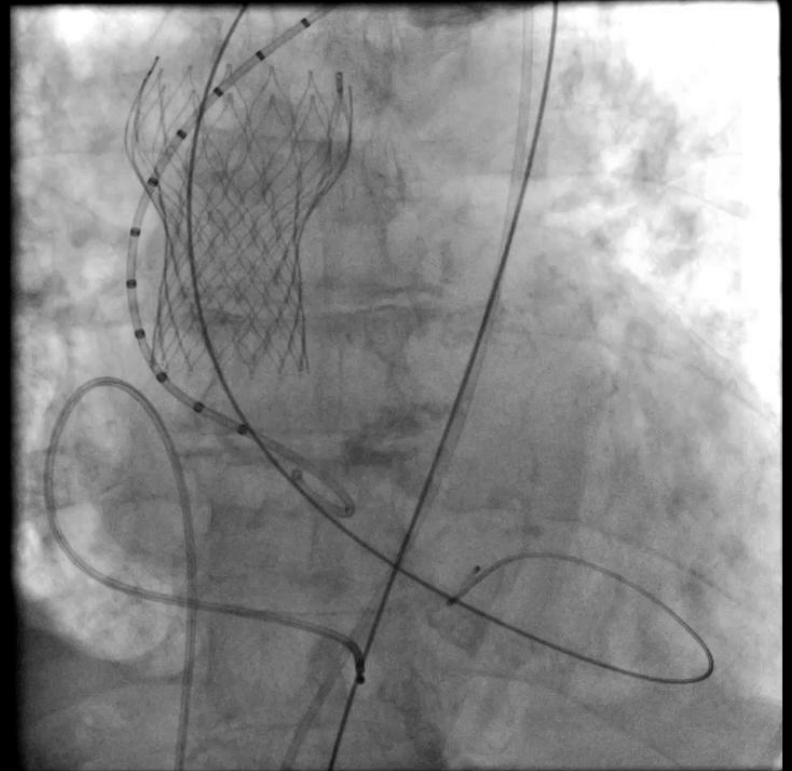
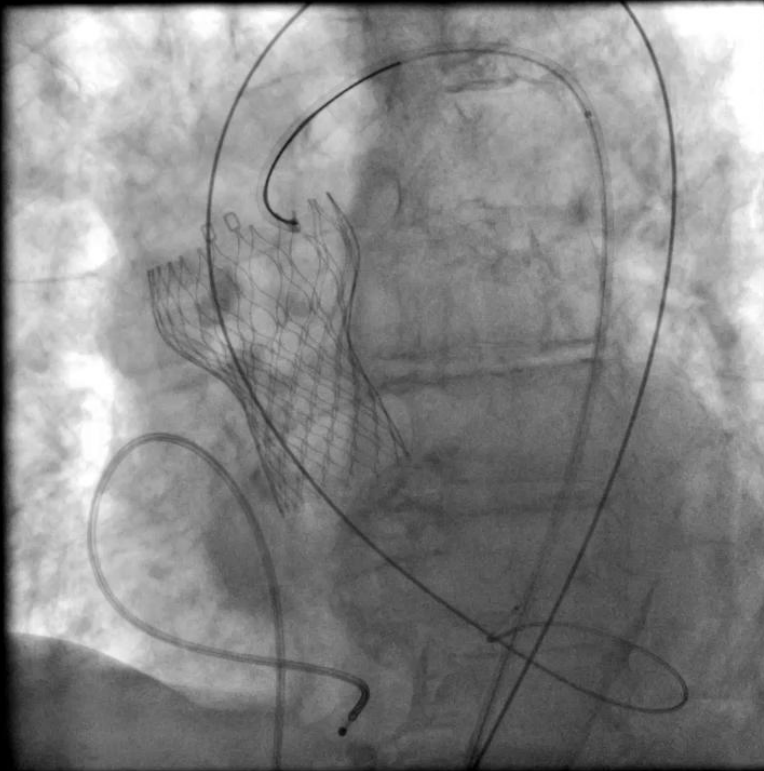


LEAKS PARAPROTESICI

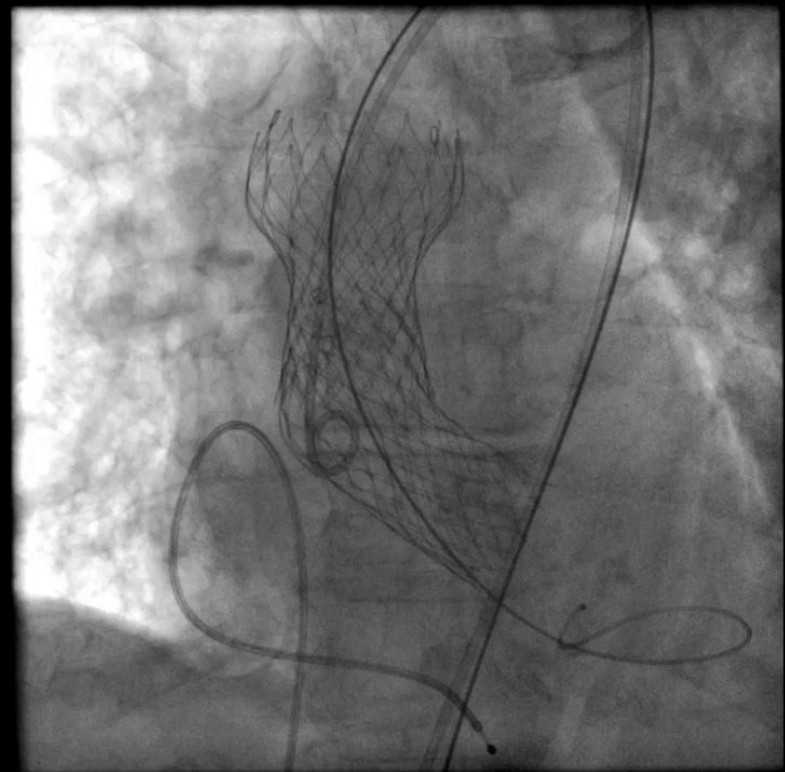
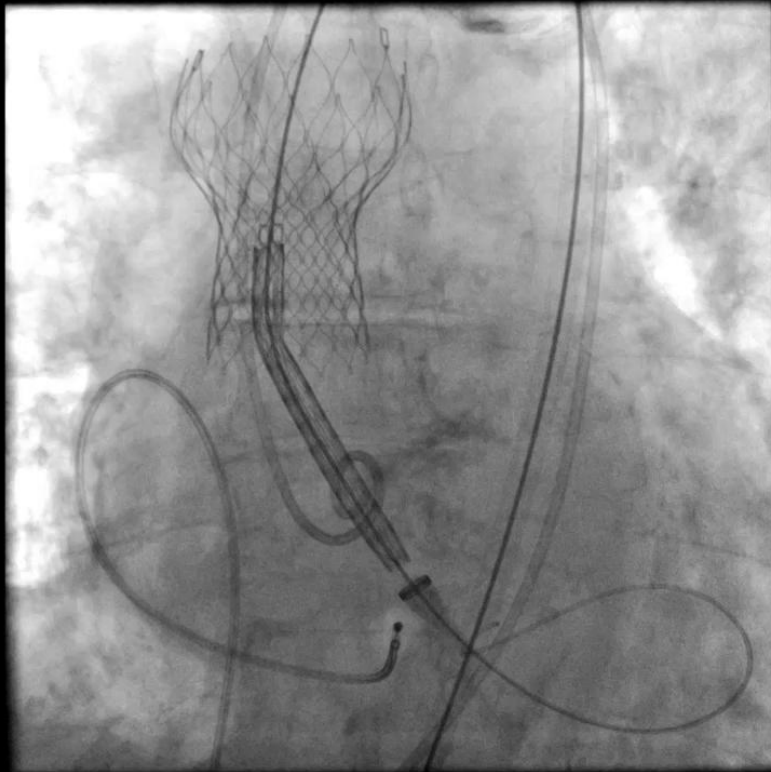
Impianto sovranulare



LEAKS PARAPROTESICI
Impianto sovranulare



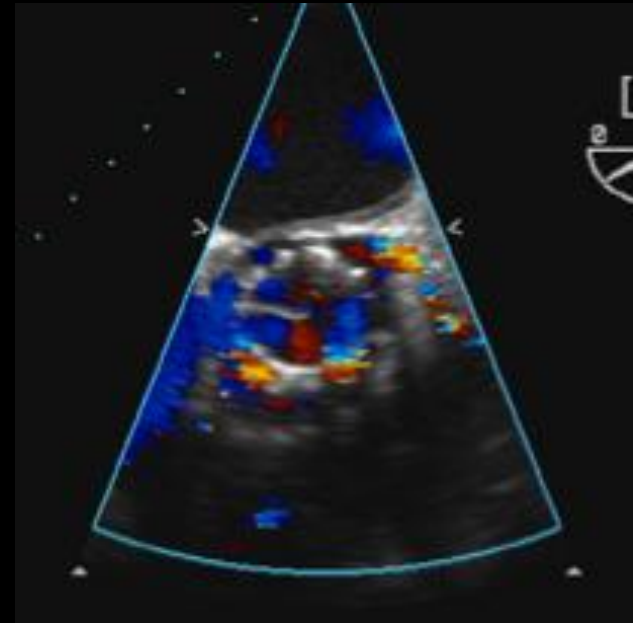
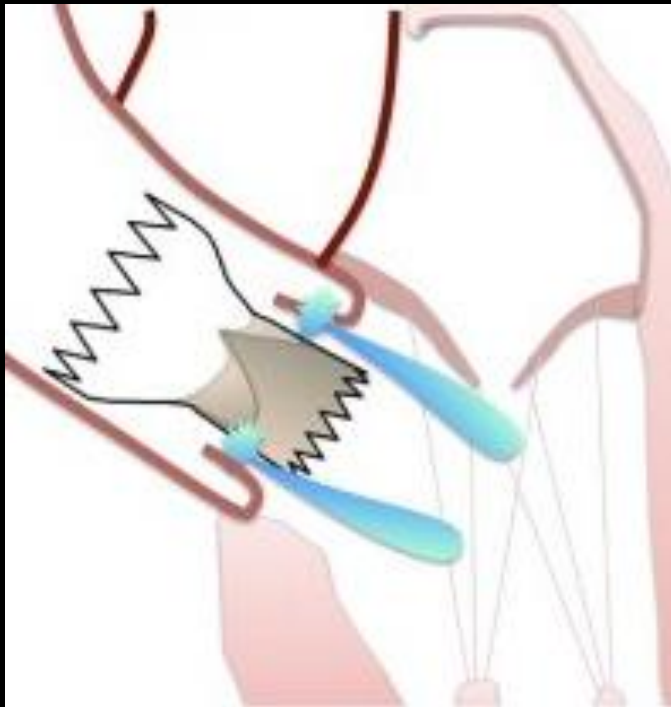
LEAKS PARAPROTESICI
Impianto sovranulare



DIFFICOLTA' INTRAPROCEDURALI E TRATTAMENTO

LEAKS PARAPROTESICI ED INTRAPROTESICI

Mismatch protesi-anulus



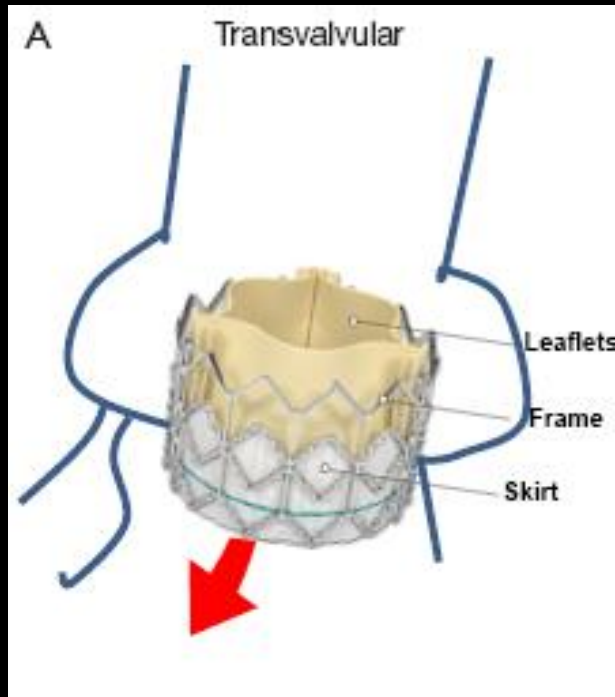
Sottostima del diametro dell'anulus

Impianto valvola troppo piccola

DIFFICOLTA' INTRAPROCEDURALI E TRATTAMENTO

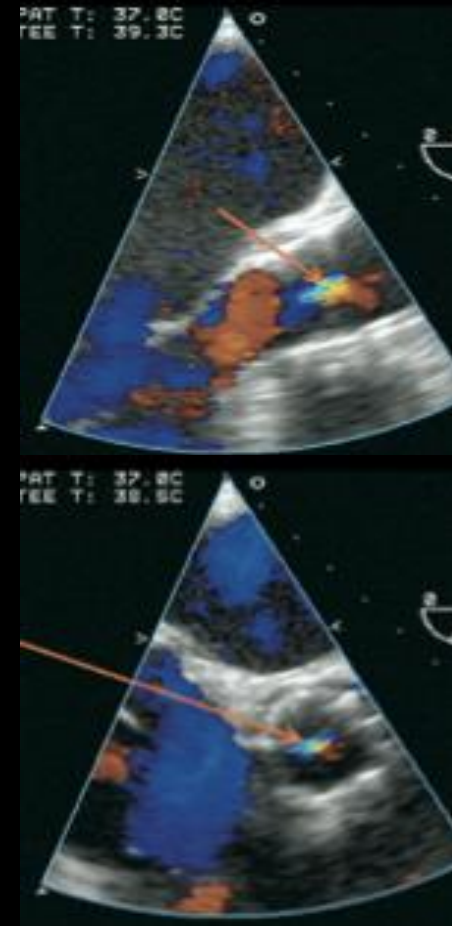
LEAKS PARAPROTESICI ED INTRAPROTESICI

Mismatch protesi-anulus



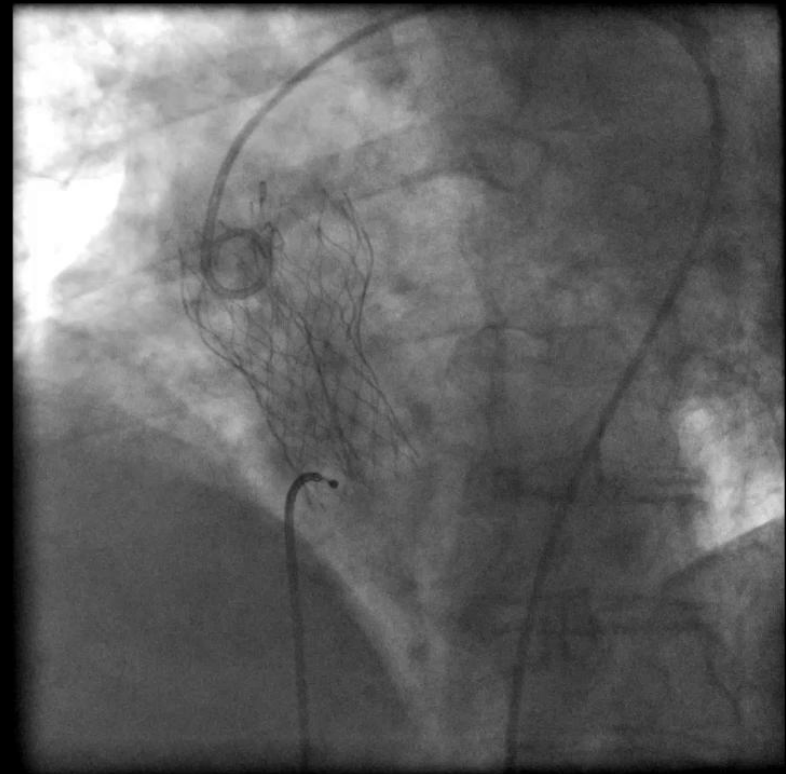
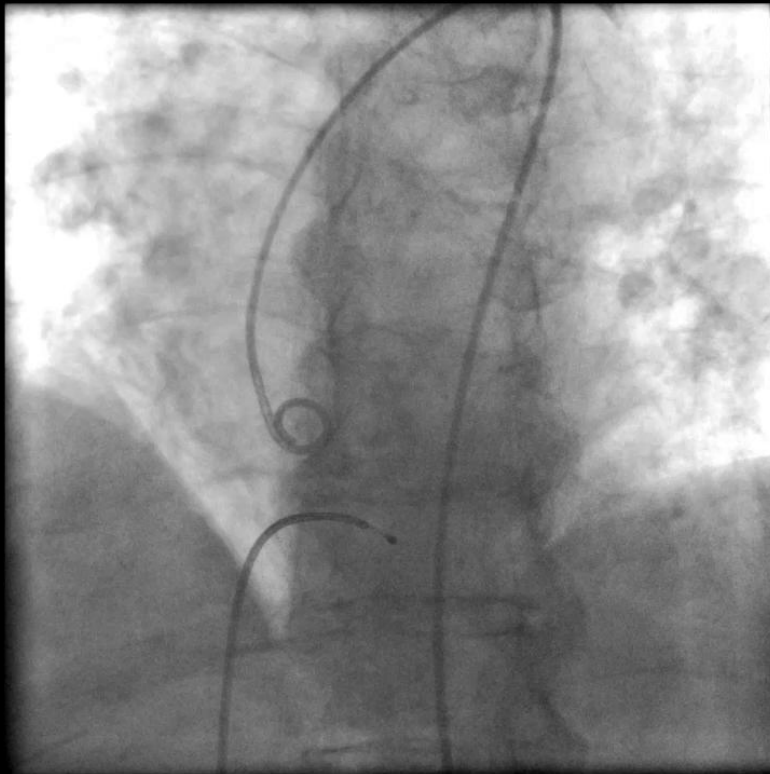
Sovrastima del diametro dell'anulus

Impianto valvola troppo grande



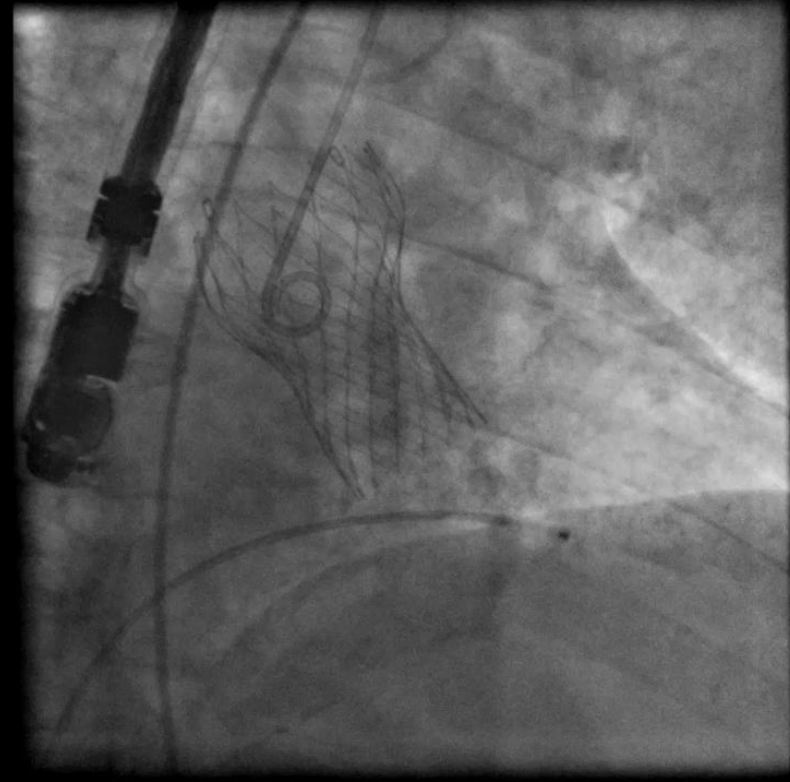
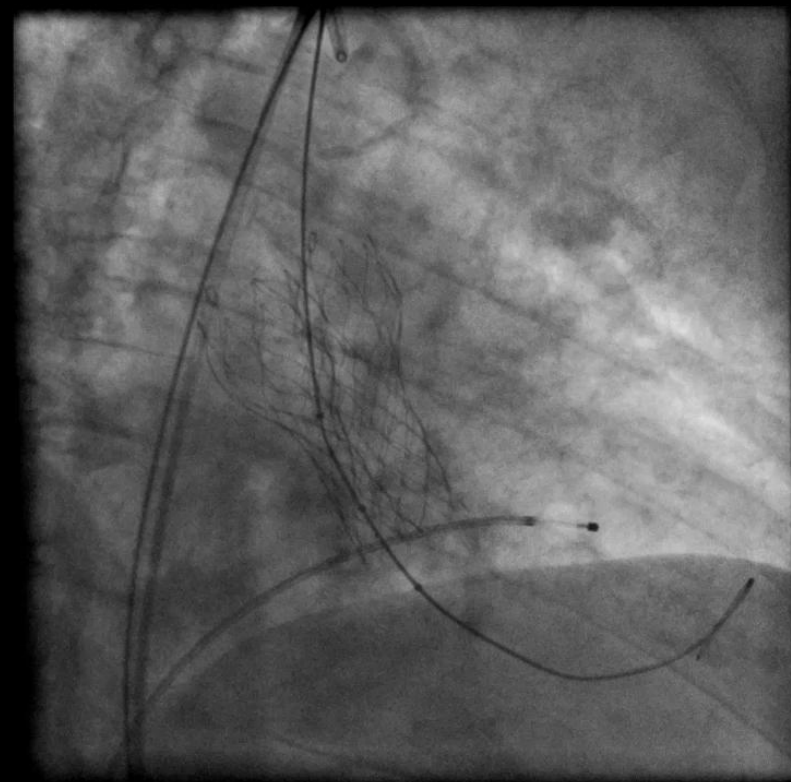
LEAKS INTRAPROTESICI

Mismatch protesí-anulus



LEAKS INTRAPROTESICI

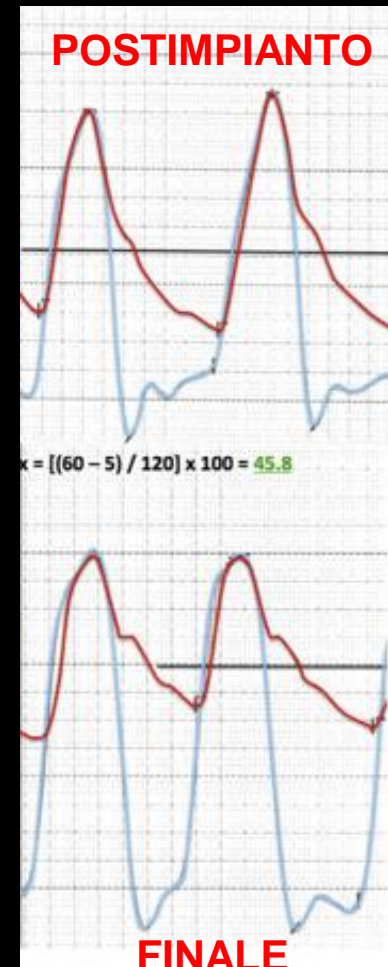
Mismatch anulus-protesi



Valutazione emodinamica

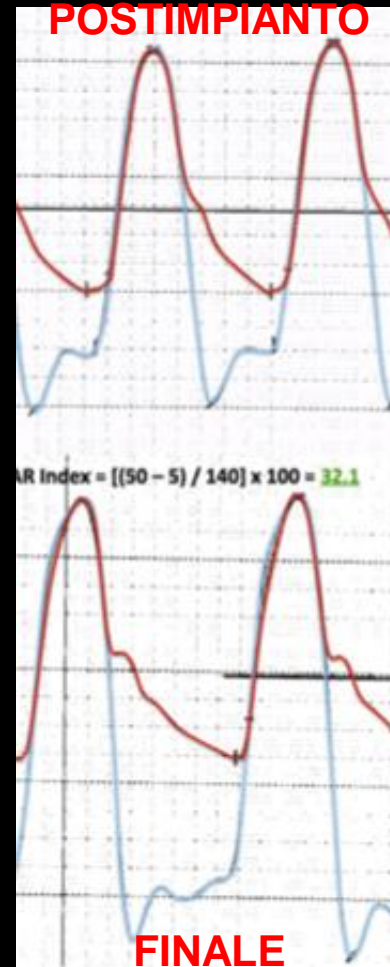
↗ **RIDUZIONE DELLA PAD**

↗ **AUMENTO DELLA
PRESSIONE DIFFERENZIALE**



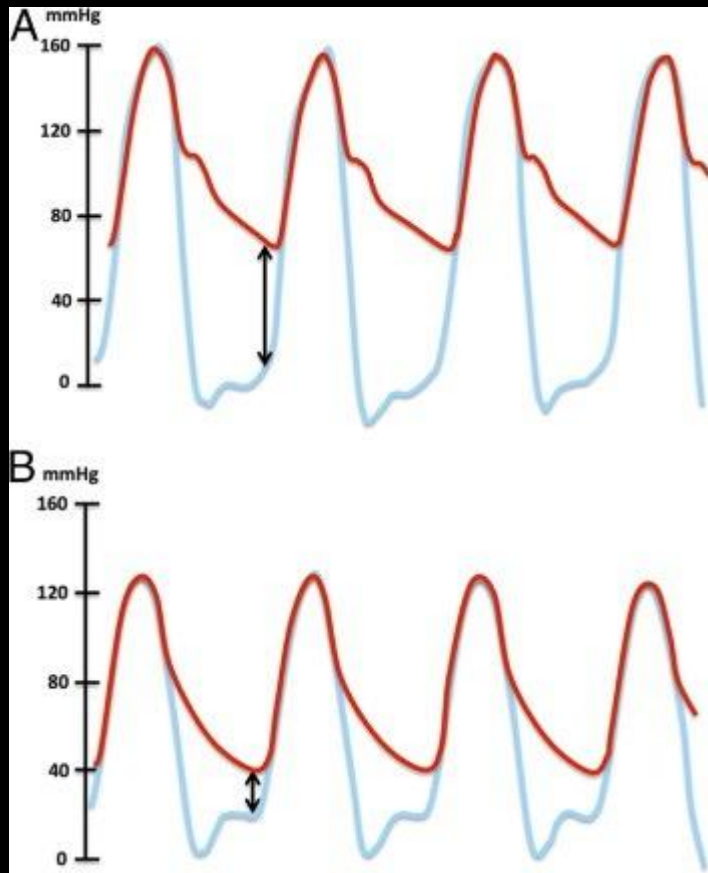
Valutazione emodinamica

↗ **AUMENTO DELLA PTDV SX**



Valutazione emodinamica

AR INDEX



$$[(DBP - LVEDP) / SBP] \times 100$$

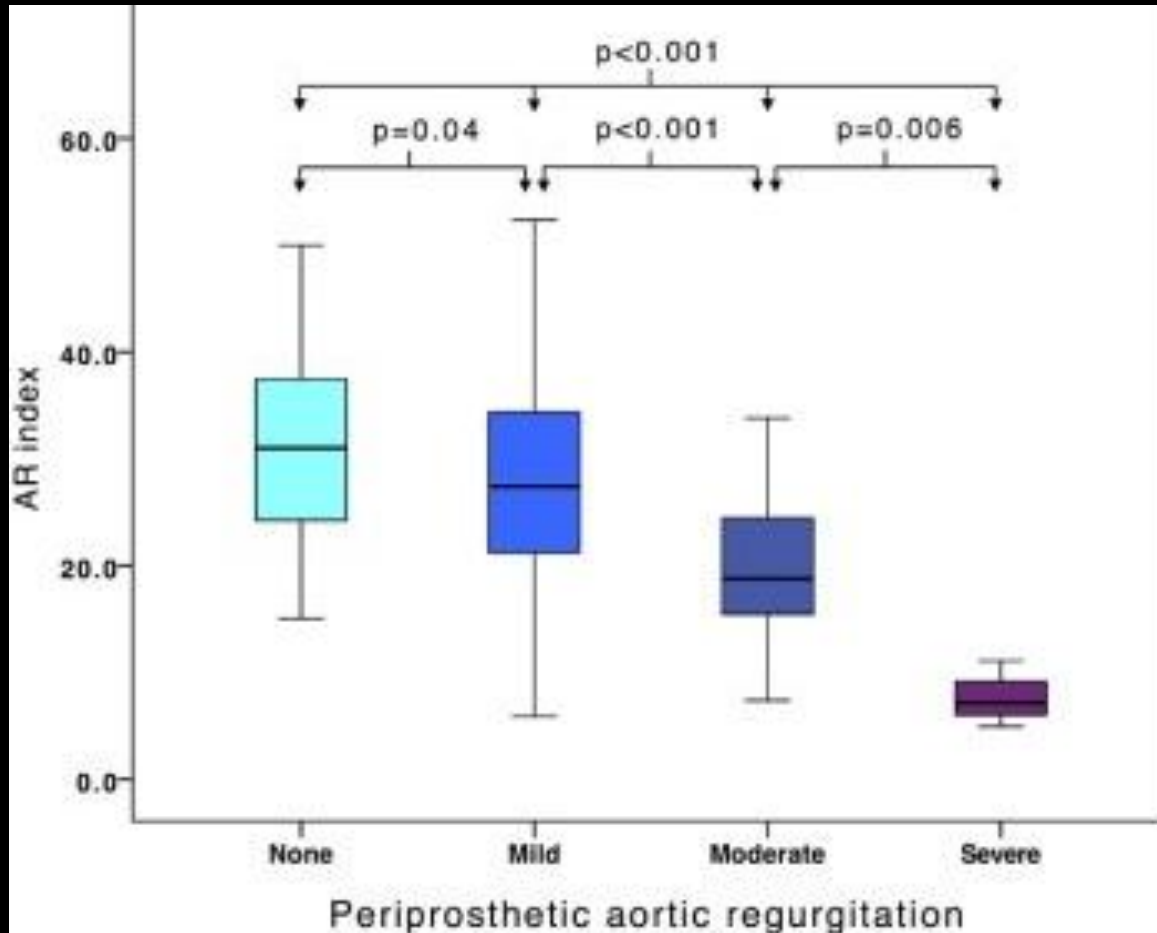
LEAKS PARAPROTESICI ED INTRAPROTESICI

Valutazione ecocardiografica

parameter	Mild	Moderate	Severe
circumferential extent of paraprosthetic AR	< 10%	10-20%	> 20%
Jet width in central jets (% LVOT diameter)	narrow < 25	intermediate 26-64	large > 65
regurgitant fraction (%)	< 30	30-50	> 50
Jet deceleration rate (PHT,ms)	slow (> 500)	variable (200-500)	steep (< 200)
Diastolic flow reversal in the descending aorta	absent or brief early diastolic	intermediate	prominent holodiastolic

LEAKS PARAPROTESICI ED INTRAPROTESICI

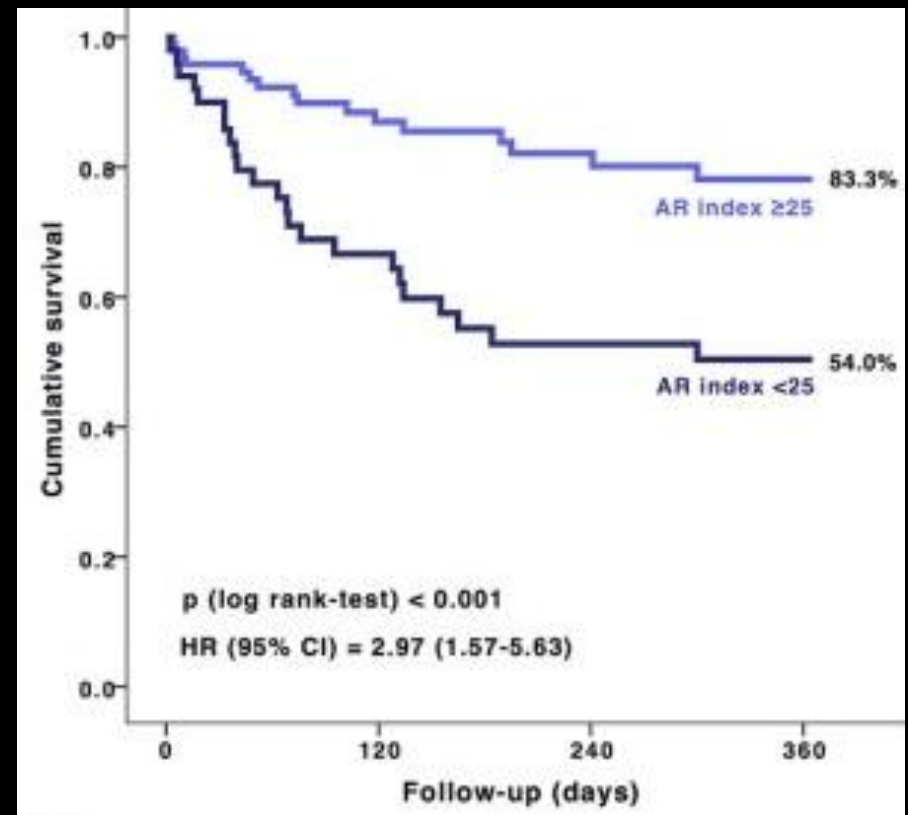
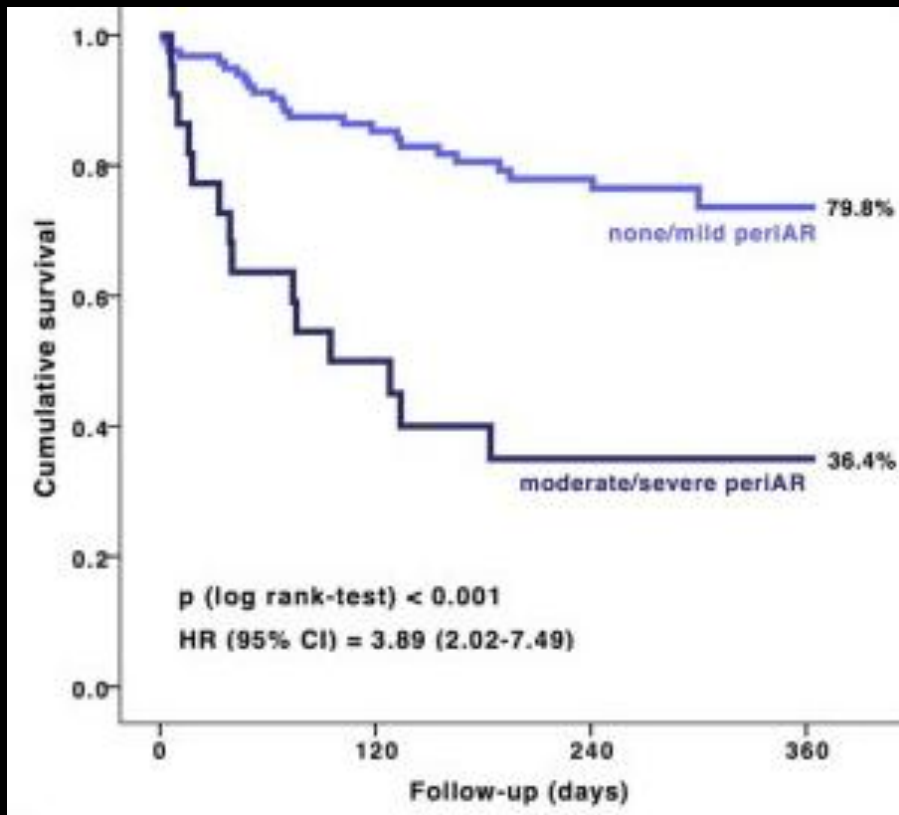
valutazione ecocardiografica vs emodinamica



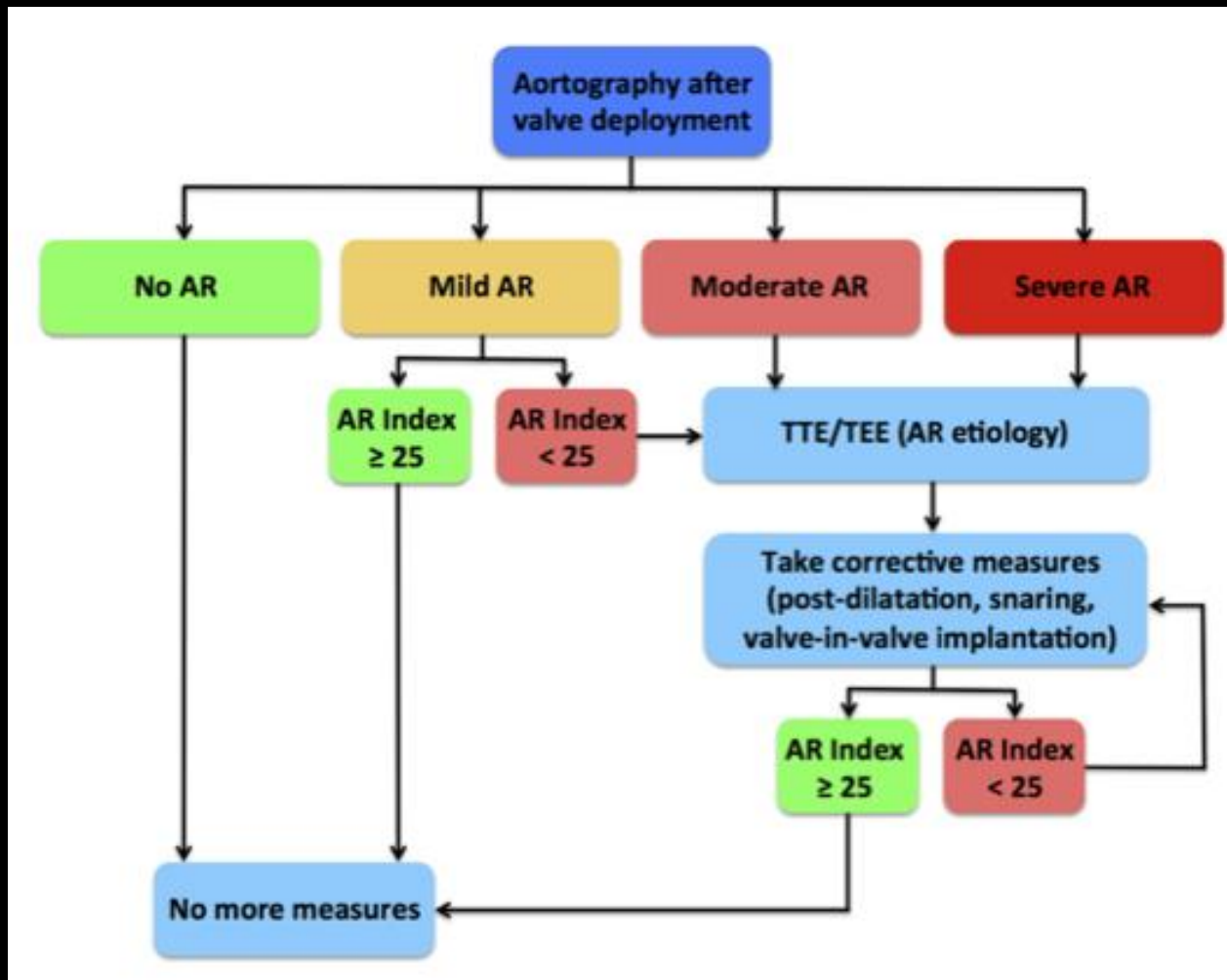
LEAKS PARAPROTESICI ED INTRAPROTESICI

valutazione ecocardiografica vs emodinamica

Sopravvivenza in base all'entità dell'insufficienza aortica residua



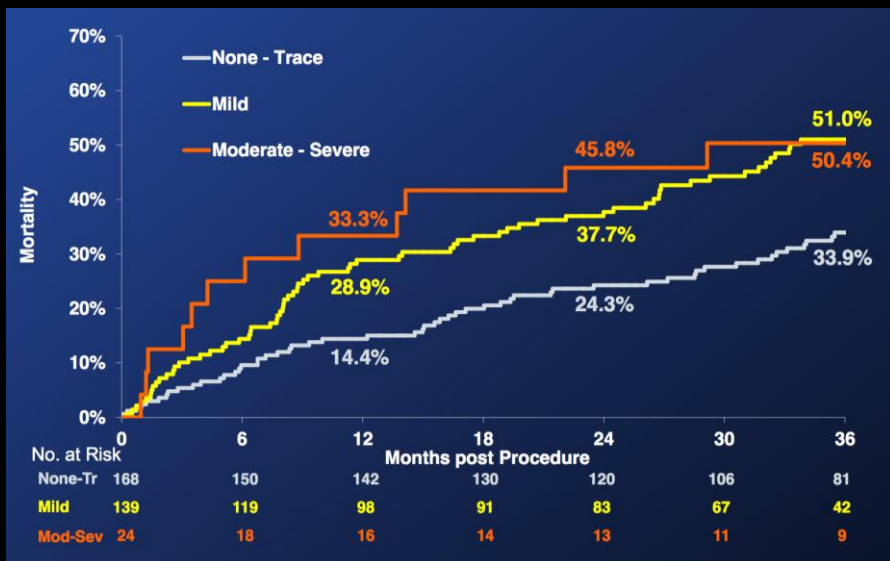
Algoritmo di trattamento della IAO post-TAVI



LEAKS PARAVOLVARI

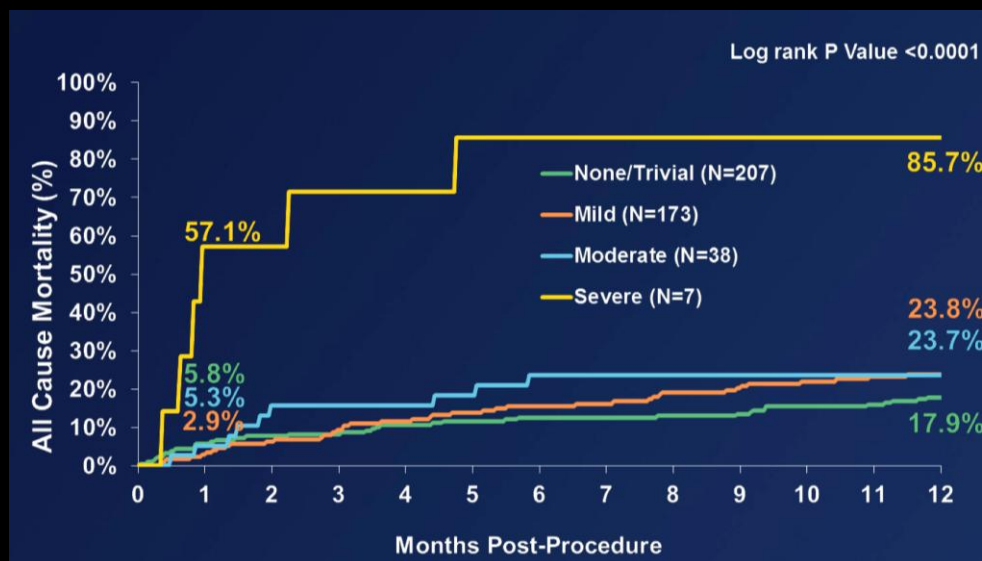
Impatto sulla mortalità

Saphien-Edwards



PARTNER Trial

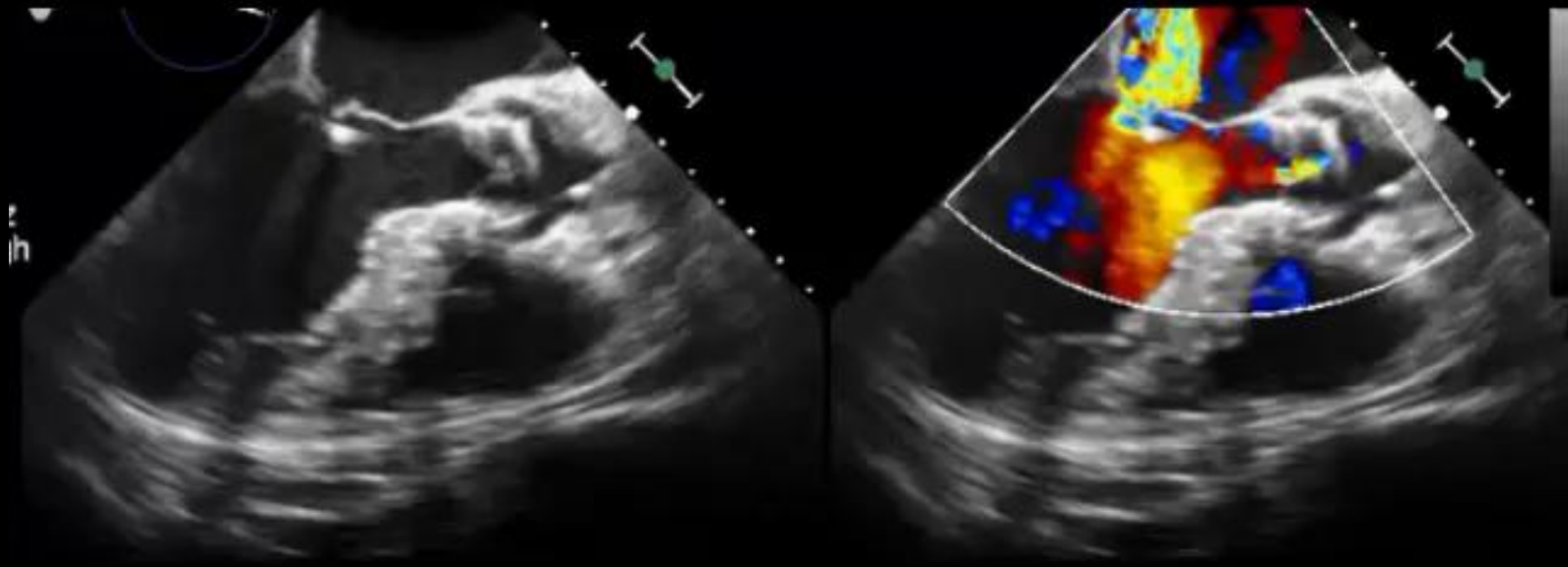
Corevalve



U.S. Pivotal Corevalve Study

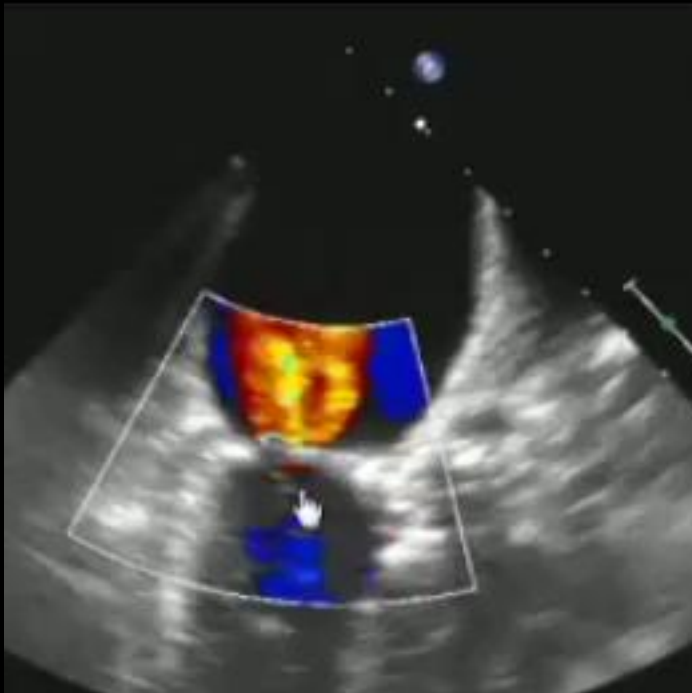
DIFFICOLTA' INTRAPROCEDURALI E TRATTAMENTO

INTERFERENZA DELLA GUIDA CON LA VALVOLA MITRALE



COMPLICANZE INTRAPROCEDURALI

INSUFFICIENZA MITRALICA DA ROTTURA DI CORDE TENDINEE



Più frequente nell'approccio transapicale

COMPLICANZE INTRAPROCEDURALI

ROTTURA DELL'ANULUS

- ✓ < 1%
- ✓ “oversizing” della protesi
 - (> per le protesi “balloon expandable”)
- ✓ **postdilatazione della protesi**
- ✓ **marcate calcificazioni dell'anulus e**
- **del tessuto sub-anulare**

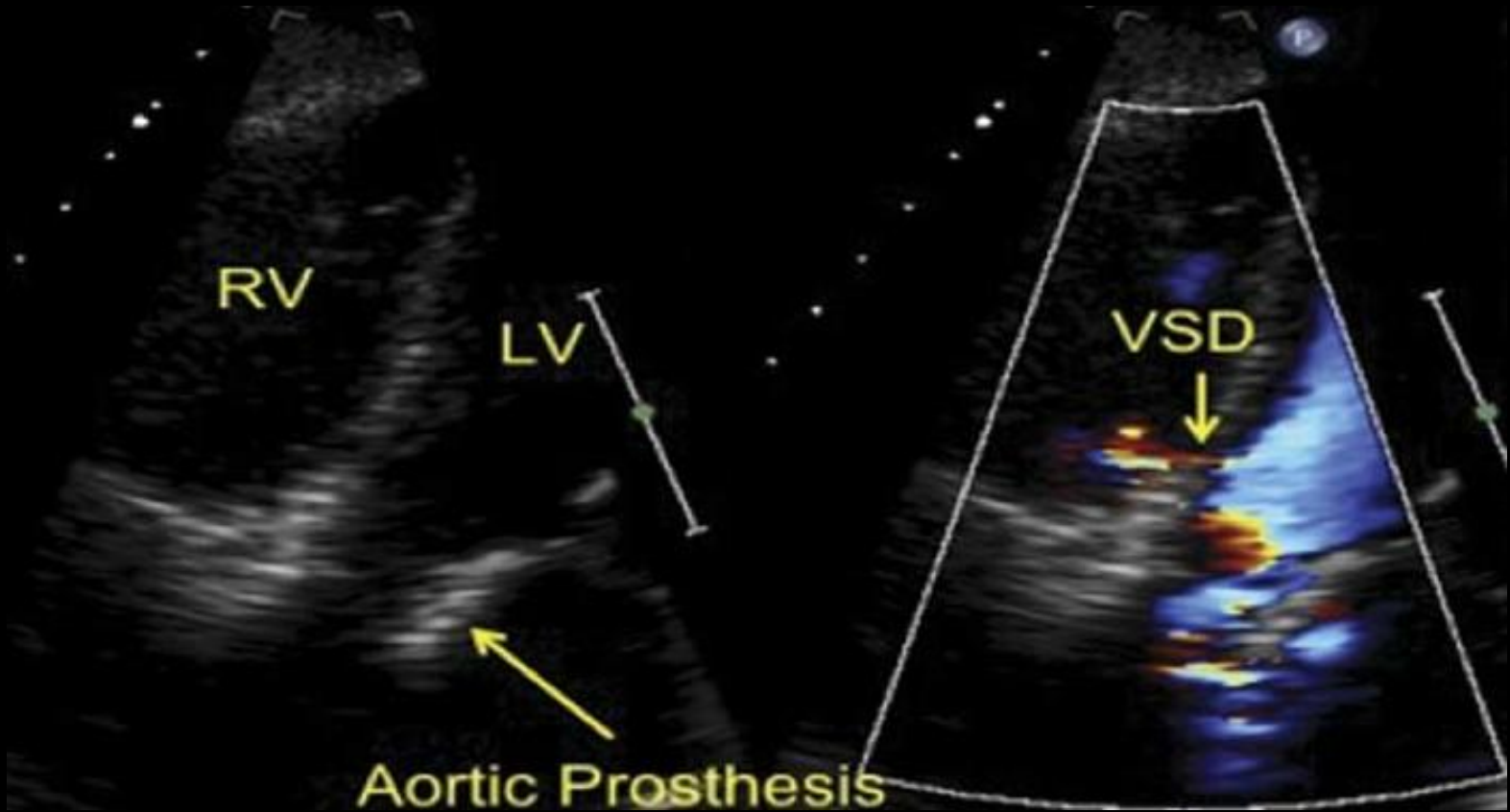
COMPLICANZE INTRAPROCEDURALI

ROTTURA DELL'ANULUS



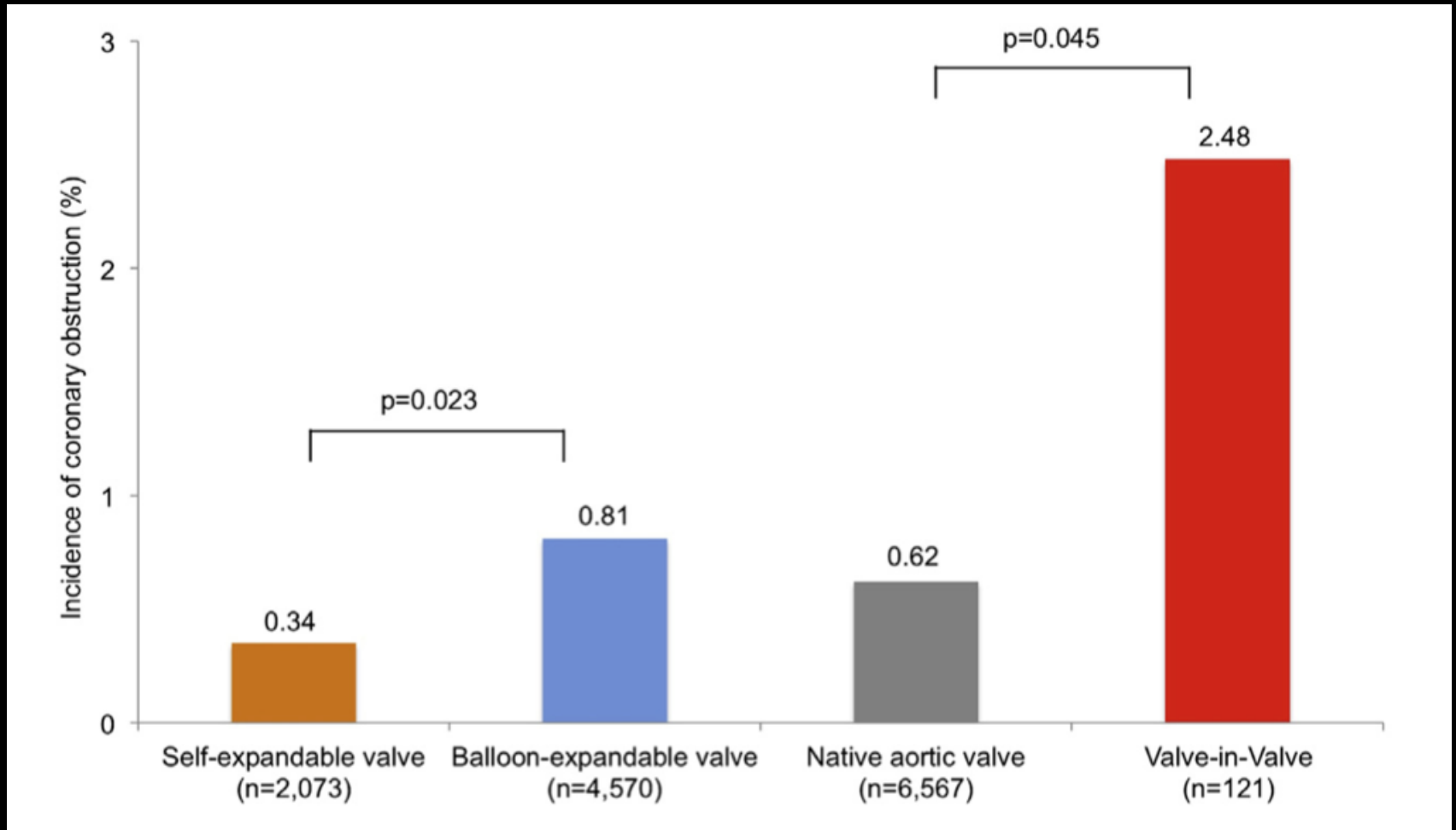
COMPLICANZE INTRAPROCEDURALI

ROTTURA DELL'ANULUS



DIFFICOLTA' INTRAPROCEDURALI E TRATTAMENTO

OCCLUSIONE CORONARICA



DIFFICOLTA' INTRAPROCEDURALI E TRATTAMENTO

OCCLUSIONE CORONARICA

Presentazione clinica e trattamento

Obstructed coronary artery	
Left coronary artery	39 (88.6)
Right coronary artery	2 (4.5)
Both	3 (6.8)
Timing	
After balloon valvuloplasty	4 (9.1)
After valve implantation	31 (70.5)
After balloon post-dilation	4 (9.1)
Within 24 h following TAVI	4 (9.1)
More than 24 h following TAVI	1 (2.3)

DIFFICOLTA' INTRAPROCEDURALI E TRATTAMENTO

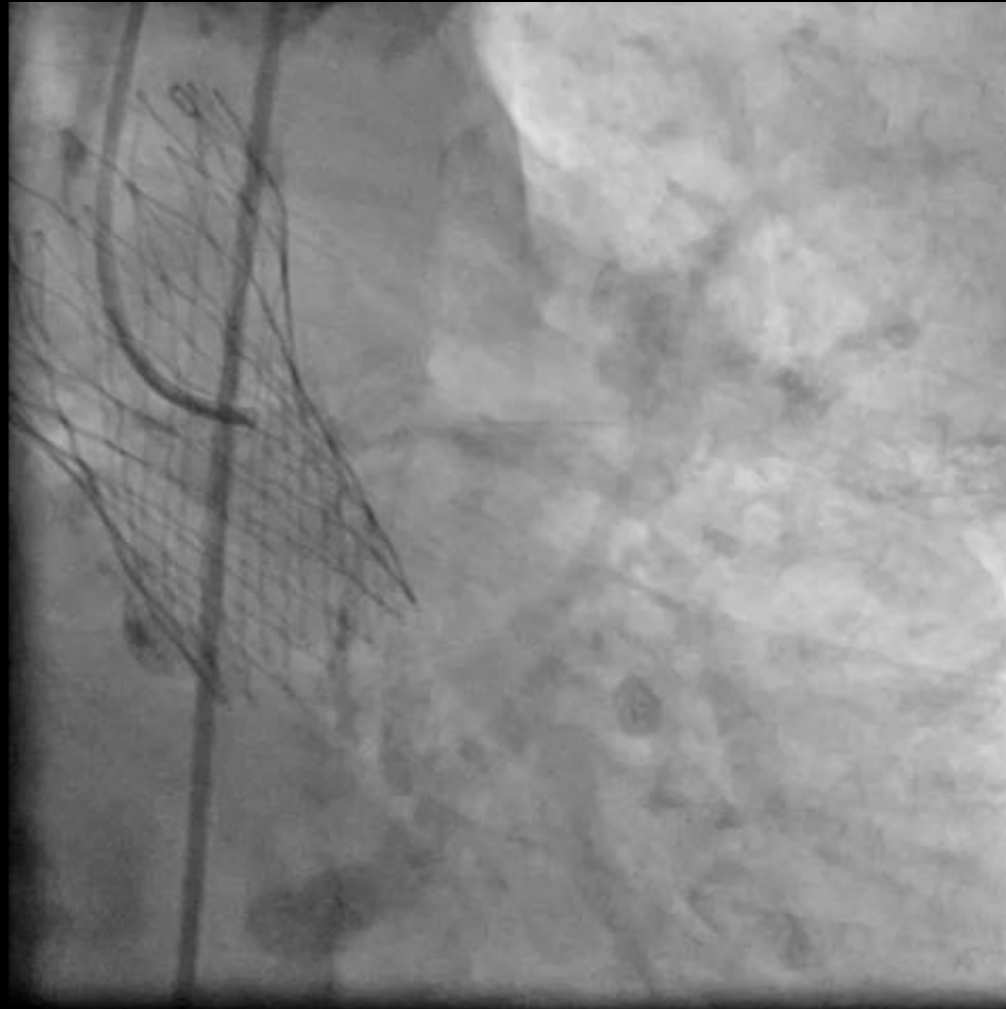
OCCLUSIONE CORONARICA

Presentazione clinica e trattamento

PCI attempted	33 (75.0)
Successful	27 (81.8)
Stent successfully implanted	25 (75.8)
Guidewire protection only	1 (3.0)
Catheter cannulation only	1 (3.0)
Unsuccessful	6 (18.2)
Coronary cannulation failure	2 (33.3)
Wire crossing failure	2 (33.3)
Stent could not be advanced	1 (16.7)
Stent implanted but no flow	1 (16.7)

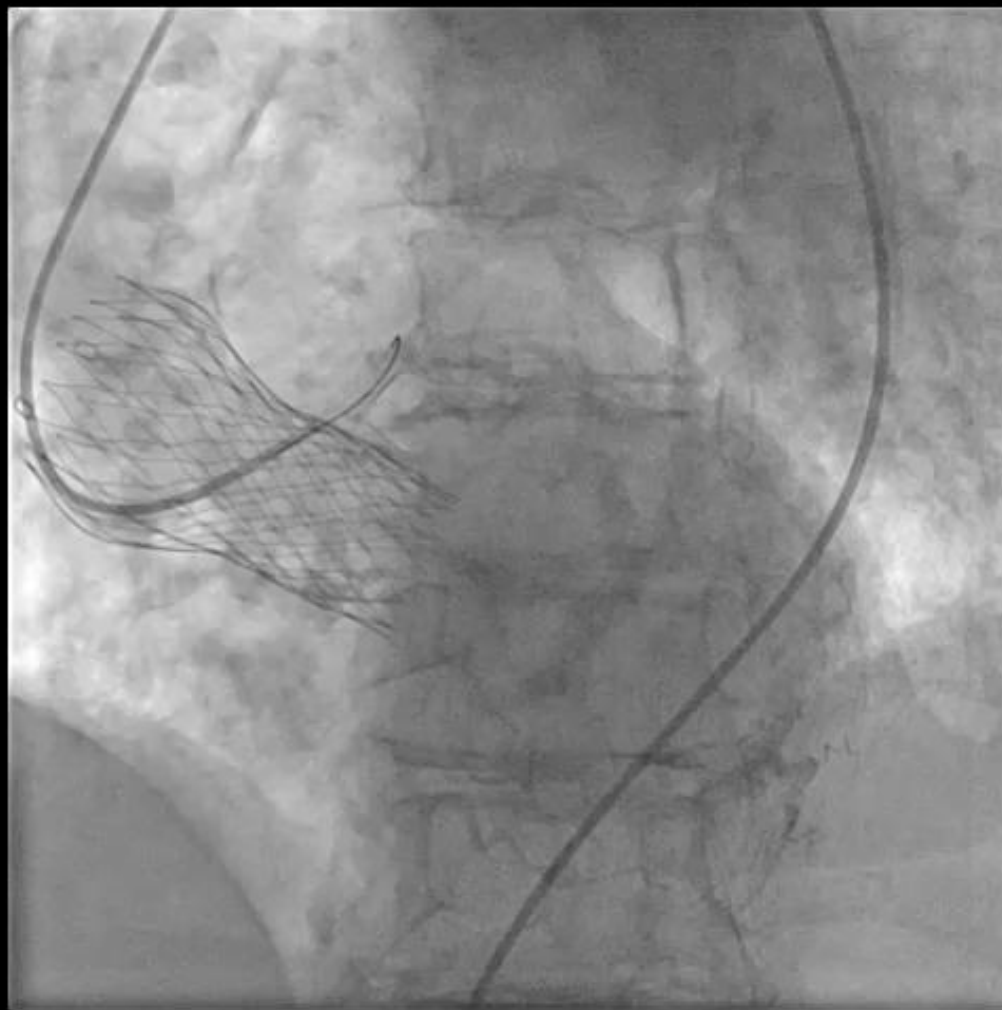
DIFFICOLTA' INTRAPROCEDURALI E TRATTAMENTO

OCCLUSIONE CORONARICA POST TAVI



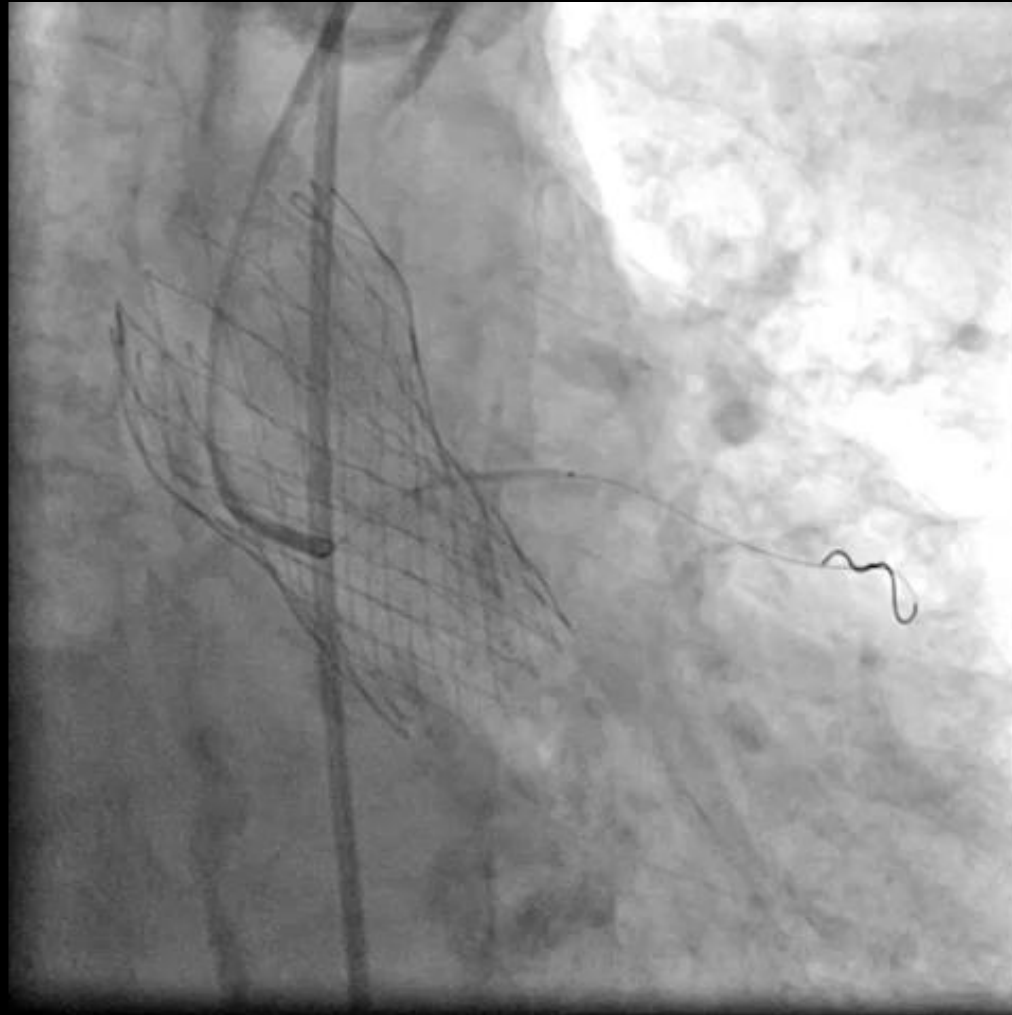
DIFFICOLTA' INTRAPROCEDURALI E TRATTAMENTO

OCCLUSIONE CORONARICA POST TAVI



DIFFICOLTA' INTRAPROCEDURALI E TRATTAMENTO

OCCLUSIONE CORONARICA POST TAVI



DIFFICOLTA' INTRAPROCEDURALI E TRATTAMENTO

OCCLUSIONE CORONARICA POST TAVI



DIFFICOLTA' INTRAPROCEDURALI E TRATTAMENTO

OCCLUSIONE CORONARICA POST TAVI



DIFFICOLTA' INTRAPROCEDURALI E TRATTAMENTO

Complicanze vascolari: dissezione a. femorale comune



DIFFICOLTA' INTRAPROCEDURALI E TRATTAMENTO

Complicanze vascolari: dissezione a. femorale comune



DIFFICOLTA' INTRAPROCEDURALI E TRATTAMENTO

Complicanze vascolari: dissezione a. femorale comune



DIFFICOLTA' INTRAPROCEDURALI E TRATTAMENTO

Complicanze vascolari: lacerazione a. femorale



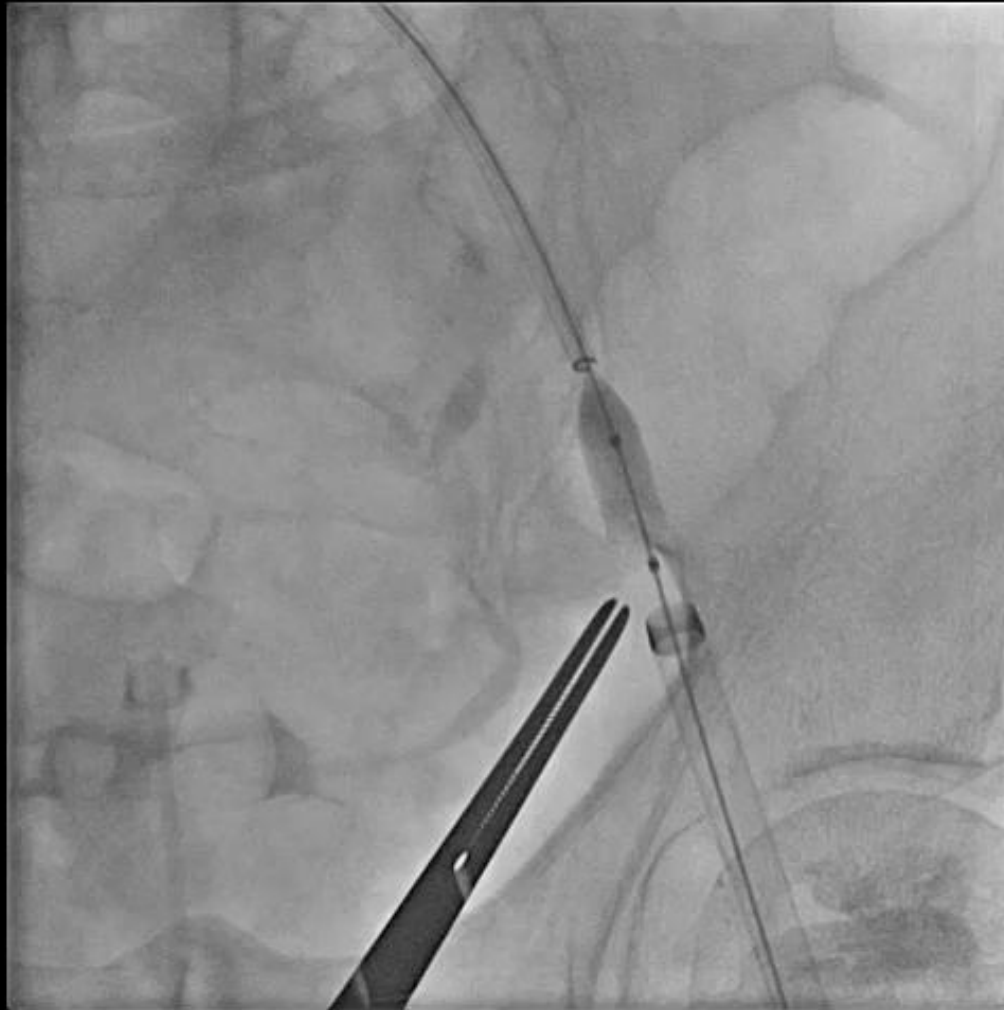
DIFFICOLTA' INTRAPROCEDURALI E TRATTAMENTO

Complicanze vascolari: lacerazione a. femorale



DIFFICOLTA' INTRAPROCEDURALI E TRATTAMENTO

Complicanze vascolari: failure emostasi Proglide



DIFFICOLTA' INTRAPROCEDURALI E TRATTAMENTO

Complicanze vascolari: failure emostasi Proglide



DIFFICOLTA' INTRAPROCEDURALI E TRATTAMENTO

Complicanze vascolari



DIFFICOLTA' INTRAPROCEDURALI E TRATTAMENTO

Complicanze vascolari



DIFFICOLTA' INTRAPROCEDURALI E TRATTAMENTO

complicanze vascolari: come evitarle

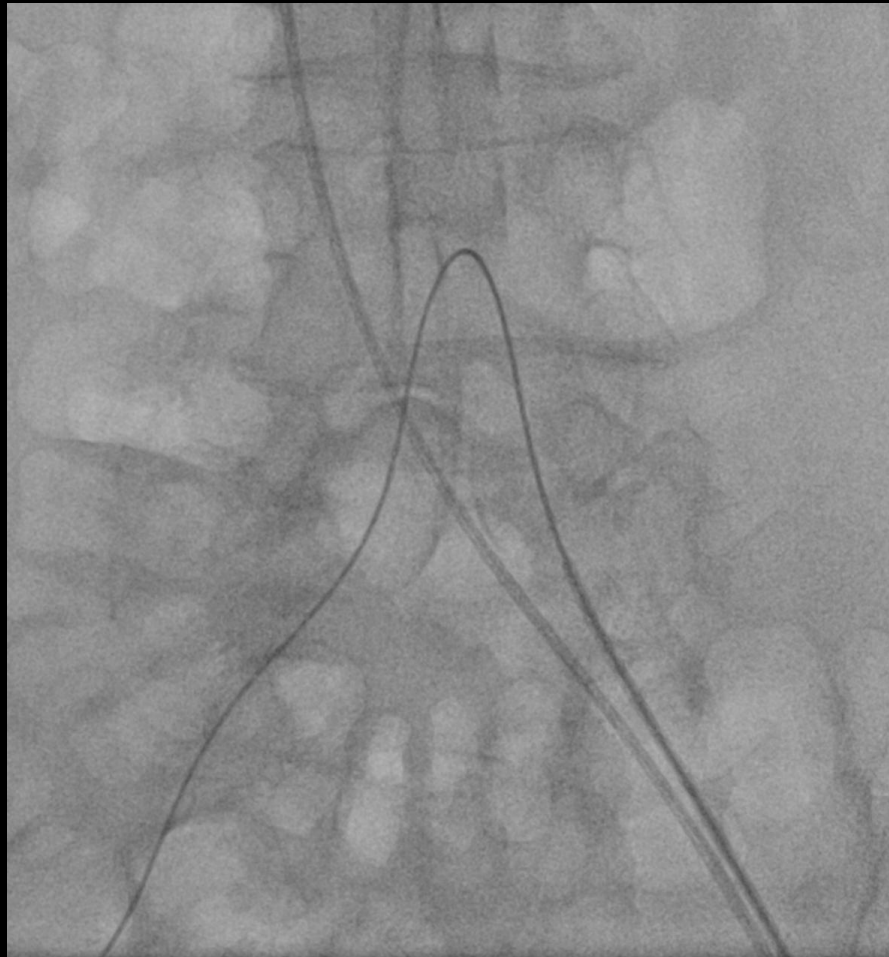
**calcificazioni circonfenziali “a ferro di cavallo”
delle arterie femorali comuni**



DIFFICOLTA' INTRAPROCEDURALI E TRATTAMENTO

complicanze vascolari: come evitarle

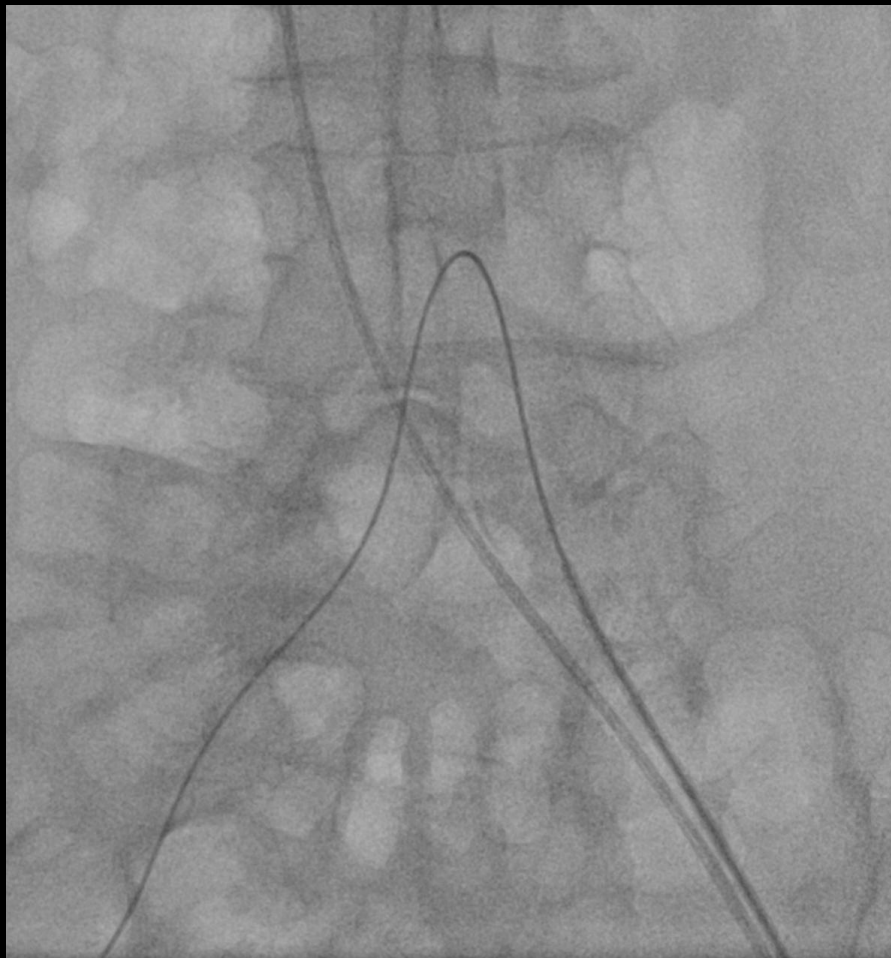
estrema angolazione del “carrefour”



DIFFICOLTA' INTRAPROCEDURALI E TRATTAMENTO

complicanze vascolari: come evitarle

estrema angolazione del "carrefour"



DIFFICOLTA' INTRAPROCEDURALI E TRATTAMENTO

complicanze vascolari: come evitarle

Creazione del circuito x il crossover



“snaring” della guida terumo
attraverso introduttore 4F
in a. fem. superficiale



“esternalizzazione” della guida
e creazione del circuito

DIFFICOLTA' INTRAPROCEDURALI E TRATTAMENTO

complicanze vascolari: come evitarle

Emostasi in “stop flow”

