



Stefano Pelenghi – L'imaging in vista di reintervento sulle coronarie: un valido aiuto per il CCH.



Azienda Ospedaliera
Ospedale Niguarda Ca' Granda

Titolo: L'imaging in vista di reintervento sulle coronarie: un valido aiuto per il CCH

Data: Milano 15-17 ottobre 2012

Autore: Stefano Pelenghi

Evento: Ecocch 2012



Reintervento è più complicato

Le difficoltà tecniche che il chirurgo deve: **riconoscere e risolvere sono:**

Risternotomia

Graft safeni o arteriosi pervi o stenotici

Aterosclerosi aortica

Coronaropatia nativa diffusa

Rintracciare spot coronarico disponibile

Carenza di condotti



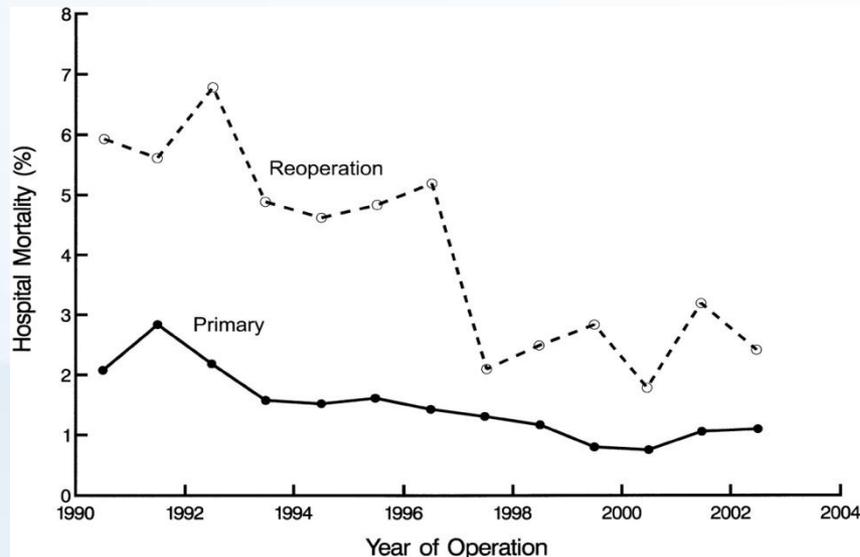
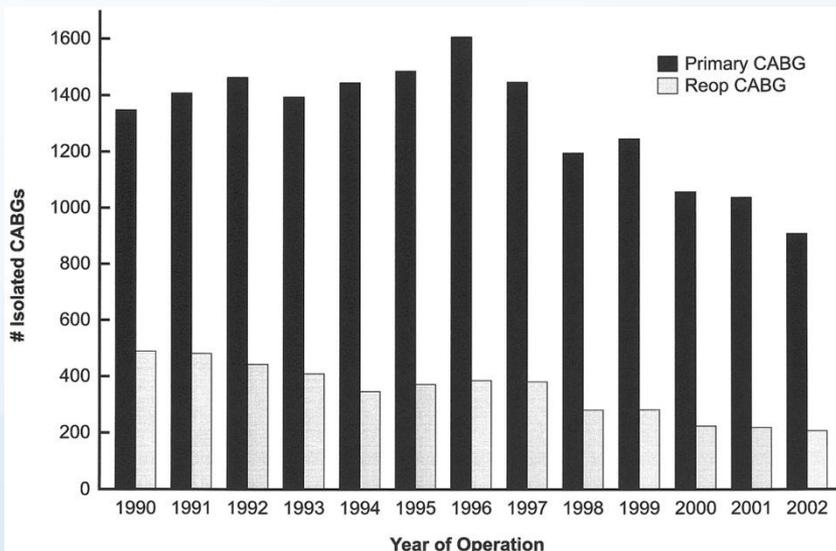
Is Reoperation Still a Risk Factor in Coronary Artery Bypass Surgery?

Joseph F. Sabik III, MD, Eugene H. Blackstone, MD, Penny L. Houghtaling, MS, Peter A. Walts, MD, and Bruce W. Lytle, MD

Departments of Thoracic and Cardiovascular Surgery and Quantitative Health Sciences, The Cleveland Clinic Foundation, Cleveland, Ohio



Cleveland Clinic



1990-2003 21568 BPAC

4518 REDO		n°	Mortalità H
Primo	REDO	3919	4.3%
Secondo	REDO	552	5.1%
Terzo	REDO	43	6.4%
Quarto	REDO	3	6.4%
Quinto	REDO	1	6.4%



IMA periop più comune causa morte H

- **Protezione miocardica inefficace**
- Embolia gassosa e solida
- Perfusione ematica durante clampaggio da amisx pervia
- Lesione graft
- Ipoperfusione con nuovi graft
- Competizione-furto tra graft nuovi e vecchi
- Errori tecnici

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Prevenire !

- Rivedere coronarografia pre primo intervento
- Condotti a disposizione
AMI angiografia o Doppler
Radiale Doppler Allen test
Gastroepiploica TAC-Angiografia



IMA periop più comune causa morte H

Protezione

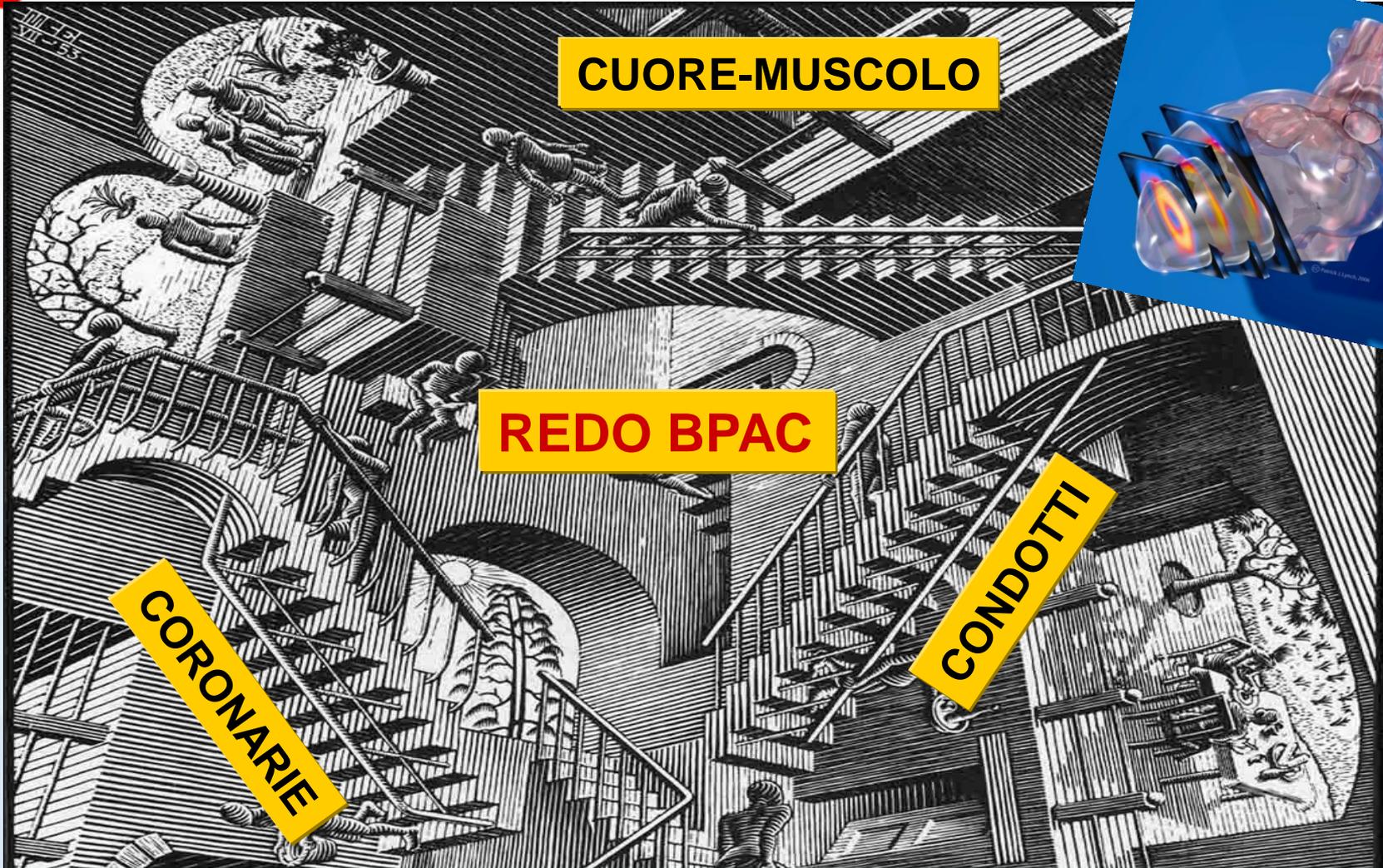
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ità H

4.3%
5.1%
6.4%
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6.4%

DOBBIAMO CONSIDERARE.....



CUORE-MUSCOLO

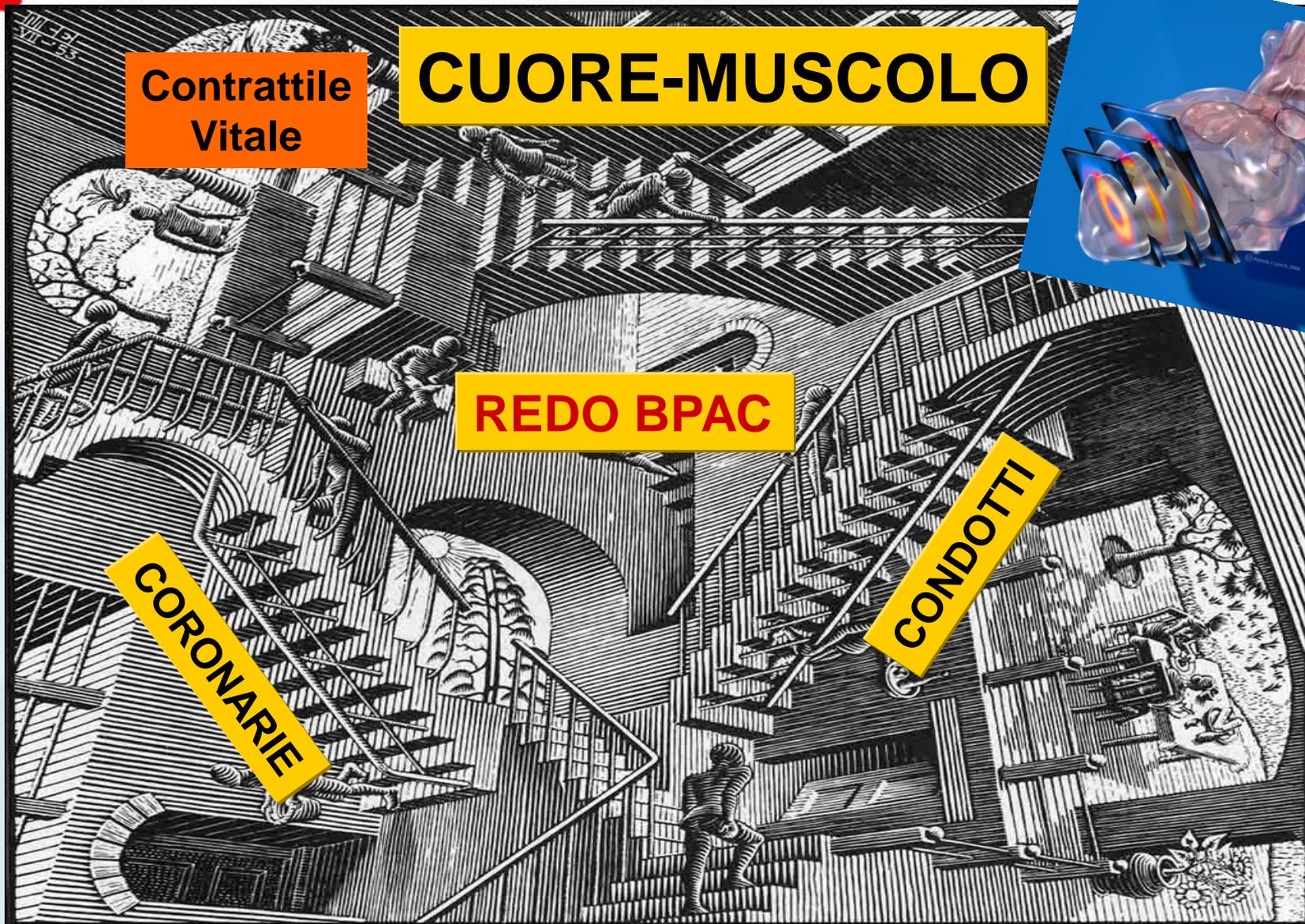
REDO BPAC

CORONARIE

CONDOTTI



matchup between the patient's graftable arteries and some viable myocardium such that grafting those arteries will provide some long-term benefits.



**Contrattile
Vitale**

CUORE-MUSCOLO

REDO BPAC

CORONARIE

CONDOTTI



CUORE-MUSCOLO

Contrattile Vitale

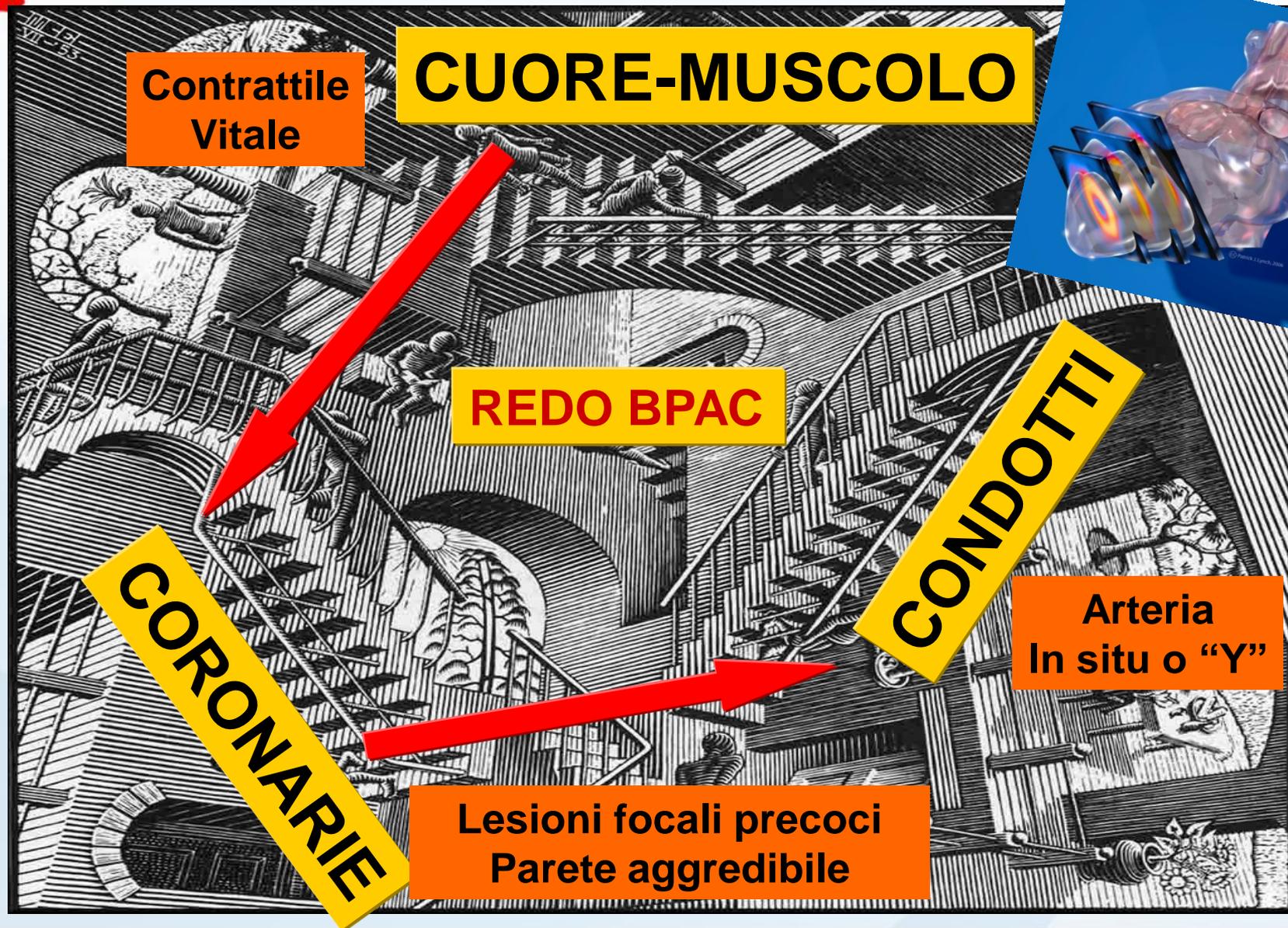
REDO BPAC

CONDOTTI

CORONARIE

**Lesioni focali precoci
Parete aggredibile**





CUORE-MUSCOLO

Contrattile Vitale

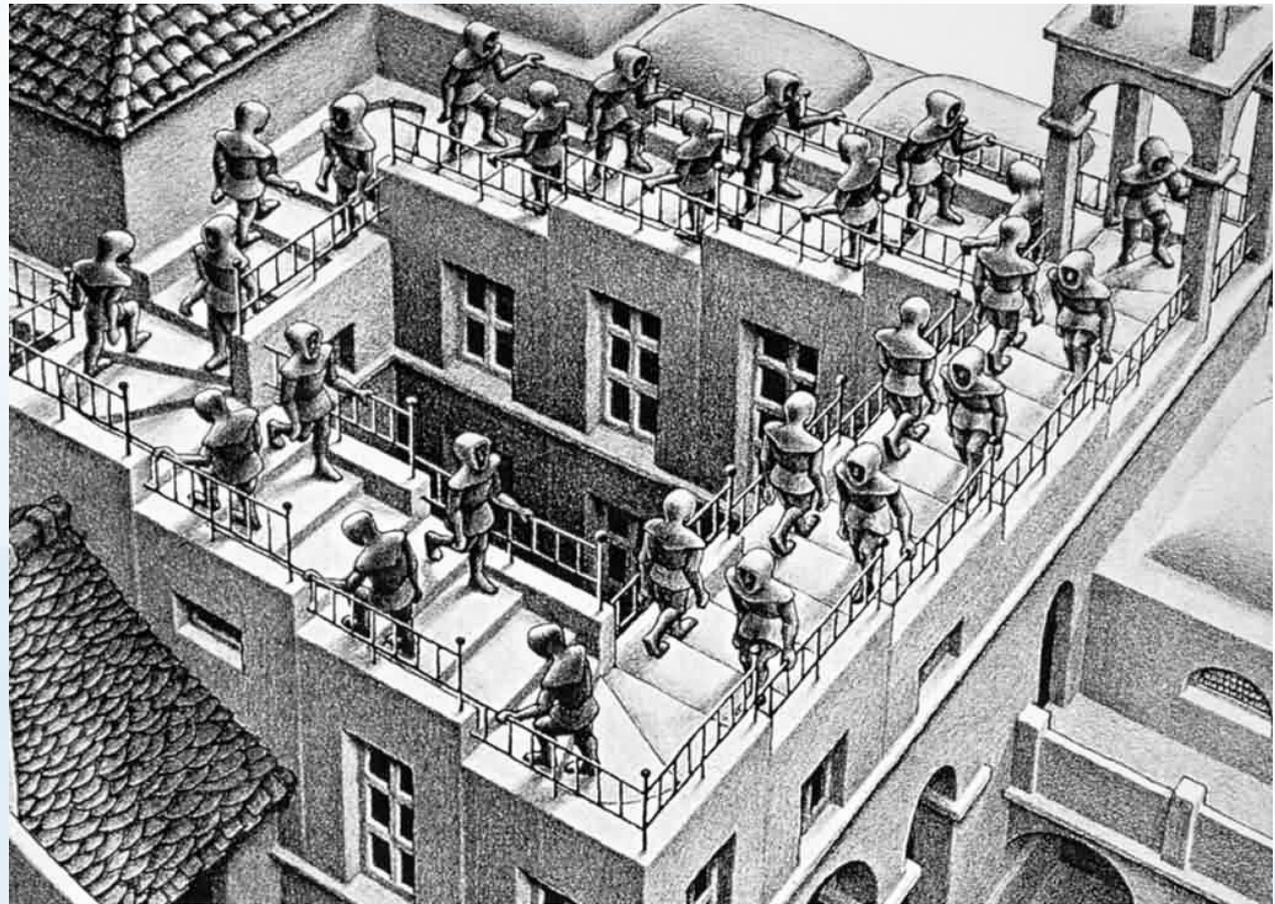
REDO BPAC

CONDOTTI

Arteria In situ o "Y"

CORONARIE

Lesioni focali precoci Parete aggredibile



PAZIENTE nella sua GLOBALITA' !

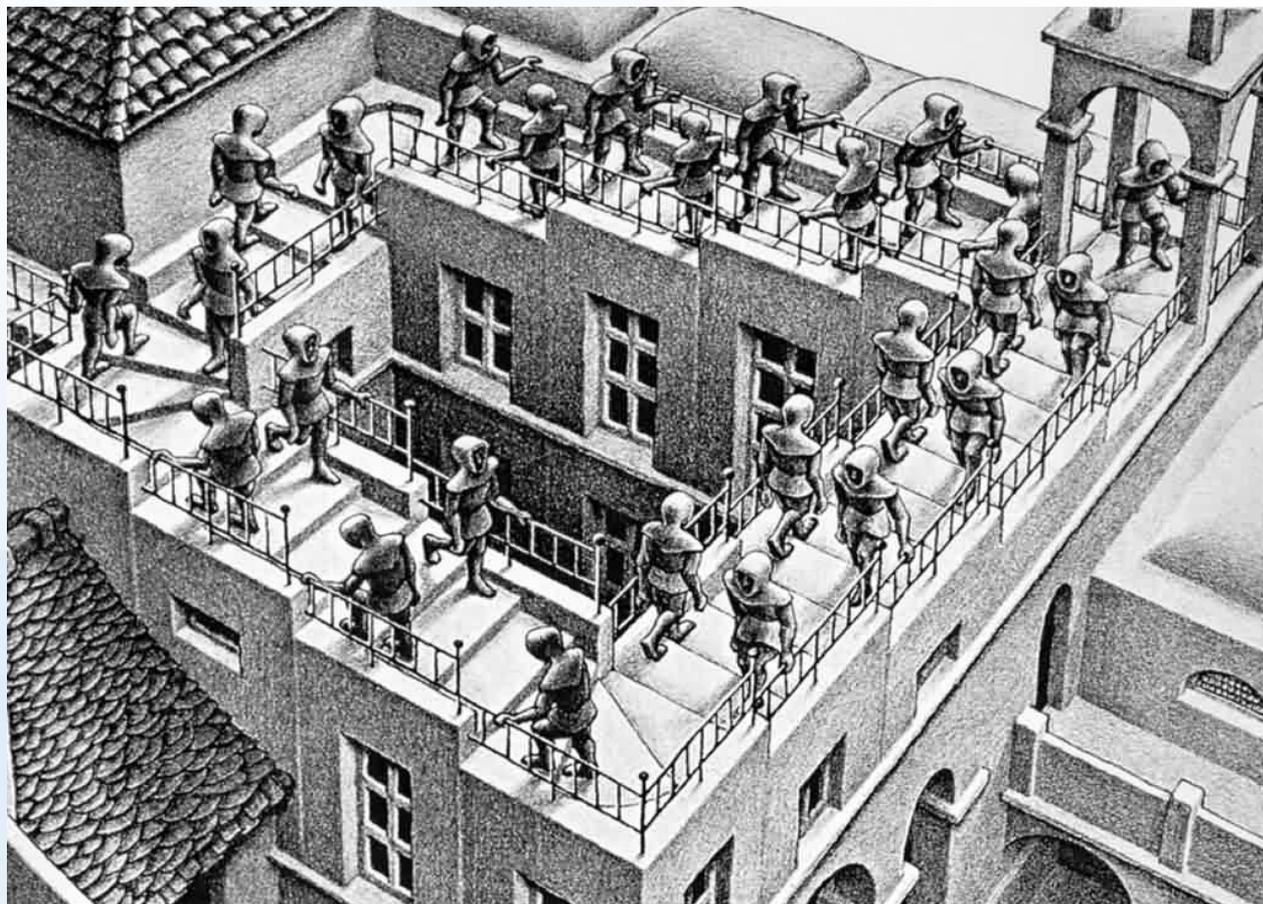
Severità comorbidità: rene, fegato polmone, diabete...

Stato neurologico

Sintomi



**RMN
TAC
Ecocg Sforzo**



**PaceMaker
Calustrofobia
Funzionalità Renale
Frequenza Cardiaca
Terapia medica**

PAZIENTE nella sua GLOBALITA' !

Severità comorbidità: rene, fegato polmone, diabete...

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Sintomi





REFERTO PRECEDENTE INTERVENTO !

Valutazione: cuore
aorta
coronarie
condotti
torace

VALUTAZIONE CHIUSURA : decorso amix?
decorso vgs?
mammarie integre?
pericardio chiuso?

Collegi che hanno già operato il Pz.....

Soluzione di continuo....fragilità tessuti...interrotta mammaria dx in chiusura...



- **Stato by-pass pregressi: VGS su Ao non sempre visualizzabili (non significa che siano occlusi): valutare lavaggio su coronaria nativa !**
- **Aortocoronarografia: calcificazioni Ao? graft prossimali ?**
- **Mammarie utilizzabili (accesso radiale dx ?)**
- **Calcificazioni coronariche**
- **Spot disponibili?**
- **Circoli collaterali**
- **Rivascolarizzazione possibile: completa ?
efficace ?**



Ecocardiogramma

- **Valvole**
 - **Ao:** cardioplegia anterograda bulbo ao?
cardioplegia retrograda seno coronarico?
 - **M:** eventuale procedura off-pump ?.....PAPs?
- **Aorta ascendente**

Cinetica
Spessori
Volumi



Ecocardiogramma

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**Cinetica
Spessori
Volumi**



**Contrattile
Vitale**

CUORE-MUSCOLO

Determinante fondamentale per risultato



REDO BPAC

CORONARIE

CONDOTTI





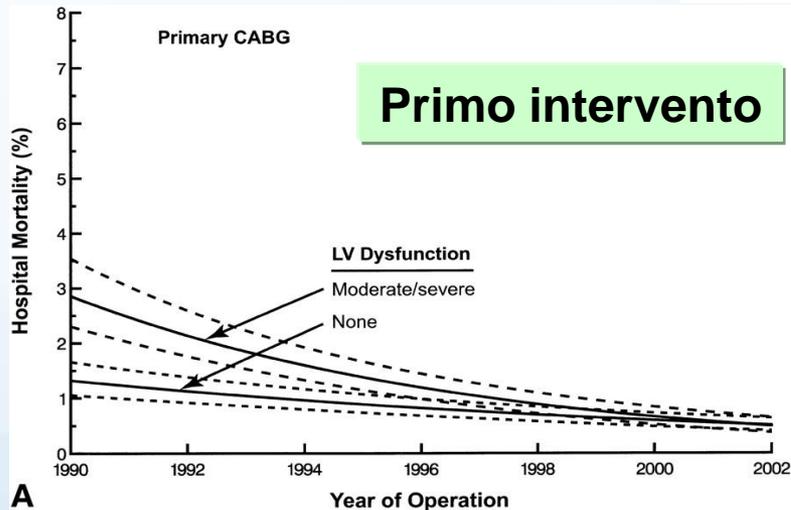
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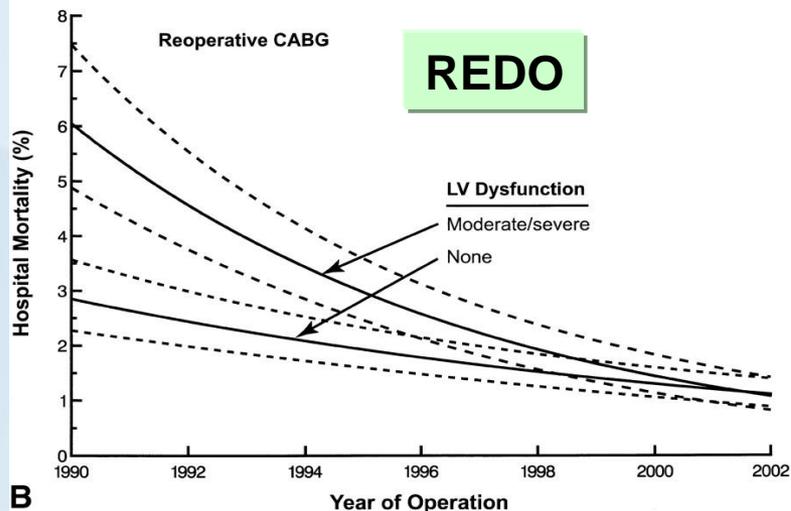


Cleveland Clinic



65 qq, IMA progresso, vasculopatia periferica, BPCO, AMISx secondo funzione VSx

REDO e disfunzione VSx



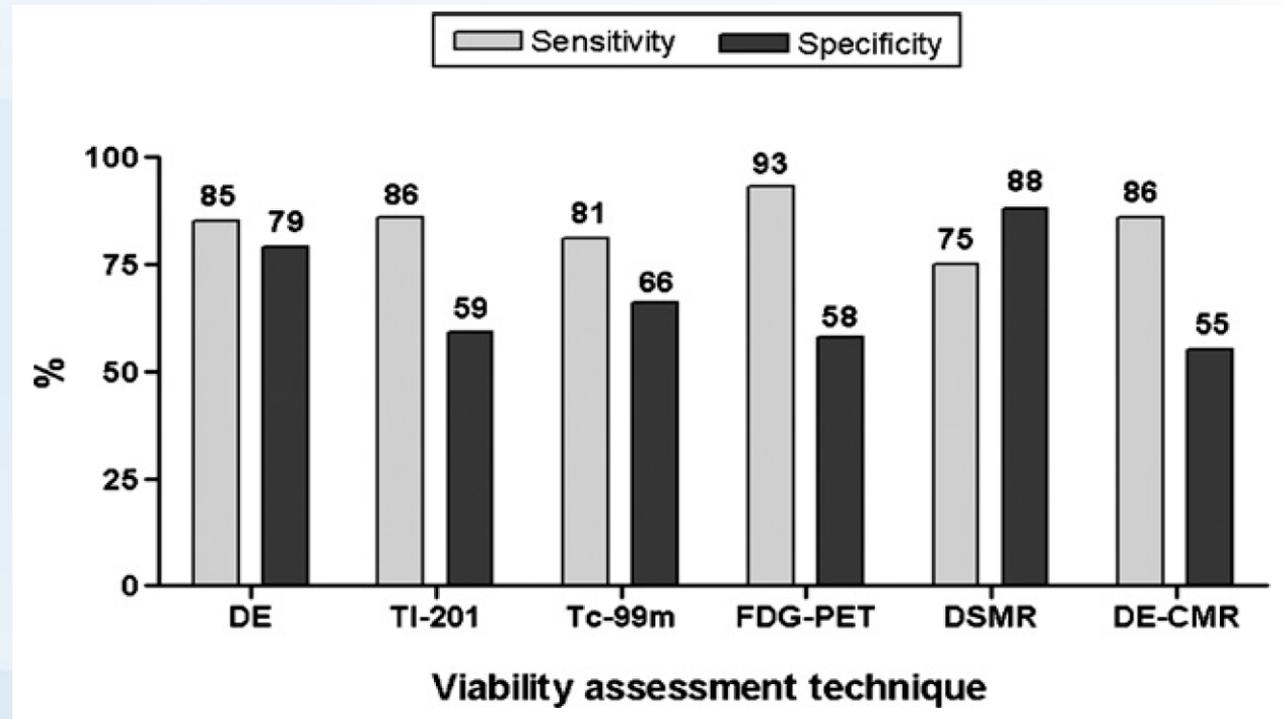
Stesso pz per REDO

**Contrattile...
ECOCG !**



Muscolo contrattile o vitale !

- Contrattile: Ecocog
- Vitale:



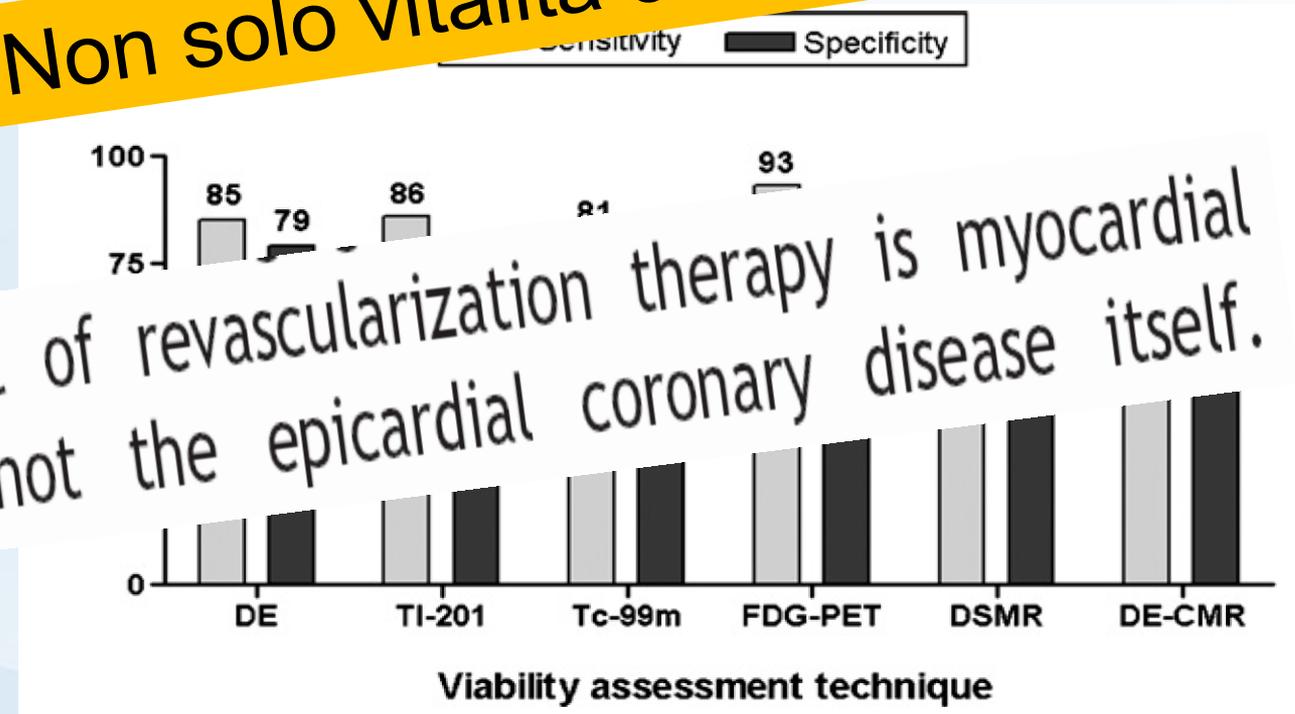
Tomlinson DR et al. Assessment of myocardial viability: Comparison fo Echocardiography versus Cardiac Magnetic Resonance Imaging in the current era. Heart,Lung and Circulation 2008;17:173-185



Muscolo contrattile o vitale !

- Contrattile: Ecocog
- Vitale:

Non solo vitalità o contrattilità



The target of revascularization therapy is myocardial ischaemia, not the epicardial coronary disease itself.

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Frequency of Stress Testing to Document Ischemia Prior to Elective PCI

Non ripetiamo gli stessi errori



Results

In the United States, 44.5% (n=10 629) of patients underwent stress testing within the 90 days prior to elective PCI.

Conclusion

The majority of Medicare patients with stable coronary artery disease do not have documentation of ischemia by noninvasive testing prior to elective PCI.

The target of revascularization therapy is myocardial ischaemia, not the epicardial coronary disease itself.

<http://jama.ama-assn.org/cgi/content/full/300/15/1765>

JAMA. 2008;300(15):1765-1773 (doi:10.1001/jama.300.15.1765) Grace A. Lin; R. Adams Dudley; F. L. Lucas; et al.



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NON solo ischemia SI o NO

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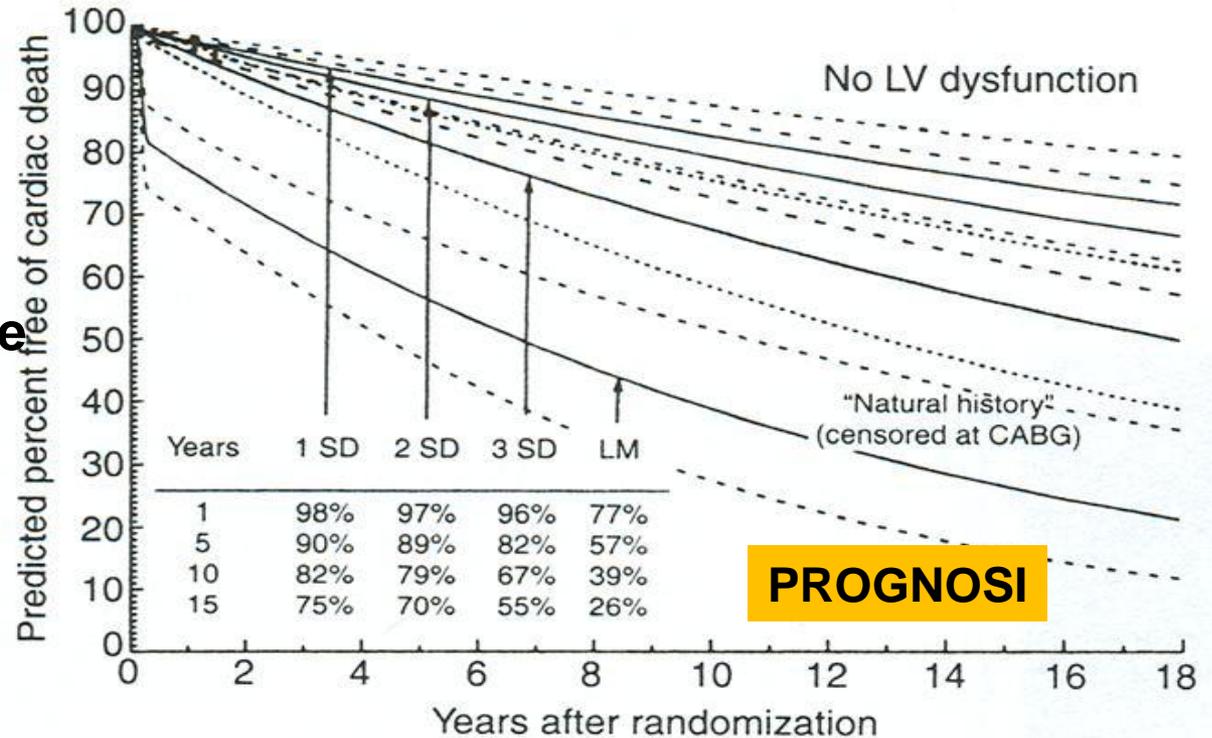
JAMA. 2008;300(15):1765-1773 (doi:10.1001/jama.300.15.1765) Grace A. Lin; R. Adams Dudley; F. L. Lucas; et al.



Stenosi

Ischemia

Rivascolarizzazione



Prognosi dipende da **estensione** aree ischemiche

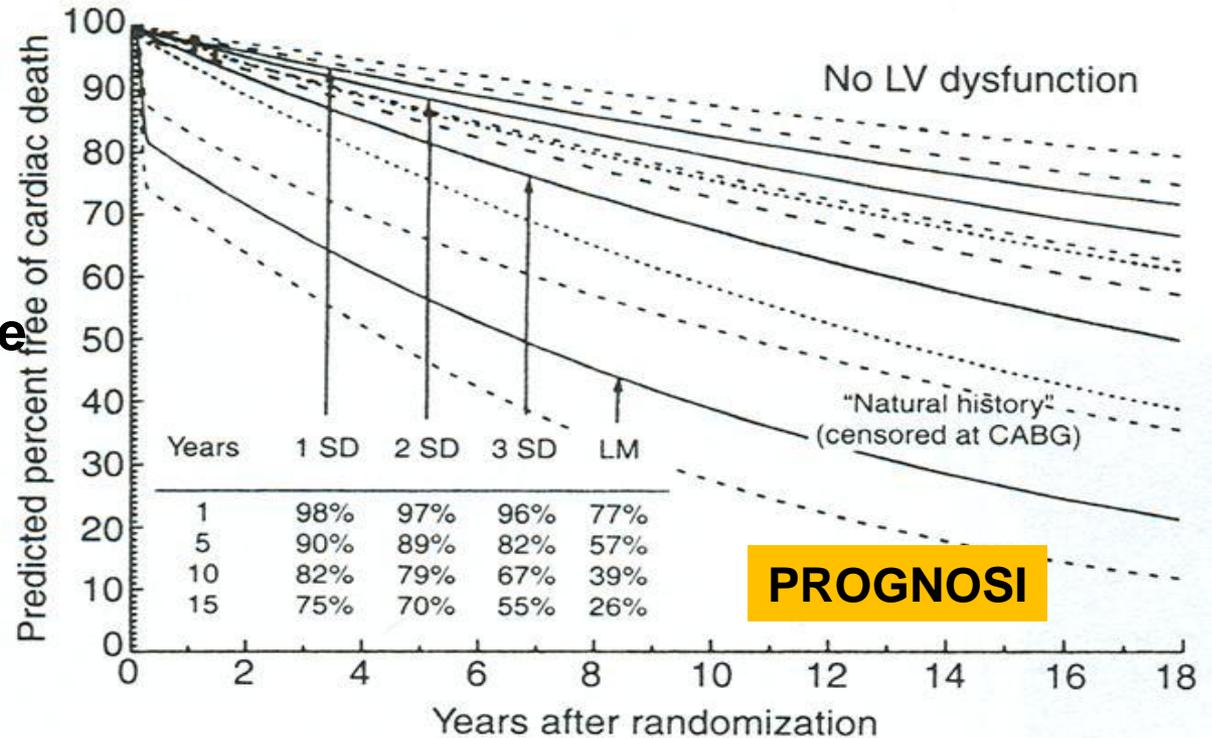
Copie LH, et al: Lancet 2006; 367:69 ACC/AHA Joint Task Force on CABG JACC-Circulation 1991



Stenosi

Ischemia

Rivascolarizzazione



Prognosi dipende da **estensione** aree ischemiche

.....ischemia...vitalità.....estensione ischemia....

Copie LH, et al: Lancet 2006; 367:69 ACC/AHA Joint Task Force on CABG JACC-Circulation 1991



Cardiochirurgo ed Ecostress

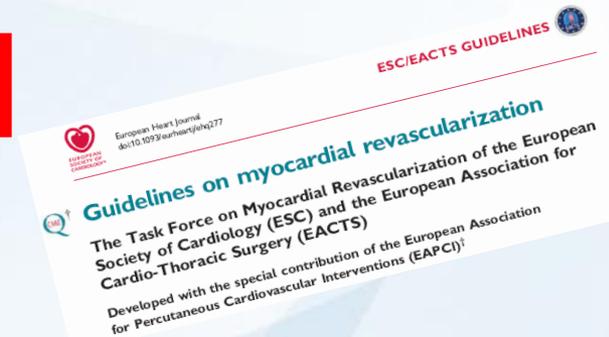
Ischemia
Miocardio vitale



Invasività inferiore dell'angiografia
Più attendibile di TDS
Ok per Pz non abili a TDS



IDENTIFICA TERRITORI SPECIFICI



	Asymptomatic (screening)	Symptomatic Pretest likelihood ^b of obstructive disease			Prognostic value of positive result ^a	Prognostic value of negative result ^a	References
		Low	Intermediate	High			
Anatomical test							
Invasive angiography	III A	III A	IIb A	I A	I A	I A	[12]
MDCT angiography	III B ^c	IIb B	IIa B	III B	IIb B	IIa B	[17–20]
MRA angiography	III B	III B	III B	III B	III B	III B	[21]
Functional test							
Stress echo	III A	III A	I A	III A ^d	I A	I A	[12]
Nuclear imaging	III A	III A	I A	III A ^d	I A	I A	[12]
Stress MRI	III B	III C	IIa B	III B ^d	IIa B	IIa B	[12, 23–25]
PET perfusion	III B	III C	IIa B	III B ^d	IIa B	IIa B	[26]

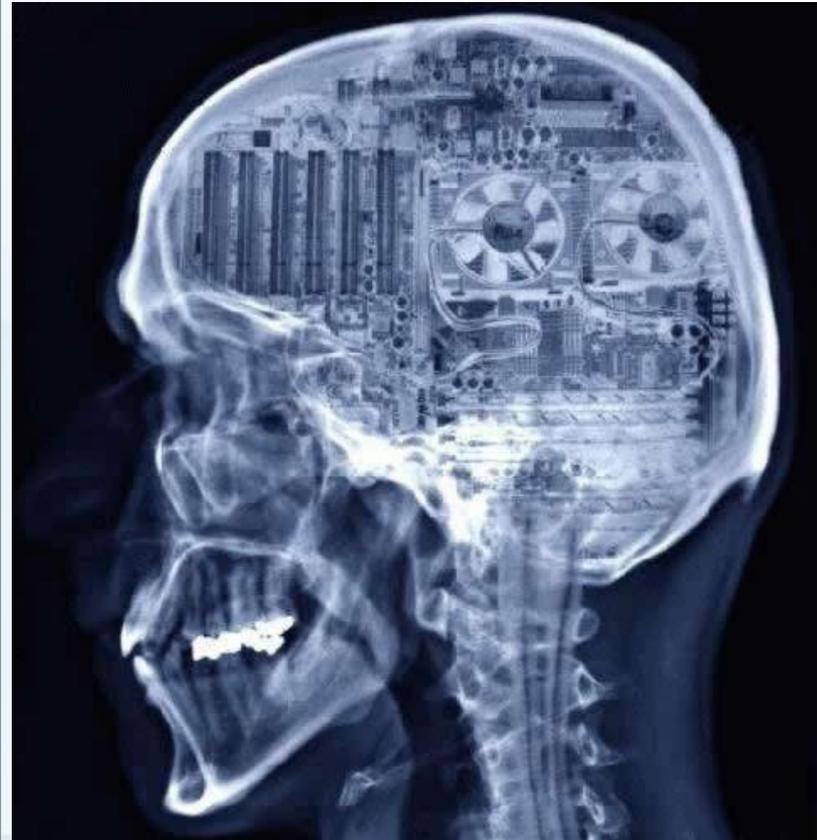


ISCHEMIA - VITALITA'

IDENTIFICA TERRITORI SPECIFICI

Quali bypass fare

Quali bypass non fare





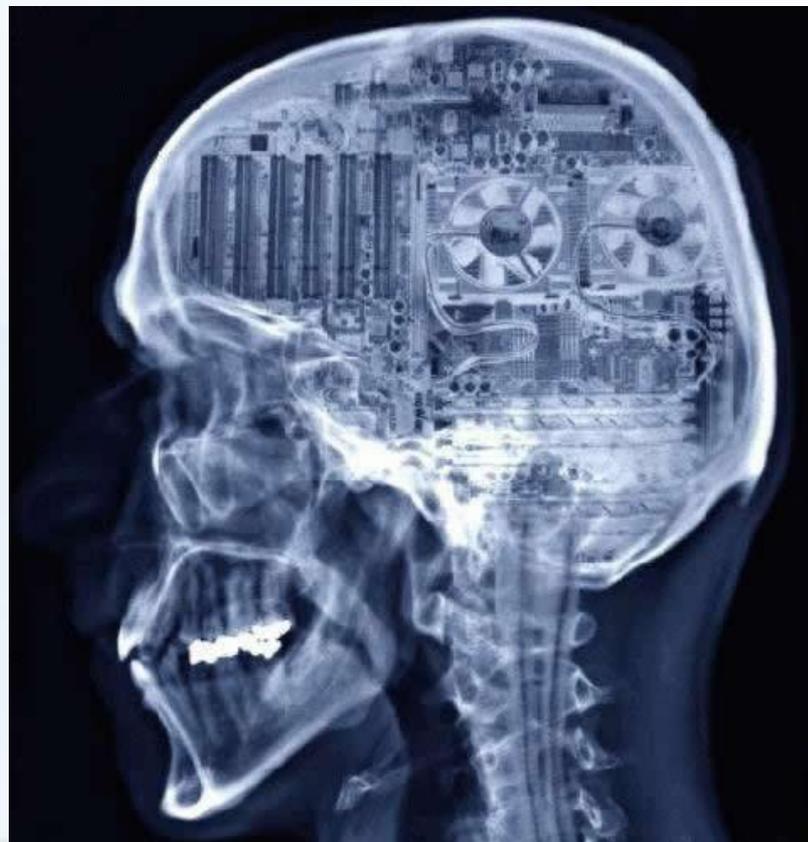
ISCHEMIA - VITALITA'

IDENTIFICA TERRITORI SPECIFICI

Quali bypass fare

Quali bypass non fare

SE OPERARE O NO !





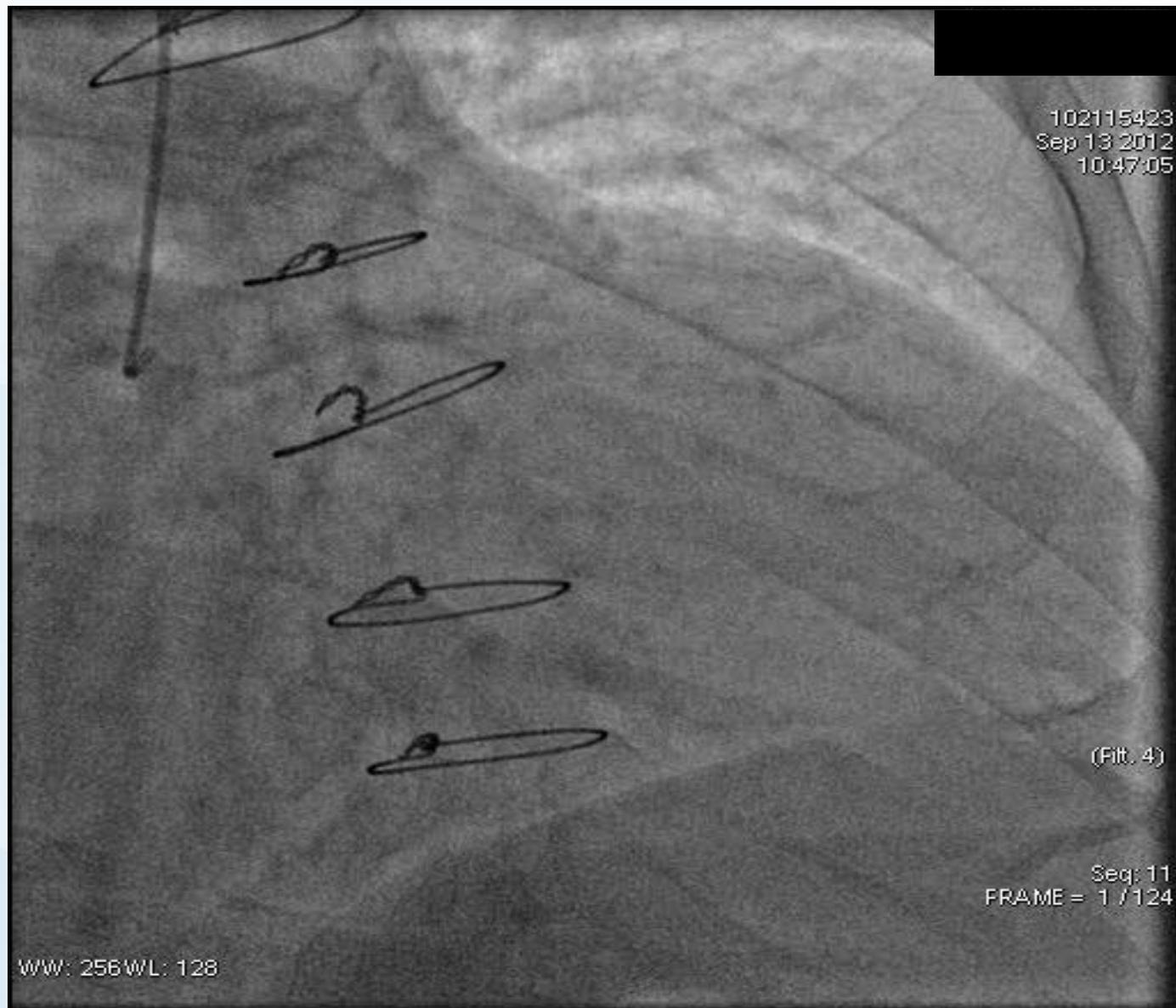
- 72 aa
- 1996 ACC IMA ant ed inf per
IVA 100%
CDx 100%

BPAC x 2: Ao=>IVA
Ao=>CDx con ampia TEA
- 2012 maggio e agosto SCC,
FE 23%,
Coronarografia.
NO safene

16 aa

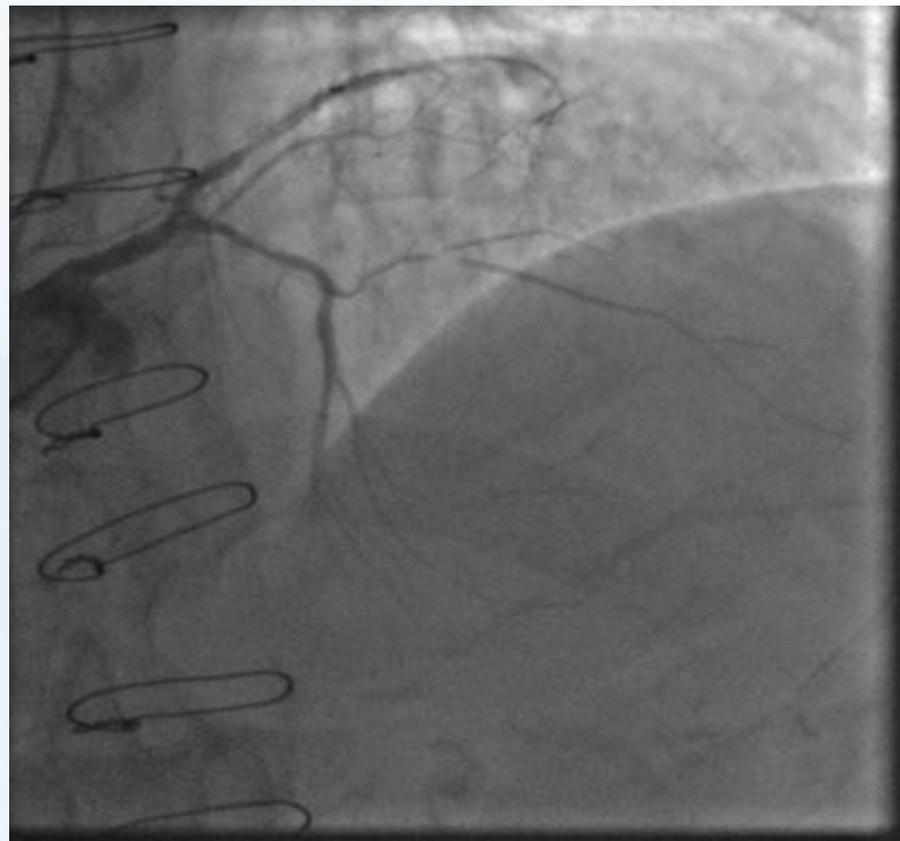
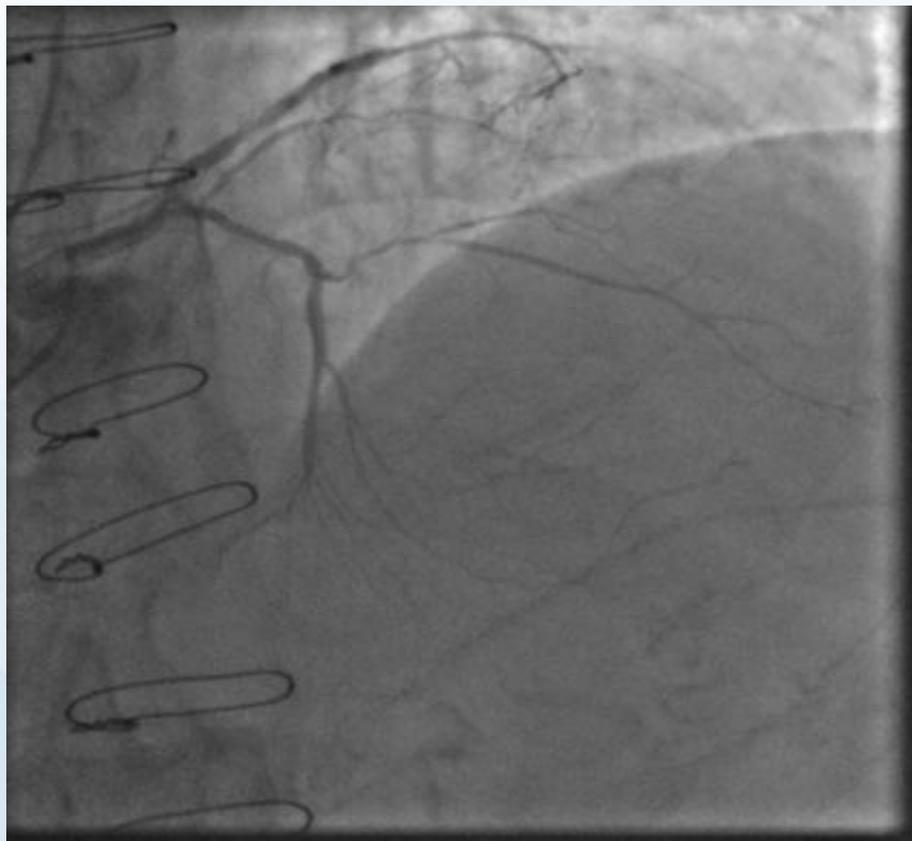


Ao => CDx



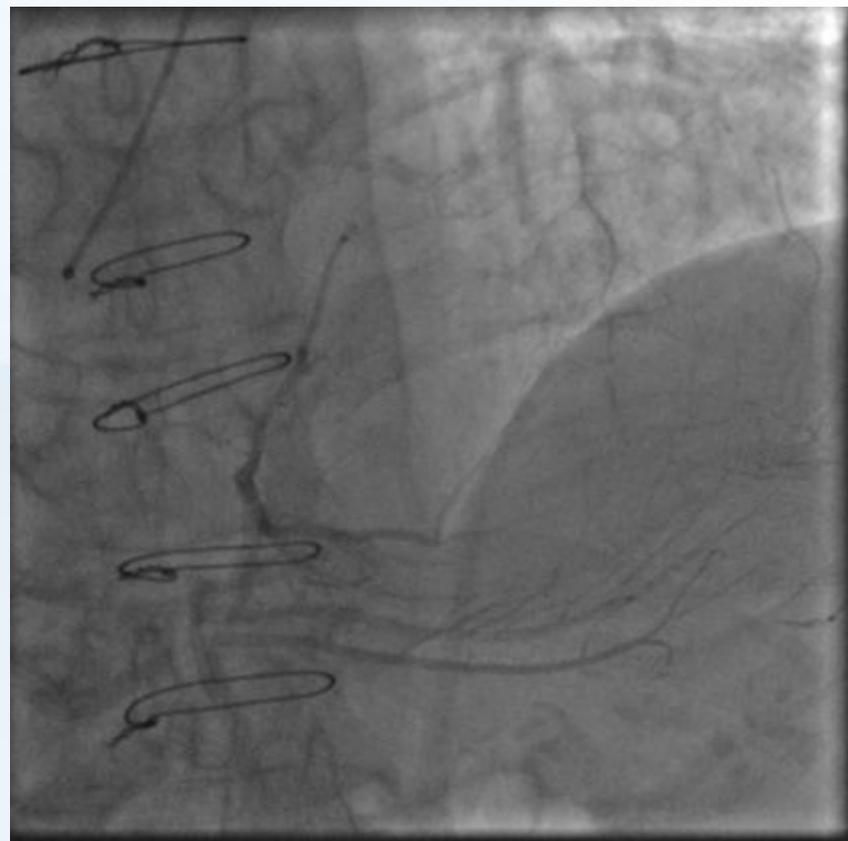


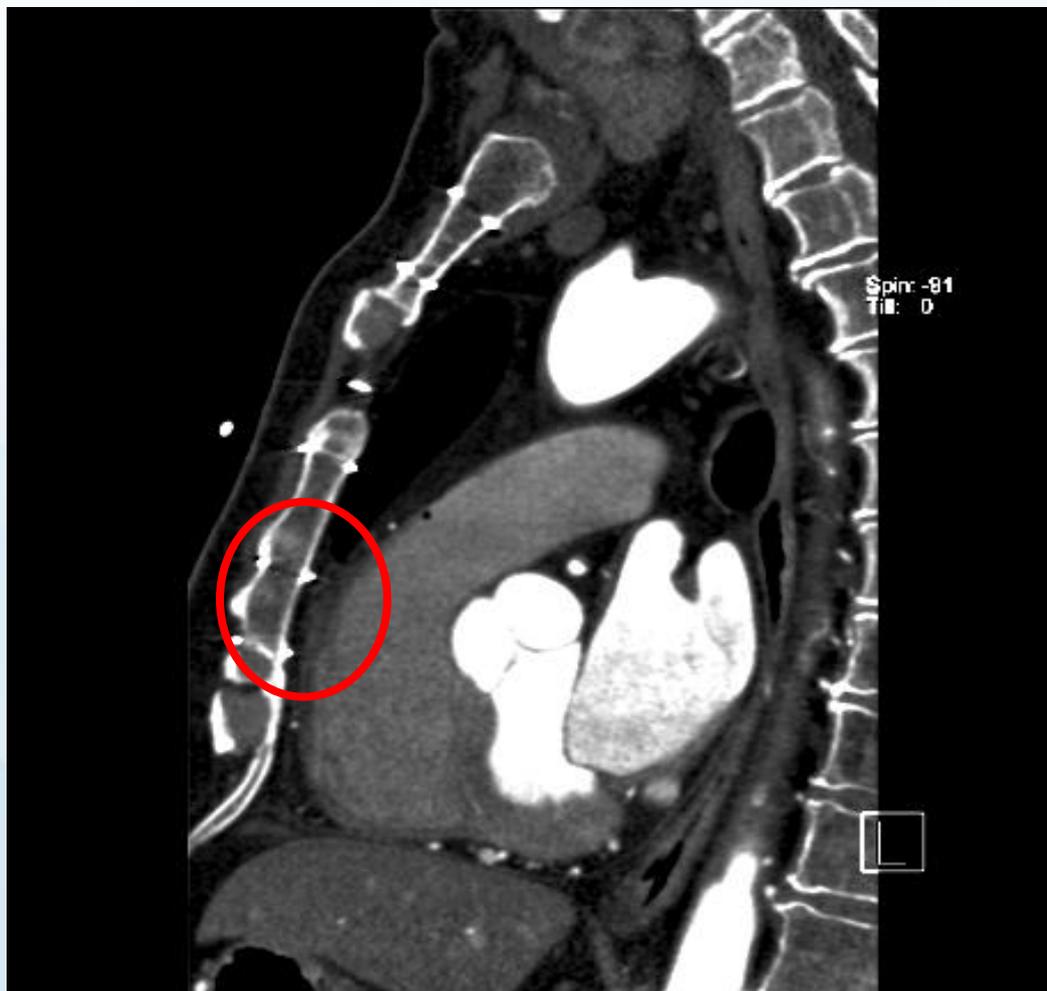
IVA ?

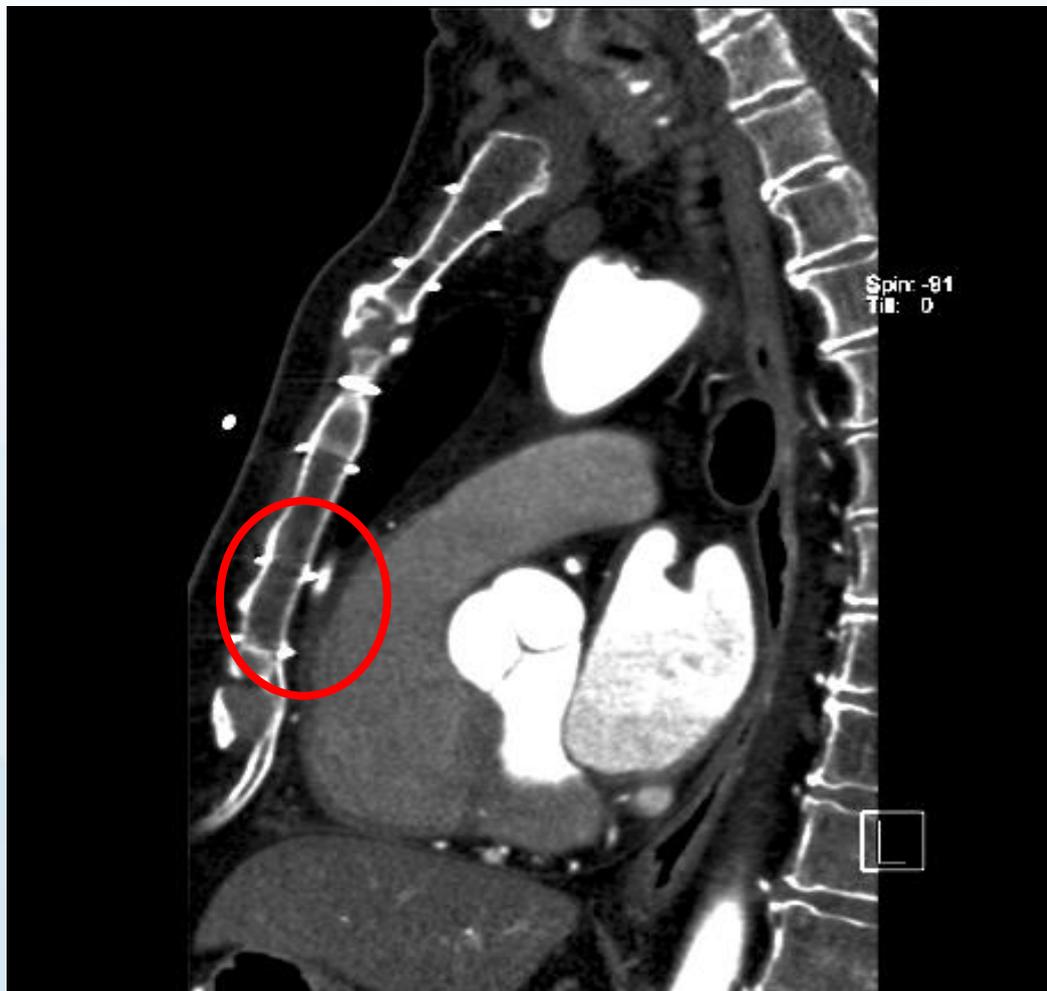


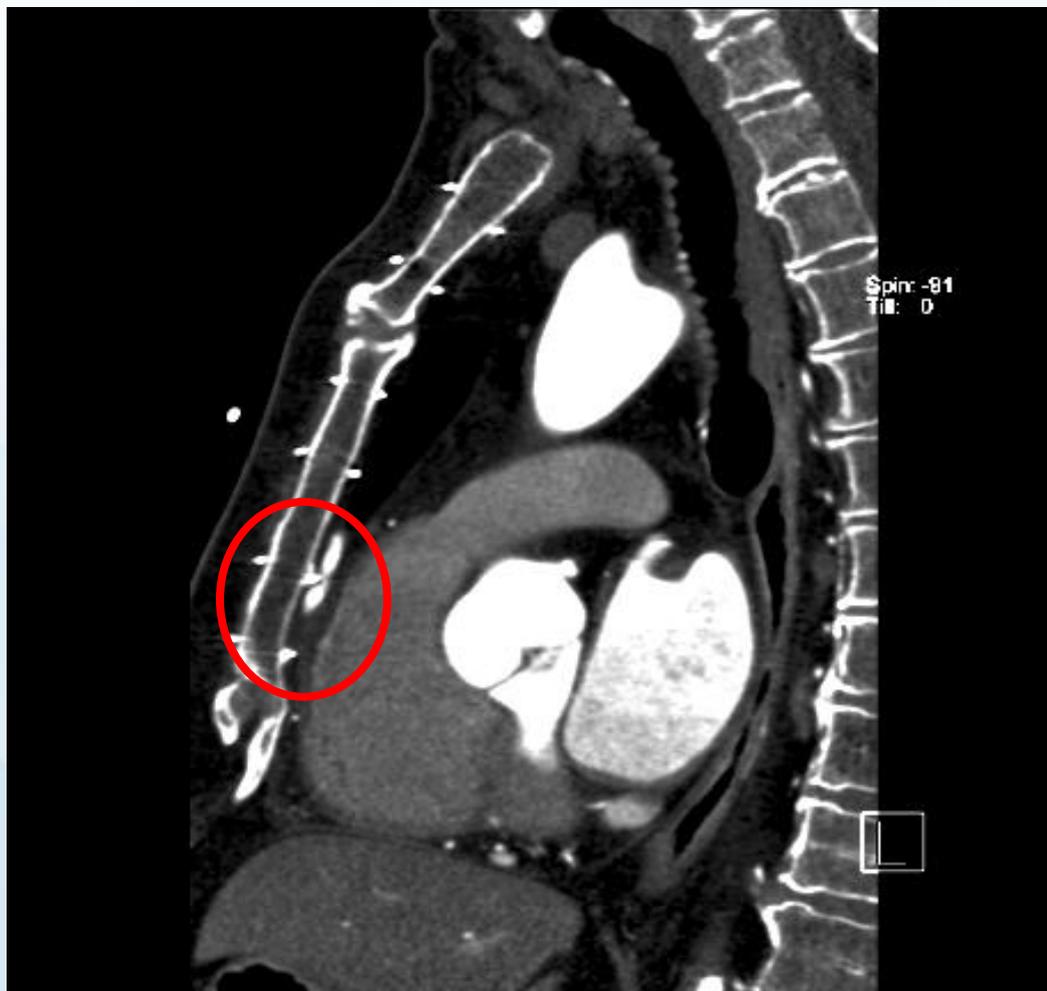


IVA ?











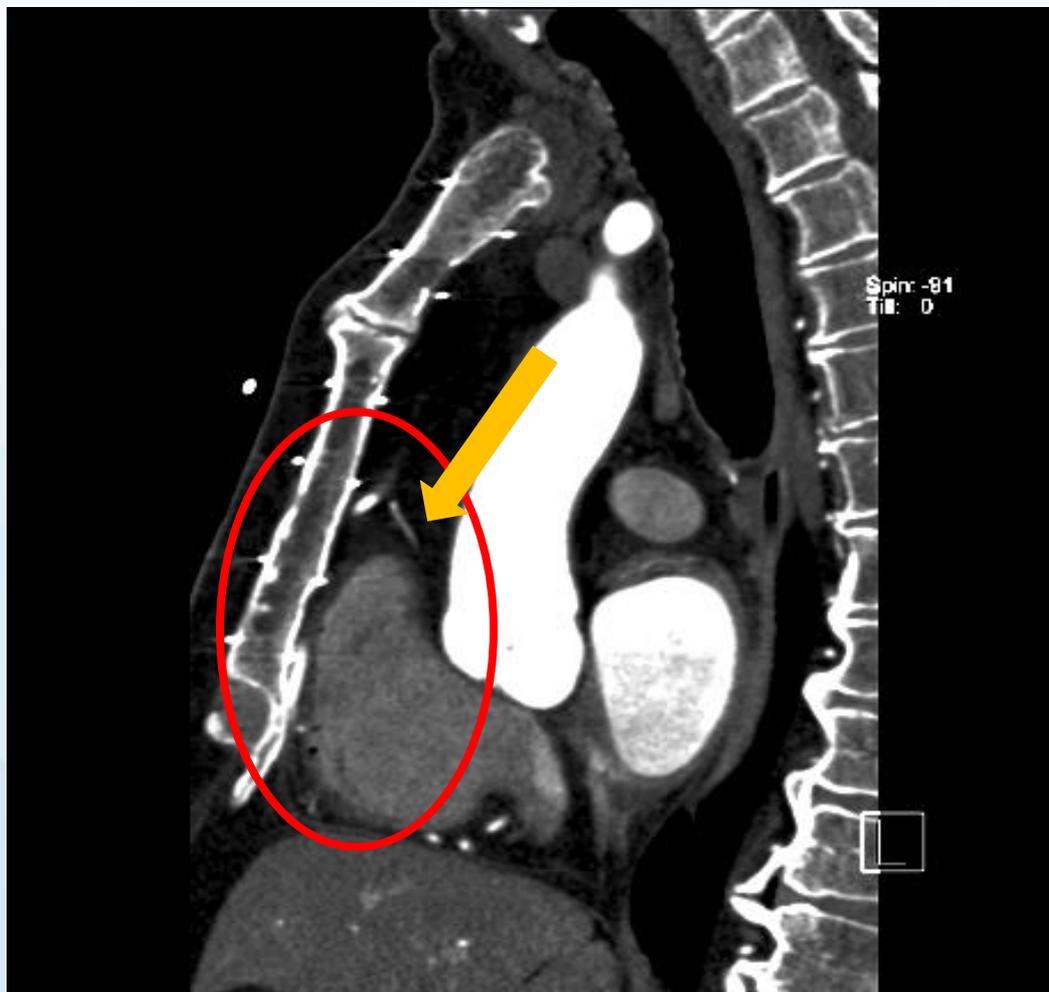








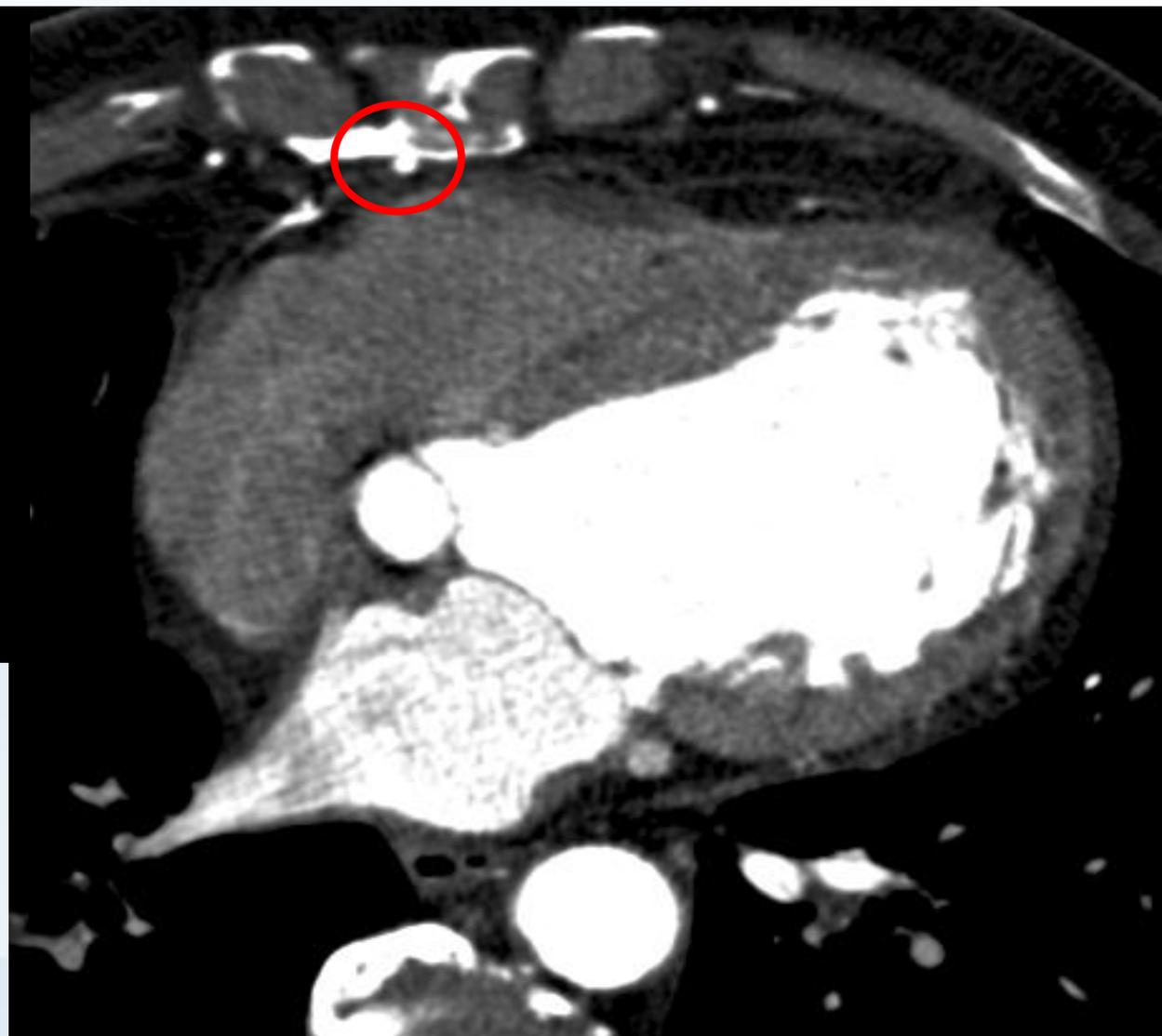
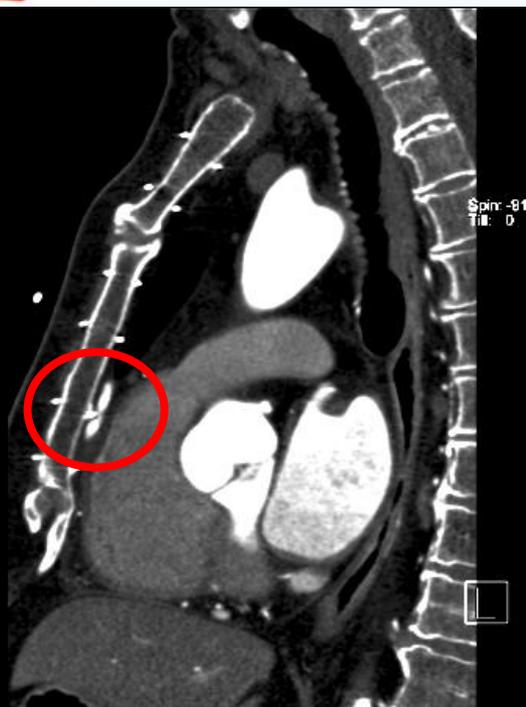
Ao=>IVA

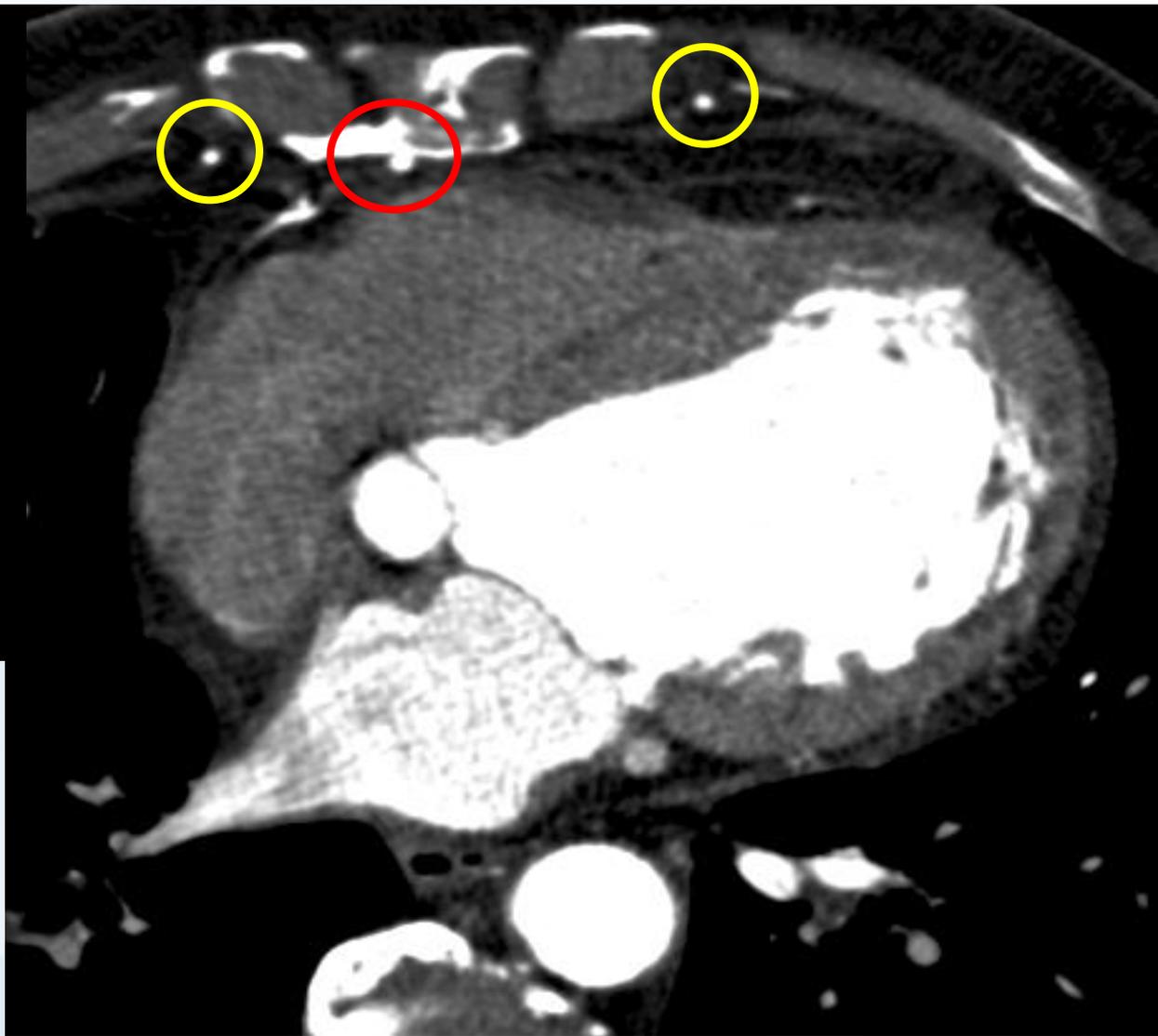
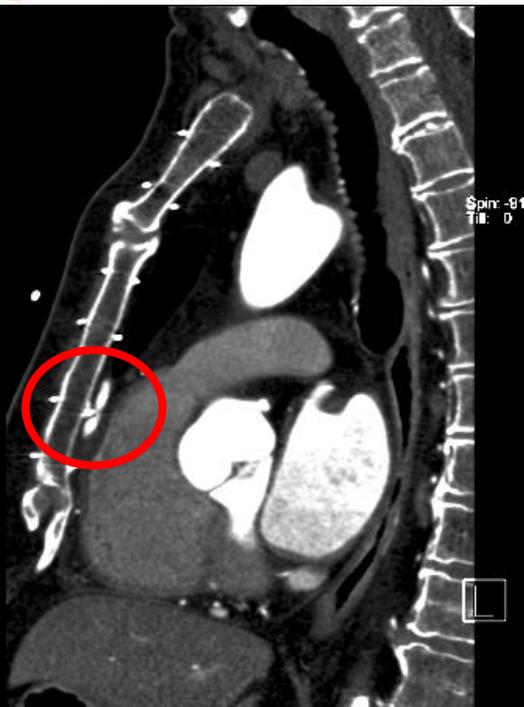


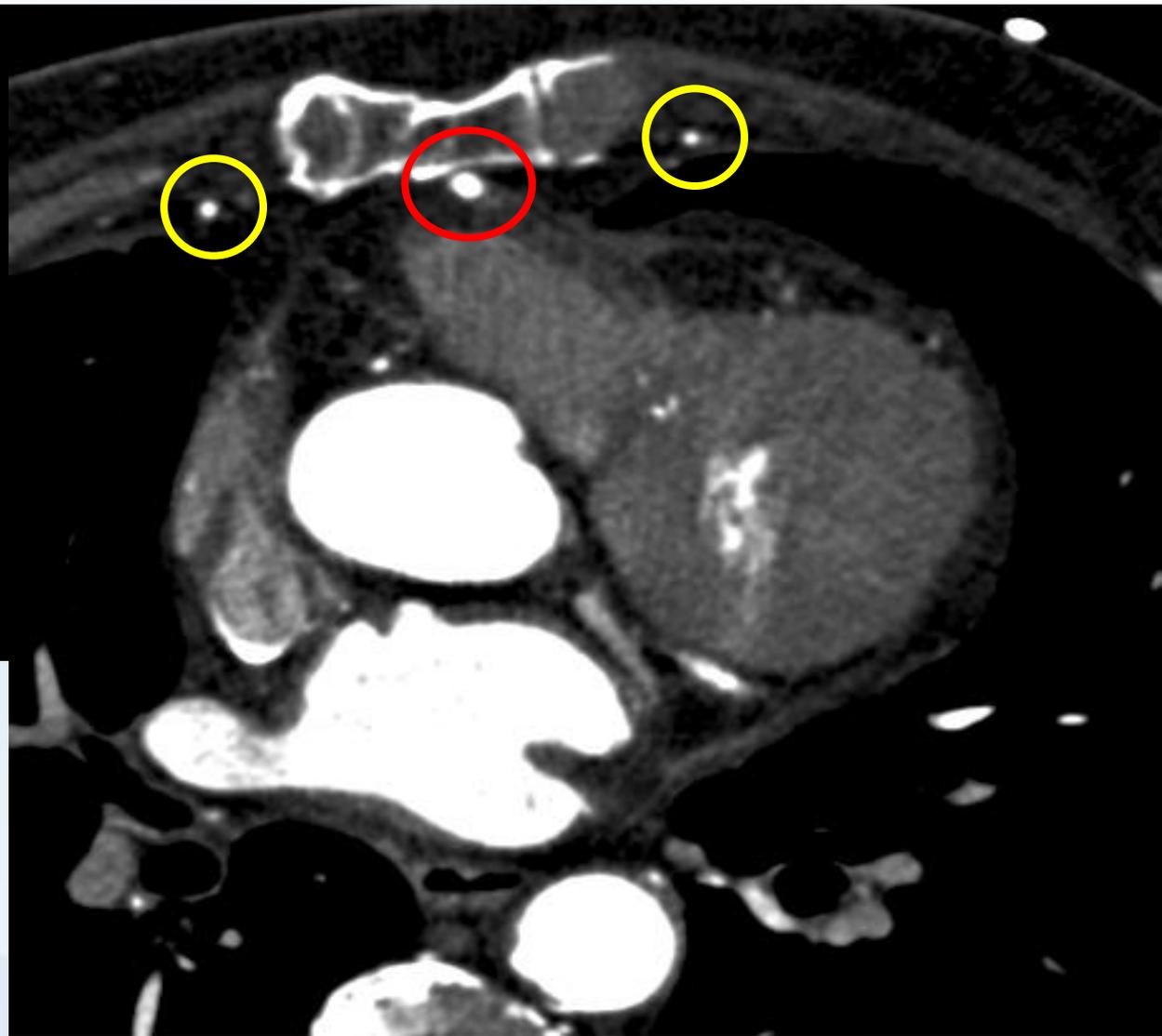
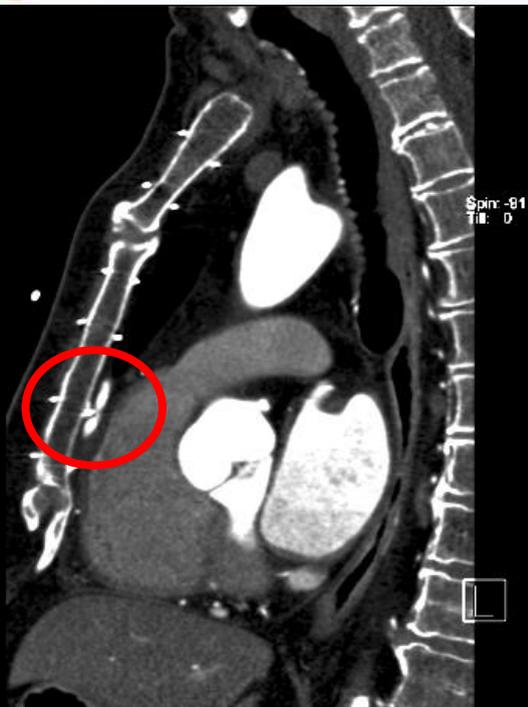


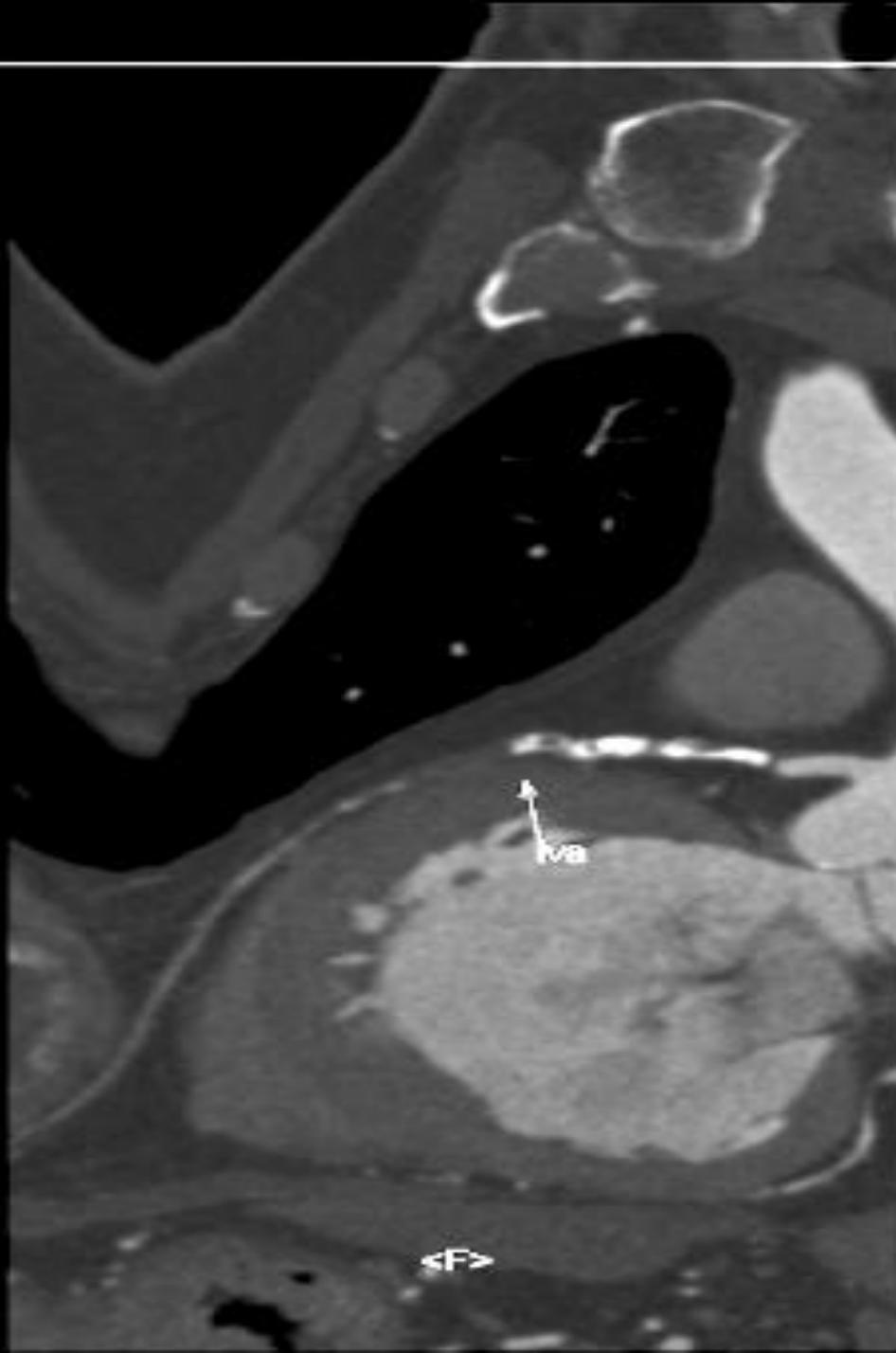
Ao=>IVA











IVA prox

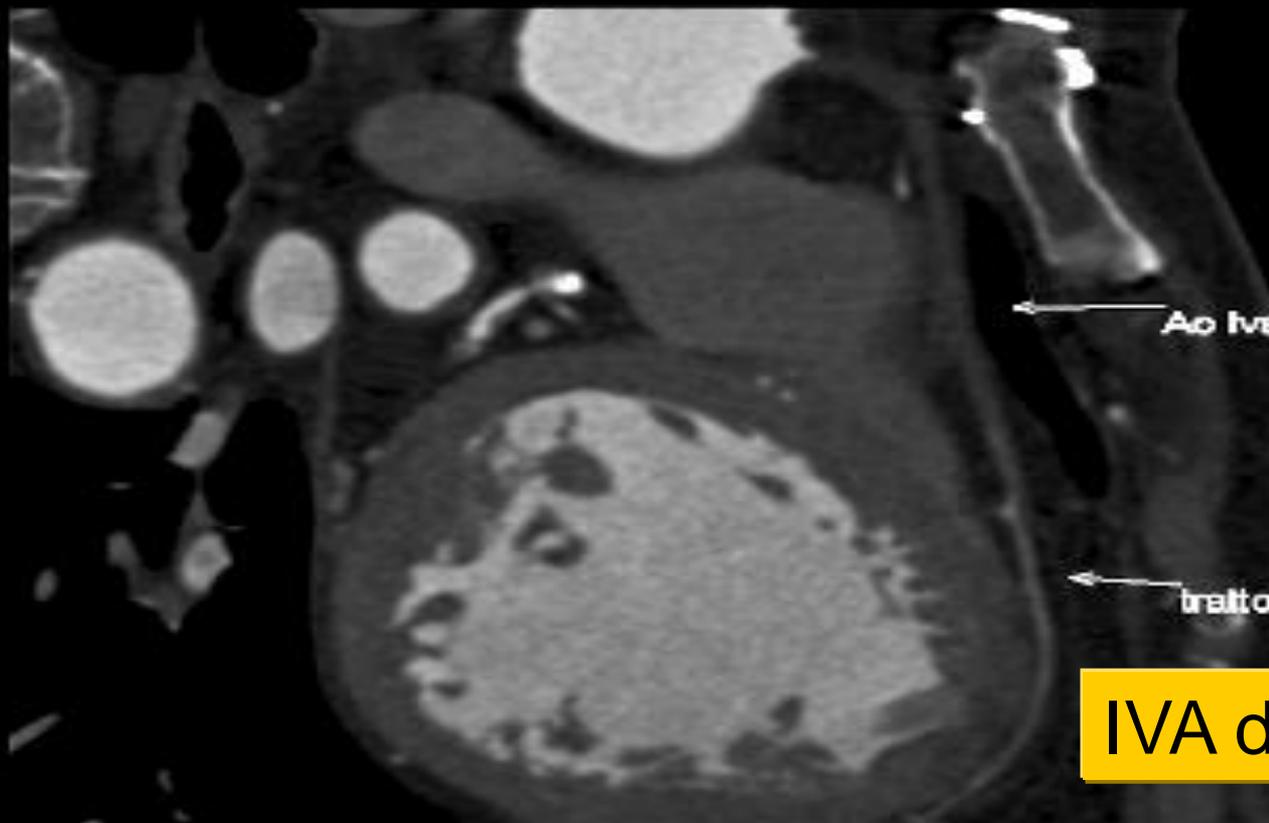
Age:72, M
Se:7
2012/09/17 11:05 AM
Kern:B30f
49 bpm, 65 x D, 82



%R-R : 65



TP65PC1167
120 kV
772 mA
Tilt:0.00
No: 4



Ao Iva

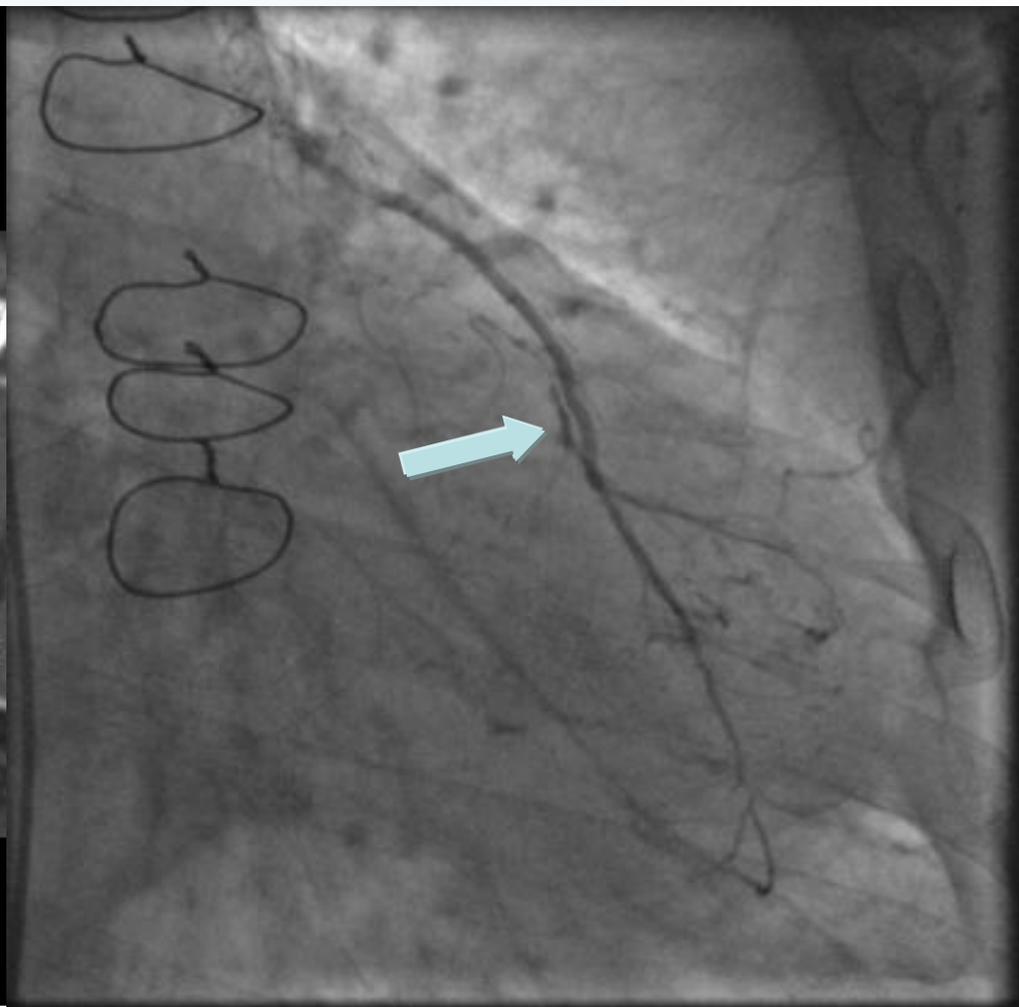
<A>

tratto post anastomosi

IVA distale



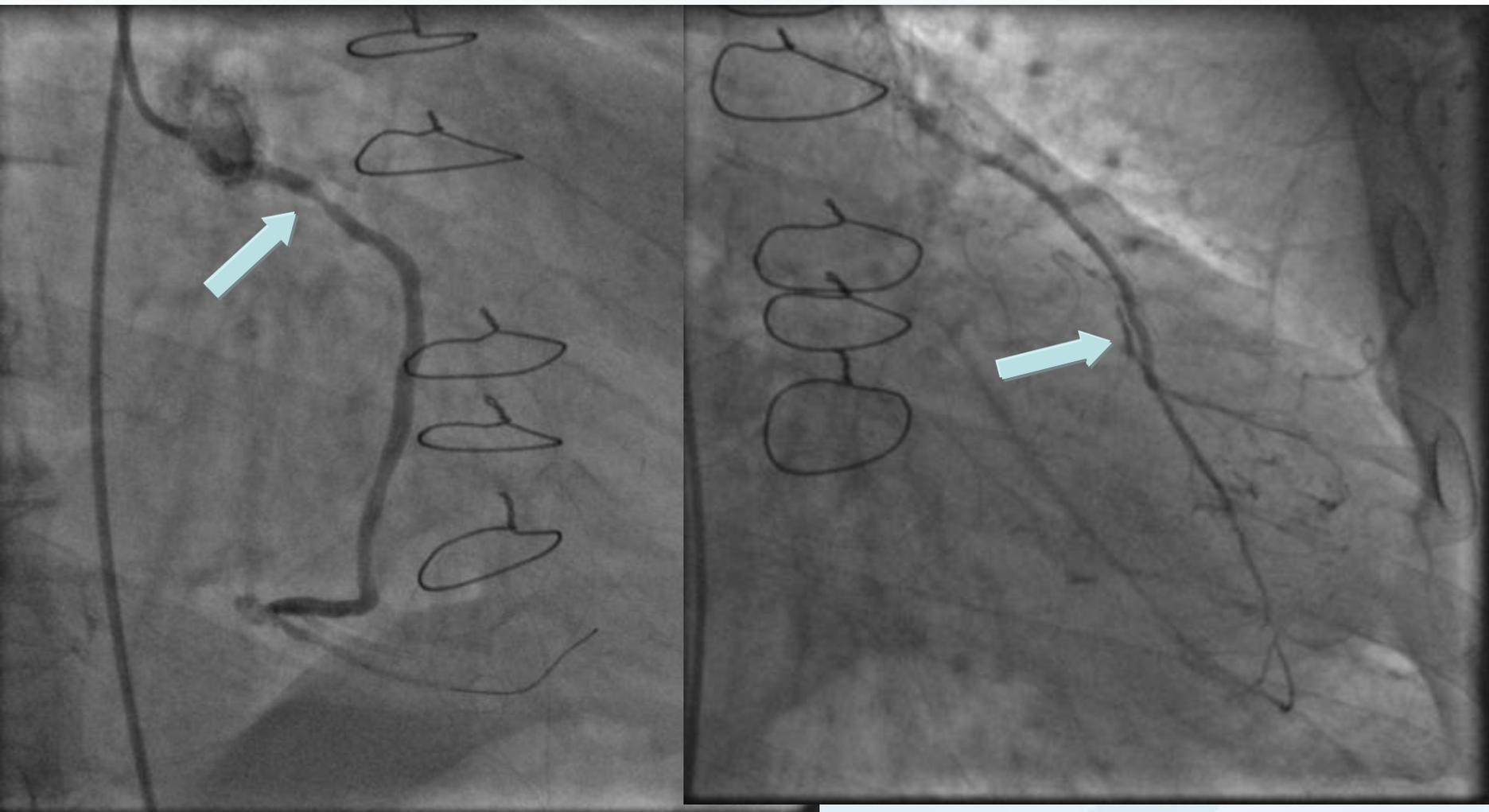
AMISx=>IVA off-CEC





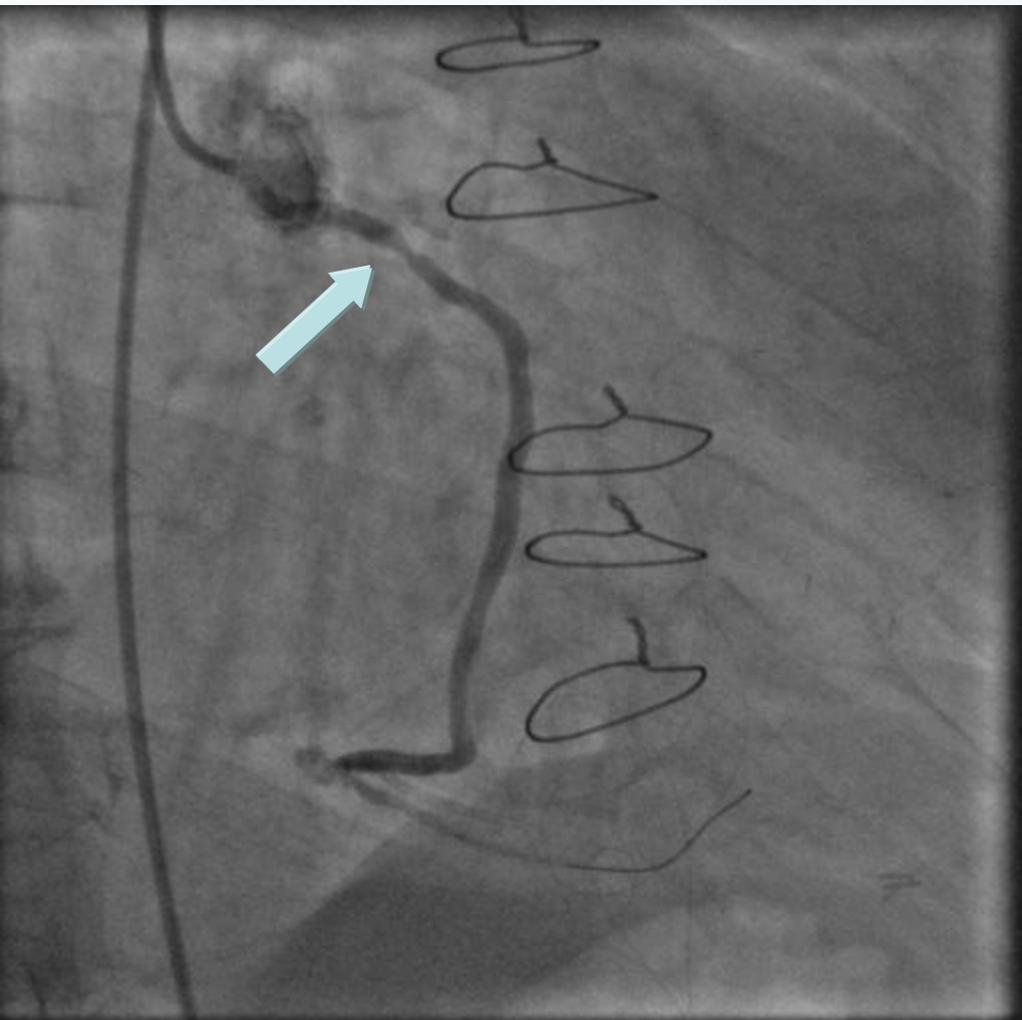
VGS x CDx stenotica

AMISx=>IVA off-CEC

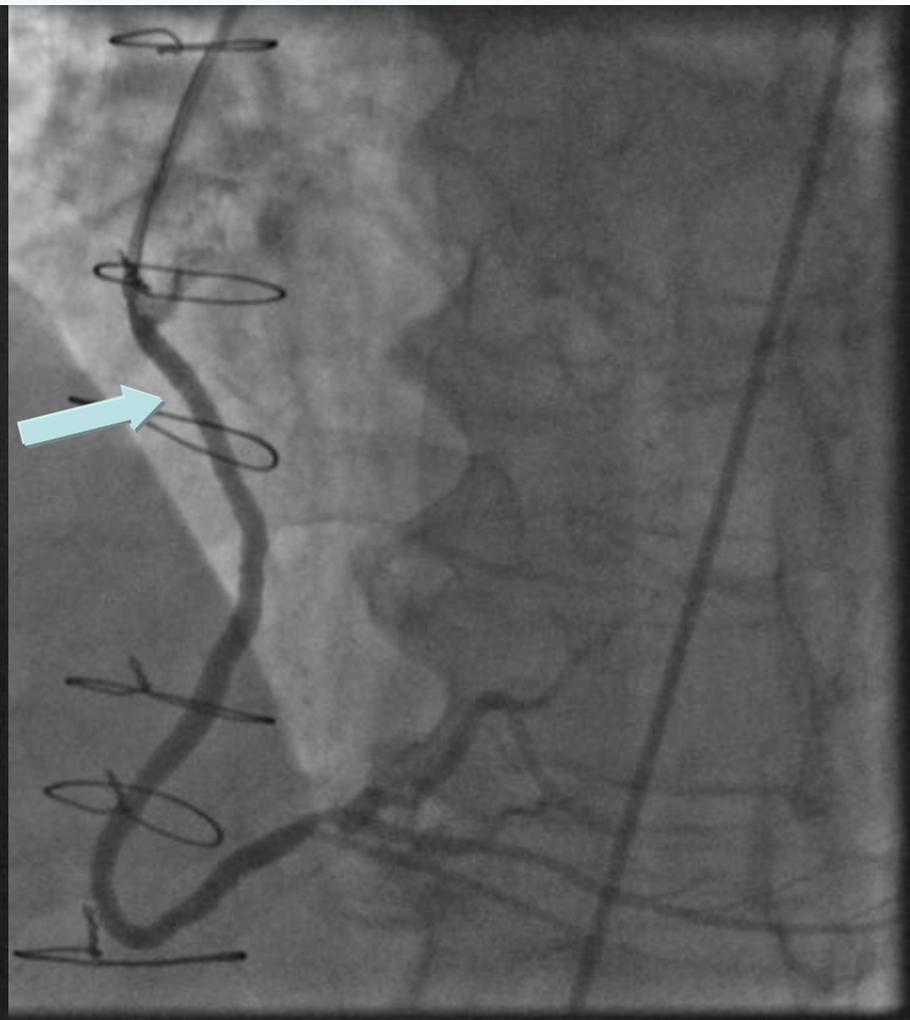




VGS x CDx stenotica



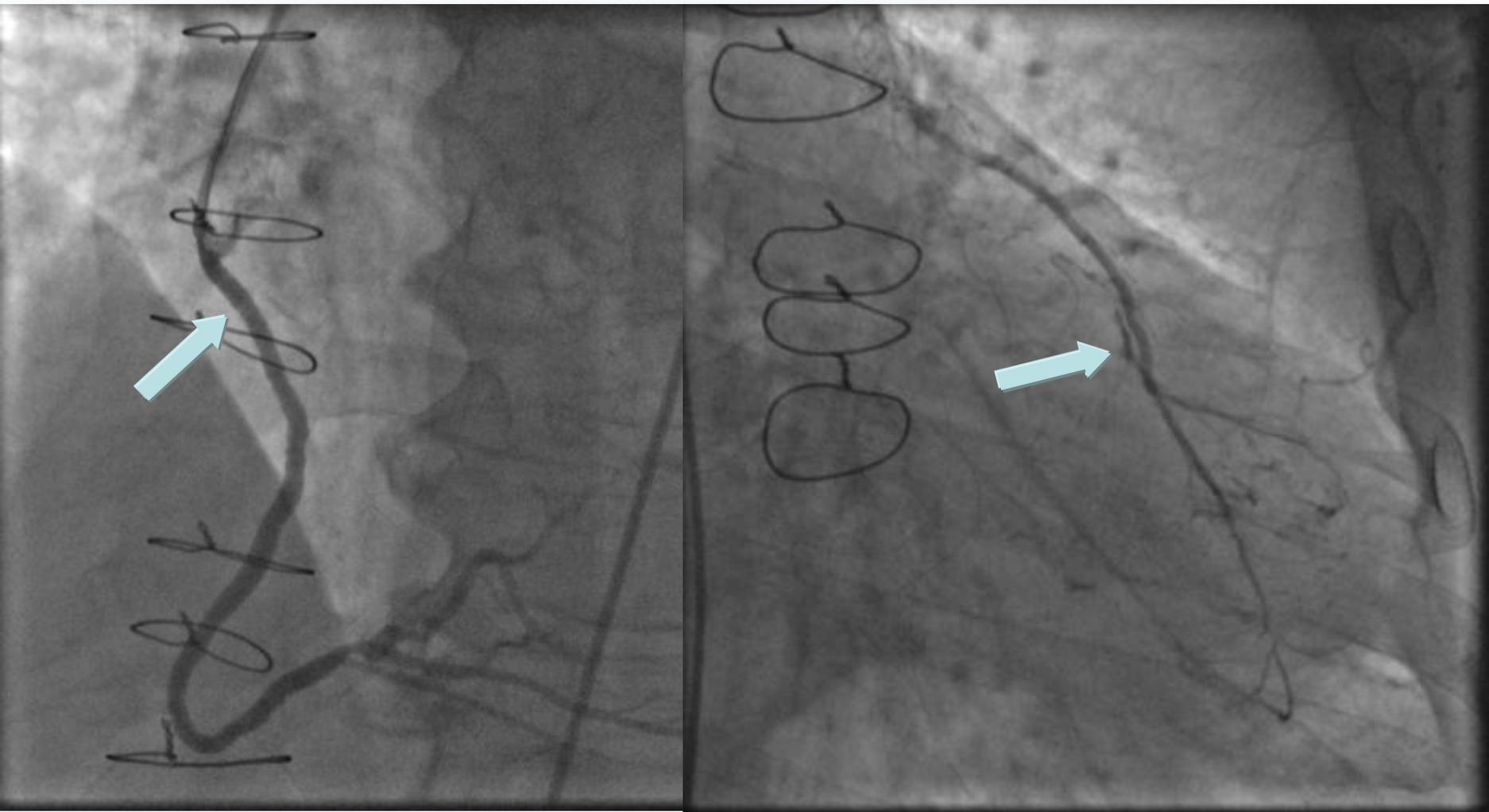
CDx post-stent





VGS x CDx stenotica

AMISx=>IVA off-CEC





Coronarografia ed ECOCG

Se dubbi su vitalità



Eco Stress



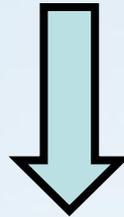
Coronarografia ed ECOCG

Se dubbi su vitalità



Eco Stress

Se intervento





Coronarografia ed ECOCG

Se dubbi su vitalità



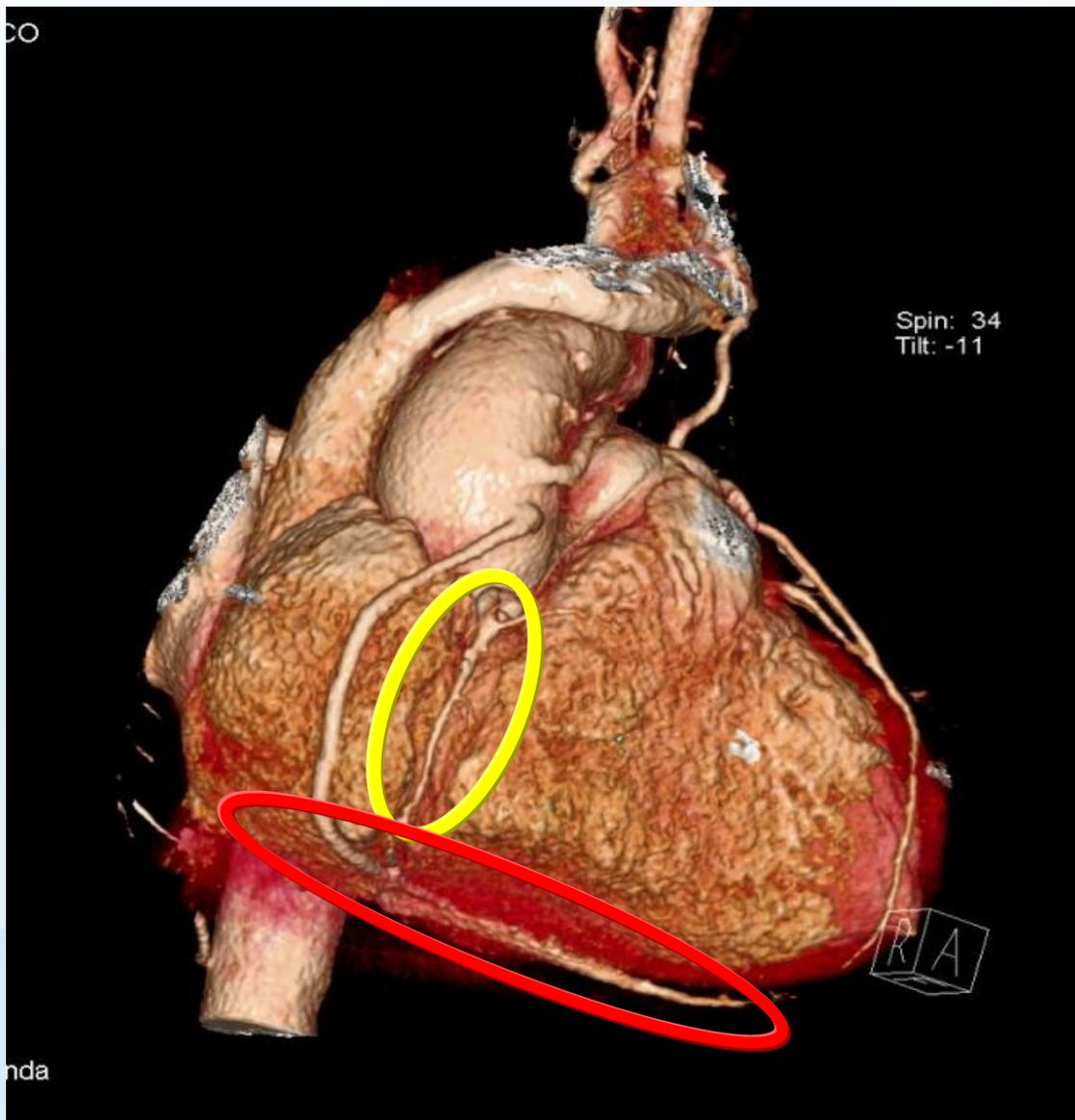
Eco Stress

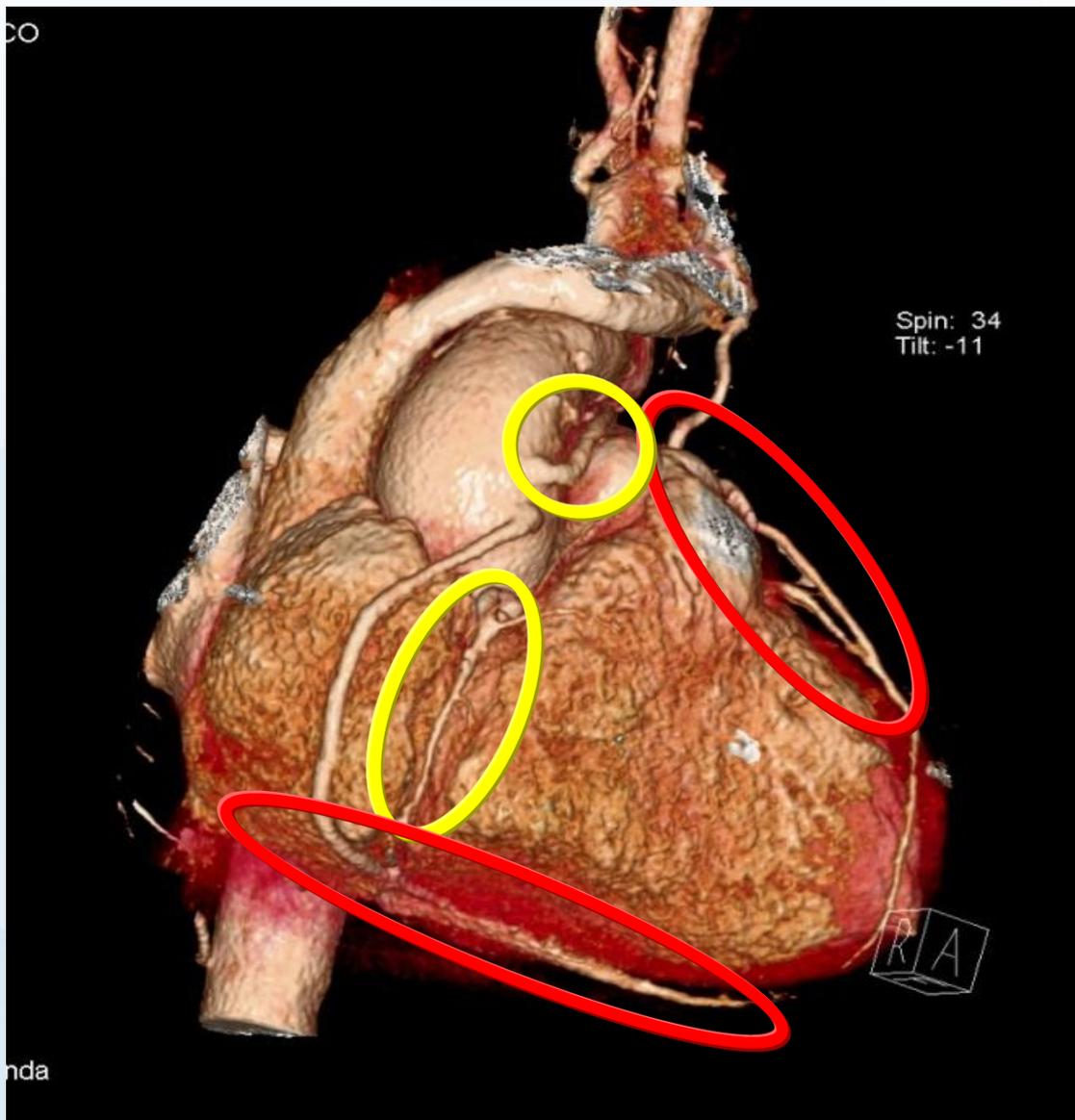
Se intervento

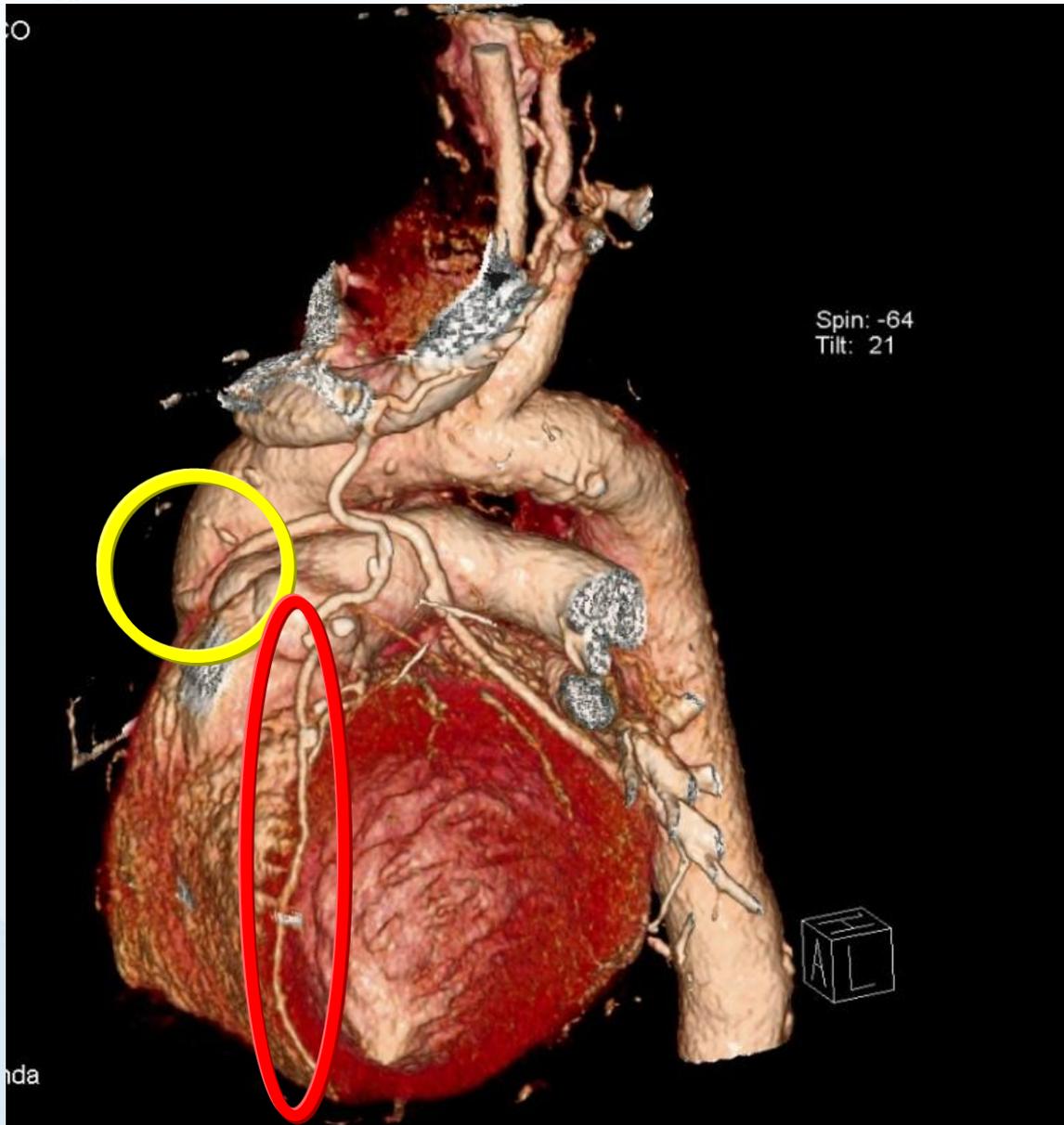


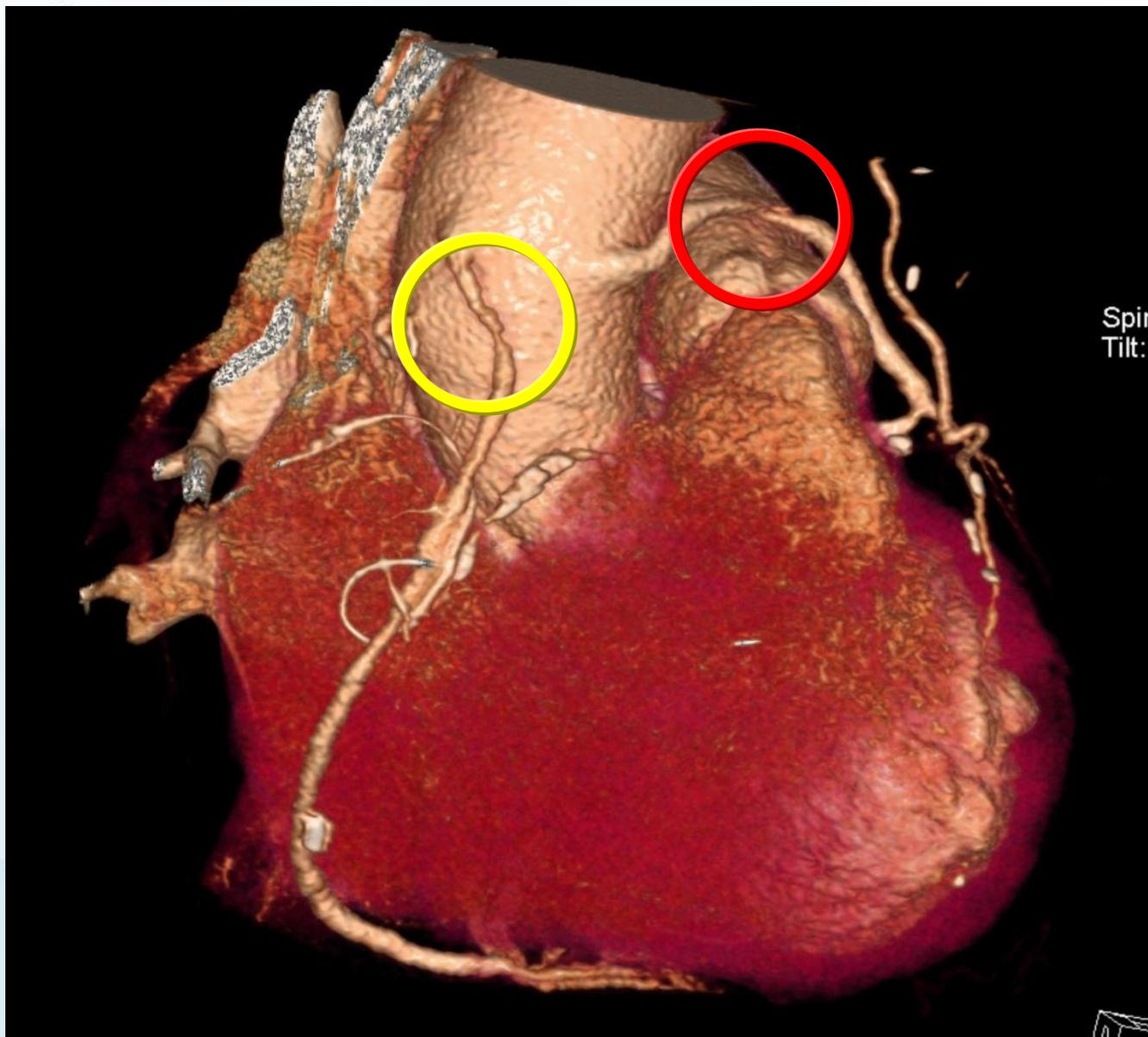
**TAC Torace: IABP
A/R
TOTAL BODY !**

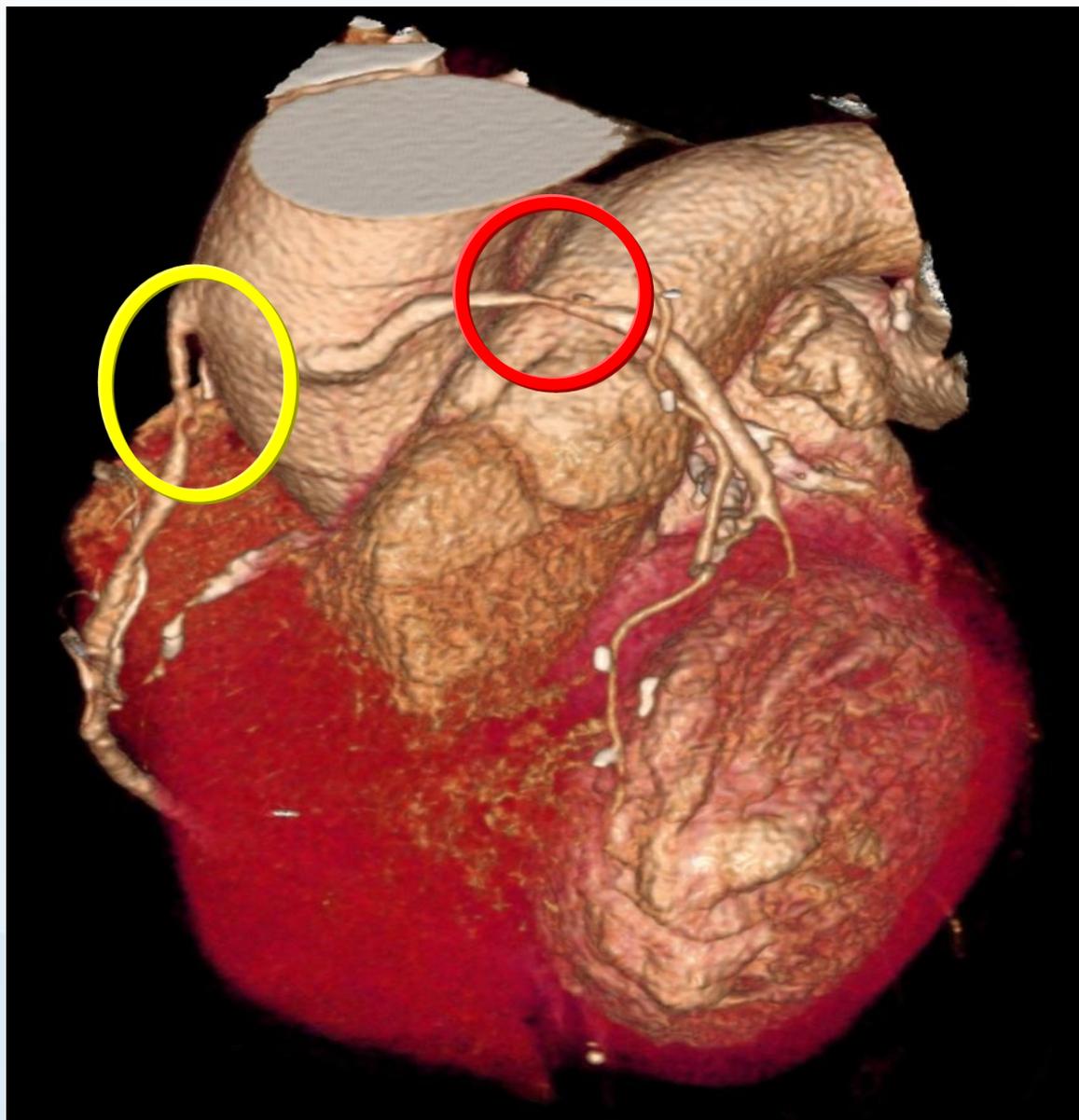
Grazie Dr.ssa Diana Artioli













Coronarografia ed ECOCG

Se dubbi su vitalità

Se no dubbi su vitalità



Eco Stress

Se intervento



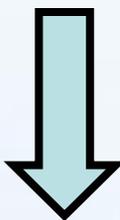
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Coronarografia ed ECOCG

Se dubbi su vitalità

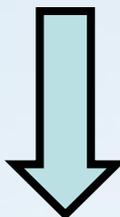
Se no dubbi su vitalità



Eco Stress

Se intervento

Se intervento



**TAC Torace: IABP
A/R
TOTAL BODY !**



Conclusioni

Coronarografia ed ECOCG

Se dubbi su vitalità

Se no dubbi su vitalità

Eco Stress

Se intervento

Se intervento

**TAC Torace: IABP
A/R
TOTAL BODY !**



GRAZIE

Titolo: L'imaging in vista di reintervento sulle coronarie: un valido aiuto per il CCH

Autore: Stefano Pelenghi

Data: Milano 15-17 ottobre 2012

Evento: Ecocch 2012



FONDAZIONE CENTRO CARDIOLOGIA
E CARDIOCHIRURGIA A. DE GASPERIS

Niguarda Ca' Granda



Dipartimento Cardiologico A. De Gasperis
Azienda Ospedaliera Niguarda Ca' Granda

FONDAZIONE

DIPARTIMENTO CARDIOLOGICO

AREA MEDICI

AREA PAZIENTI

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