

DIAGNOSTICA PRE INTERVENTO: TC CARDIACA



*A cura di
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TC TORACO-ADDOMINALE CON MDC

TORACE

- ECG gated
- Ca score
- mdc

Dimensioni anello aortico
Calcificazioni della valvola aortica
Coronaropatia
Altezza coronarie
Area planimetrica valvola

ADDOME

- Non ECG gated
- mdc
- venoso

Dimensioni aorta e vasi iliacofemorali
Calcificazioni e placche dei vasi
Tortuosità

Hypersensitivity Reactions to Iodinated Contrast Media: A Multicenter Study of 196 081 Patients

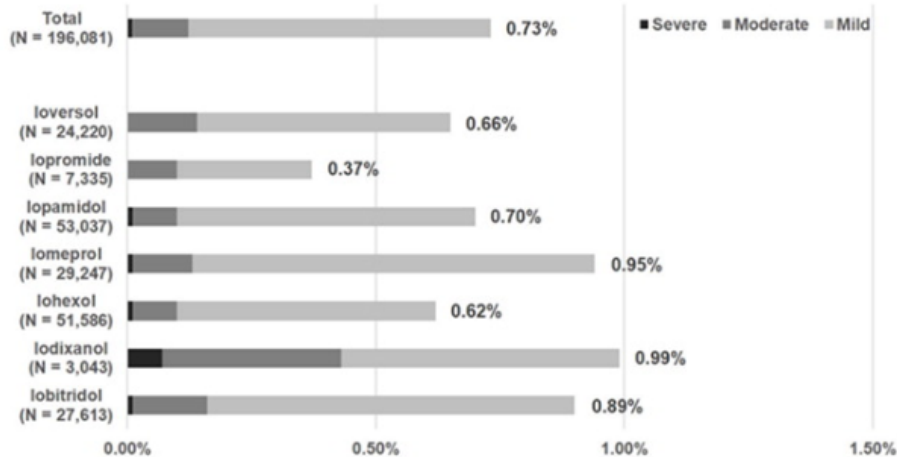


Diagram shows the prevalence and severity of hypersensitivity reaction according to the generic of iodinated contrast media.

- The overall prevalence of hypersensitivity reactions (HSRs) to iodinated contrast media (ICM) was 0.73% and severe reactions occurred in 0.01%.
- A history of an ICM-related HSR ($P < .001$), hyperthyroidism ($P = .04$), drug allergy ($P < .001$), and other allergic diseases ($P < .001$) and a family history of ICM-related HSRs ($P = .01$) were predictors of HSRs.
- Premedication with antihistamine ($P = .001$) and a change in the ICM ($P < .001$) showed preventive effects against recurrent HSRs.

Cha M et al. Published Online: September 3, 2019
<https://doi.org/10.1148/radiol.2019190485>

Radiology

12- or 13-hour oral premedication maybe considered in the following settings:

1. Outpatient with a prior allergic-like or unknown-type contrast reaction to the same class of contrast medium (e.g., iodinated – iodinated).
2. Emergency department patient or inpatient with a prior allergic-like or unknown-type contrast reaction to the same class of contrast medium (e.g., iodinated – iodinated) in whom the use of premedication is not anticipated to adversely delay care decisions or treatment.

Accelerated IV premedication may be considered in the following settings:

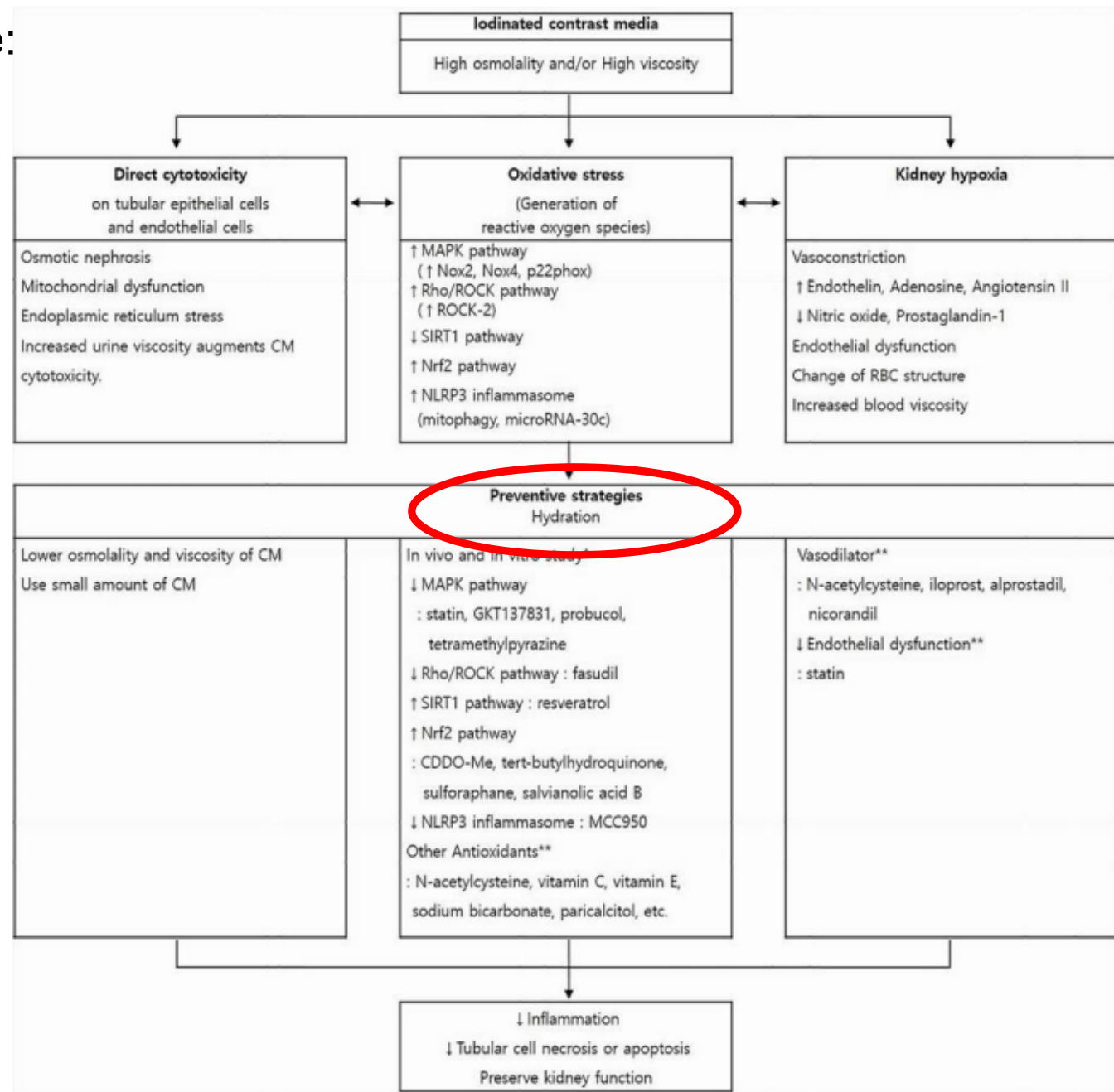
1. Outpatient with a prior allergic-like or unknown-type contrast reaction to the same class of contrast medium (e.g., iodinated – iodinated) who has arrived for a contrast-enhanced examination but has not been premedicated and whose examination cannot be easily rescheduled.
2. Emergency department patient or inpatient with a prior allergic-like or unknown-type contrast reaction to the same class of contrast medium (e.g., iodinated – iodinated) in whom the use of 12- or 13-hour premedication is anticipated to adversely delay care decisions or treatment.

Fattori di rischio:

Patient-Related	Impaired renal function
	Diabetes mellitus
	Effective intravascular volume depletion: dehydration, blood loss, congestive heart failure, liver cirrhosis, nephrosis
	Advanced age
	Female gender
	Cardiovascular disease including hypertension
	Malignancy
	Inflammation
	Anemia
	Hyperuricemia
	Nephrotoxic medications: diuretics, nonsteroidal antiinflammatory drugs, aminoglycosides, amphotericin B, antiviral drugs such as acyclovir, cyclosporine A, cisplatin

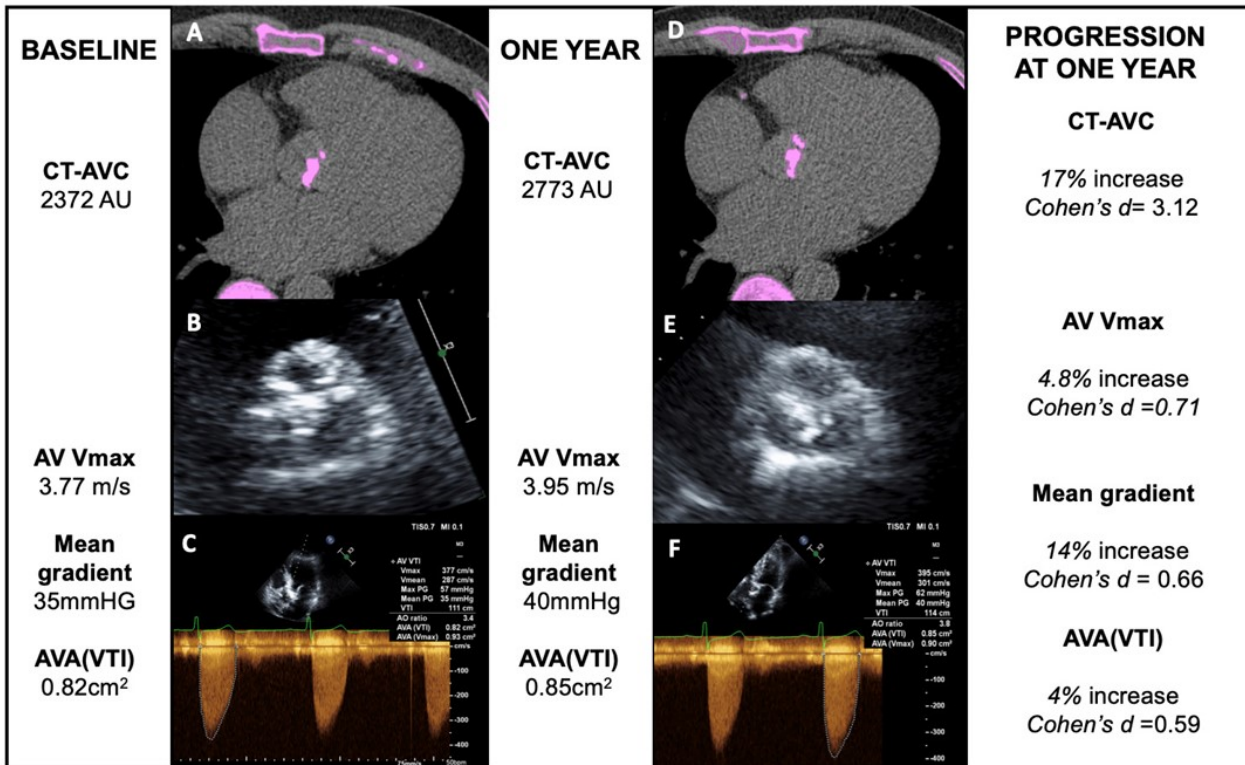
Procedure-Related	Route of CM administration: intra-arterial vs. intravenous administration
	Type of procedure: catheter-based procedure
	Type of CM
	Volume of CM
	Repeated CM administration within 24–72 h

Strategie di prevenzione:



Ca SCORE

Una sequenza di alterazioni patologiche che coinvolgono l'infiltrazione lipidica della valvola, l'infiammazione, la fibrosi e la mineralizzazione, porta alla calcificazioni delle cuspidi e alla stenosi aortica.



Il metodo del punteggio di Agatston comunemente usato definisce la calcificazione come l'area a densità è maggiore di 130 unità Hounsfield (HU)

Alta riproducibilità

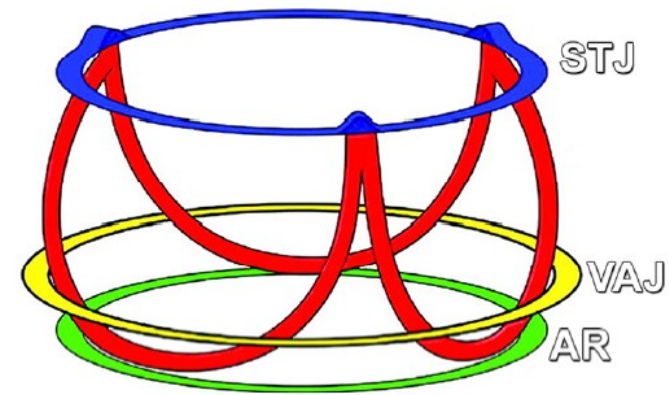
Correlato alla severità

Correlato alla prognosi

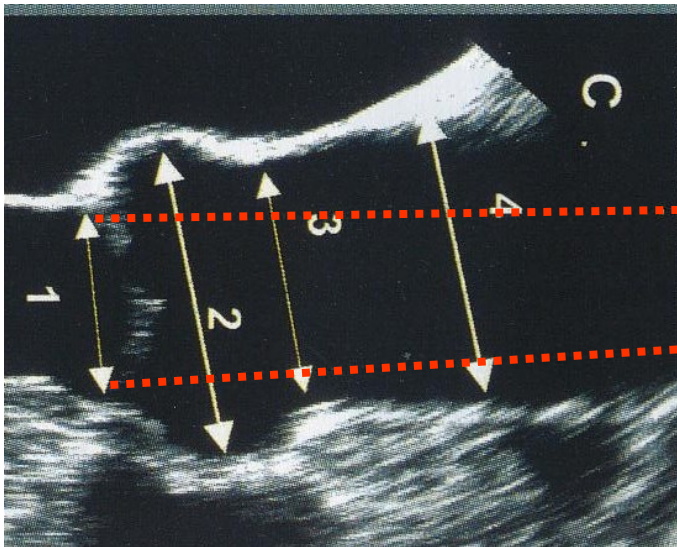
Doris MK, Jenkins W, Robson P, et al. Heart 2020;106:1906–1913

Anulus

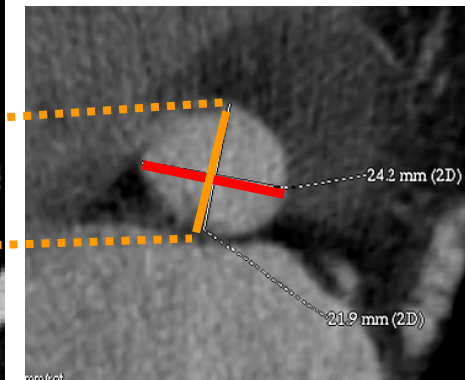
- Diametri
- Perimetro
- Distanza osti coronarici
- LVOT
- orientamento

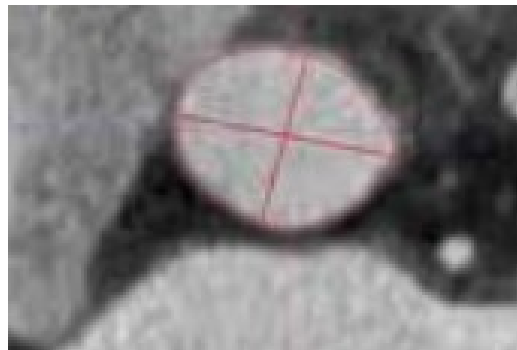
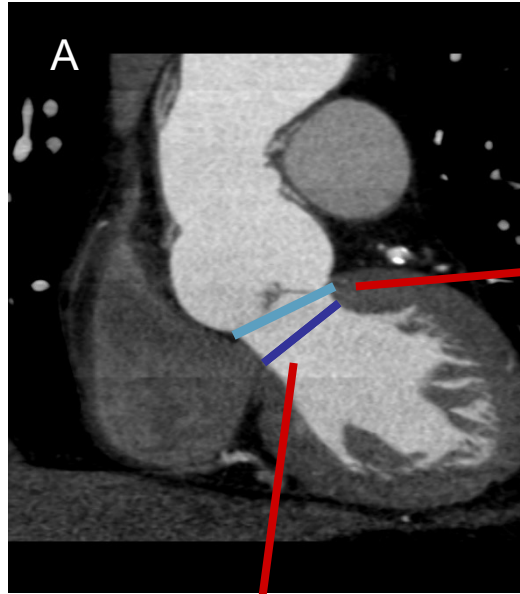
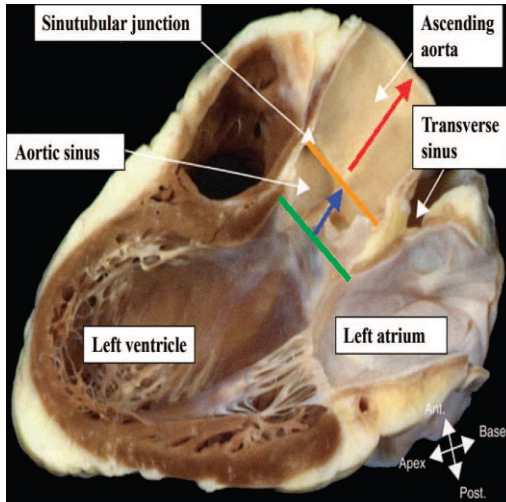


ATTE



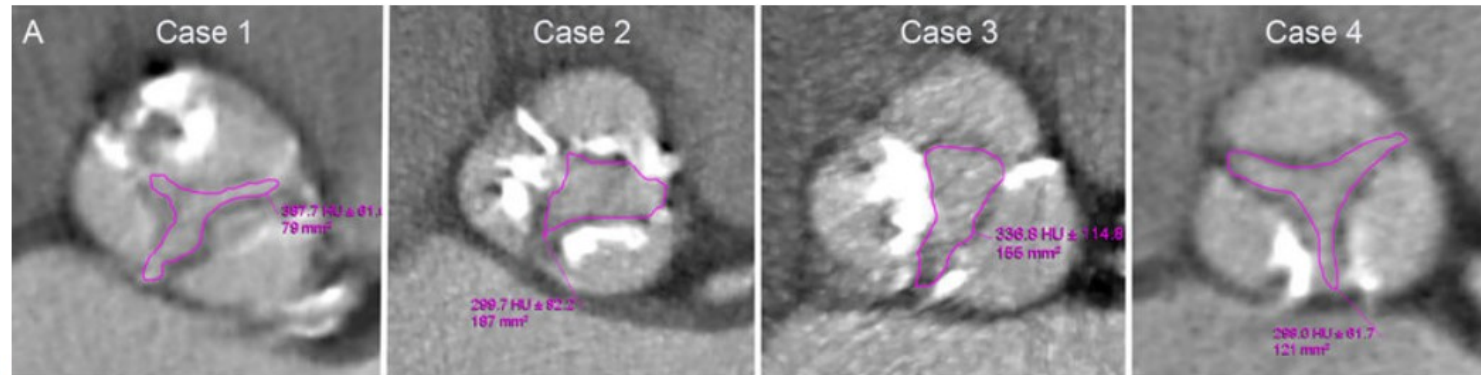
AMDCT





True Anulus
Elliptical Shape

Area valvolare



Non flusso dipendente
Alta risoluzione spaziale
Alta riproducibilità

Mittal TK, Reichmuth L, Bhattacharyya S, et al. Inconsistency in aortic stenosis severity between CT and echocardiography: prevalence and insights into mechanistic differences using computational fluid dynamics. *Open Heart* 2019;6:e001044. doi:10.1136/openhrt-2019-001044

Coronarie

Evaluabile coronary artery segments in CTA

<50% stenosis in CTA LCA RCA

≥50% stenosis in CTA LCA RCA

Non-evaluabile coronary artery segments in CTA

Calciumscore 0 LCA RCA

Calciumscore ≥400 LCA RCA

LCA RCA

No CAD

LCA RCA

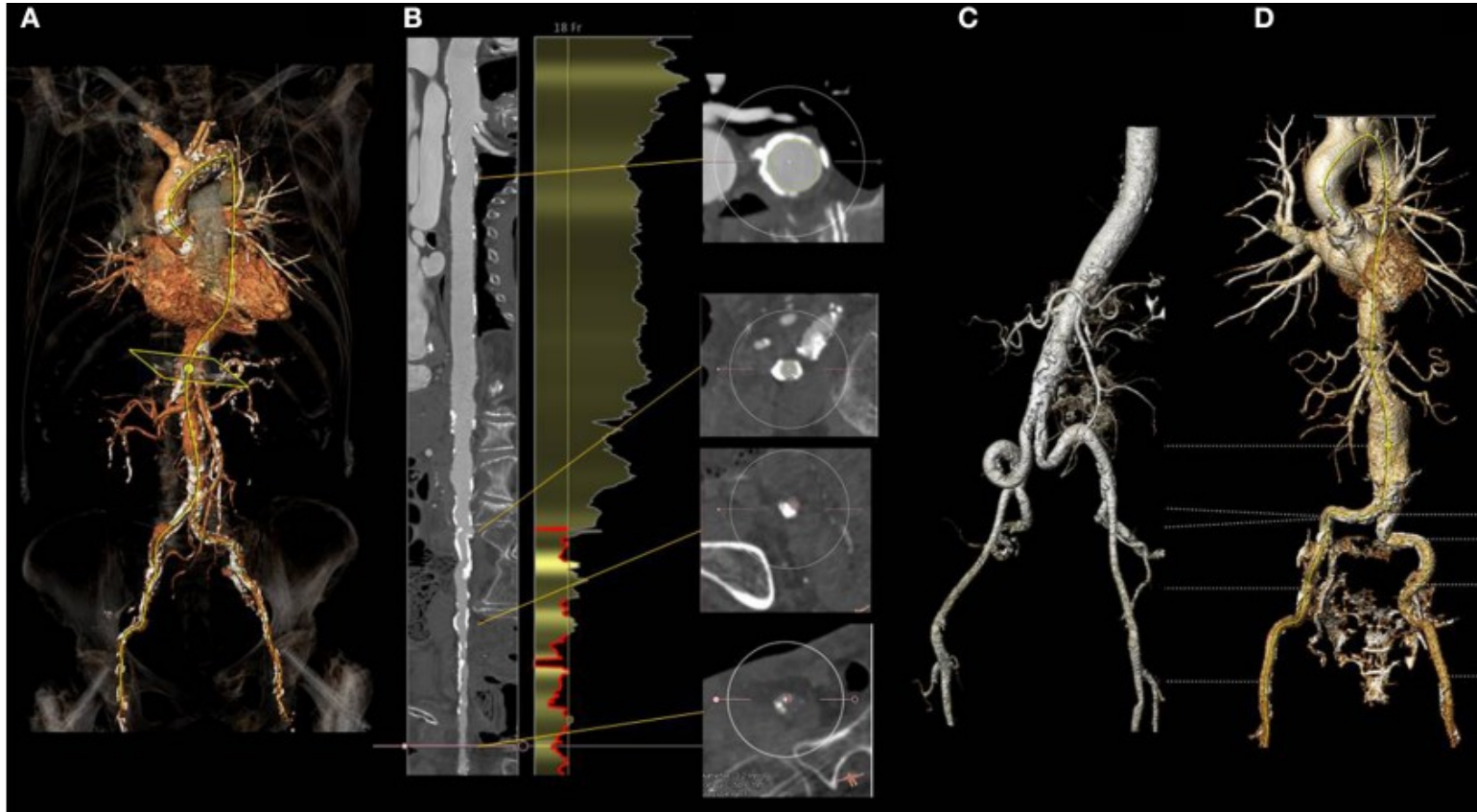
No CAD

LCA RCA

Obstructive CAD

Valutazione dei tratti prossimali dei principali vasi coronarici

Accessi



REPERTI COLLATERALI!!

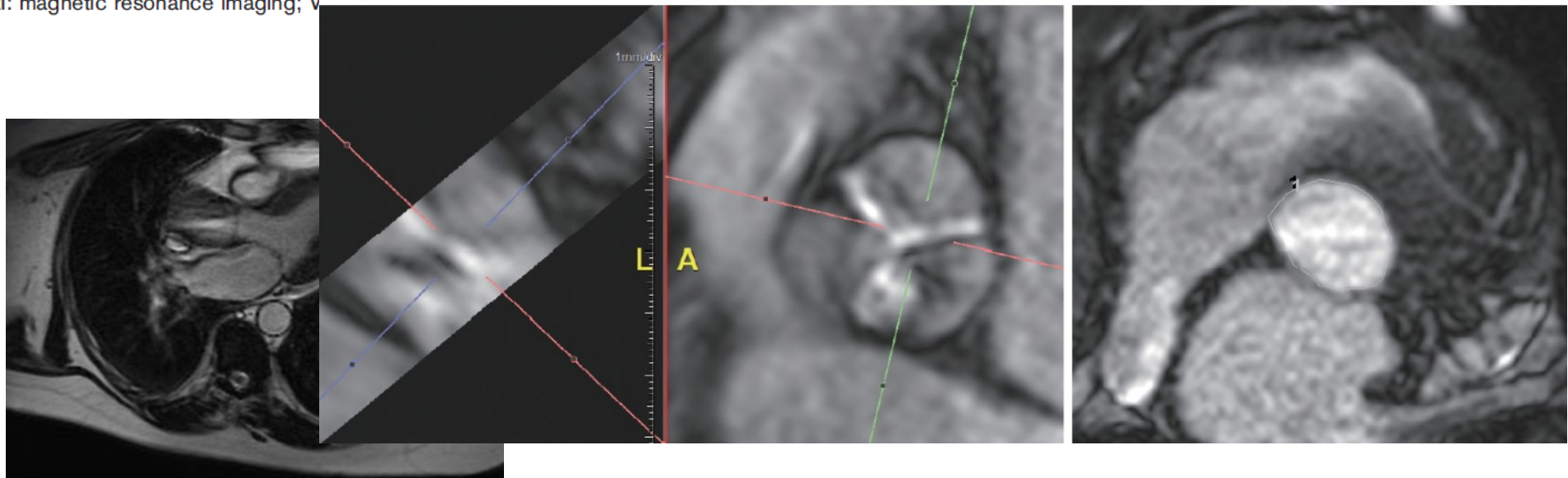
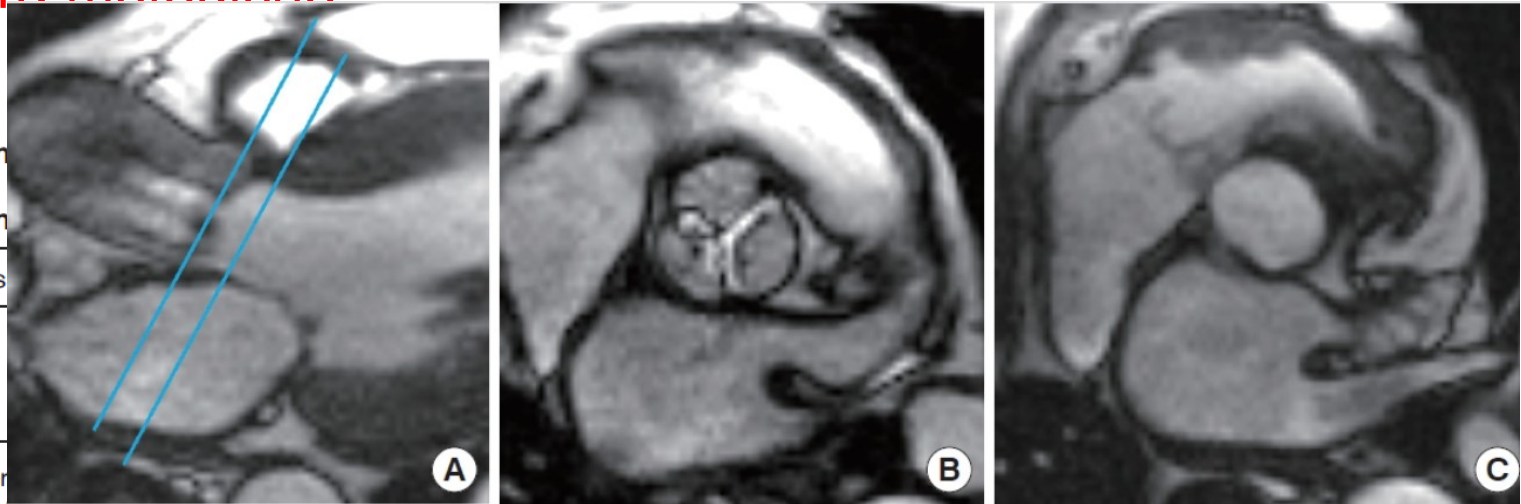
Diametri
Calcificazioni
Angoli
Accessi alternativi

Confronto tra metodiche

Table 1 Comparison between imaging about the evaluation prevalve-in-valve implantation

	Annulus s
CT	+++
3D TEE	++
MRI	+++

-, not diagnostic; +, not really proper
MRI: magnetic resonance imaging; V



CARATTERIZZAZIONE TISSUTALE

AMILOIDOSI

Mortalità a 1 anno: 20 → 56%

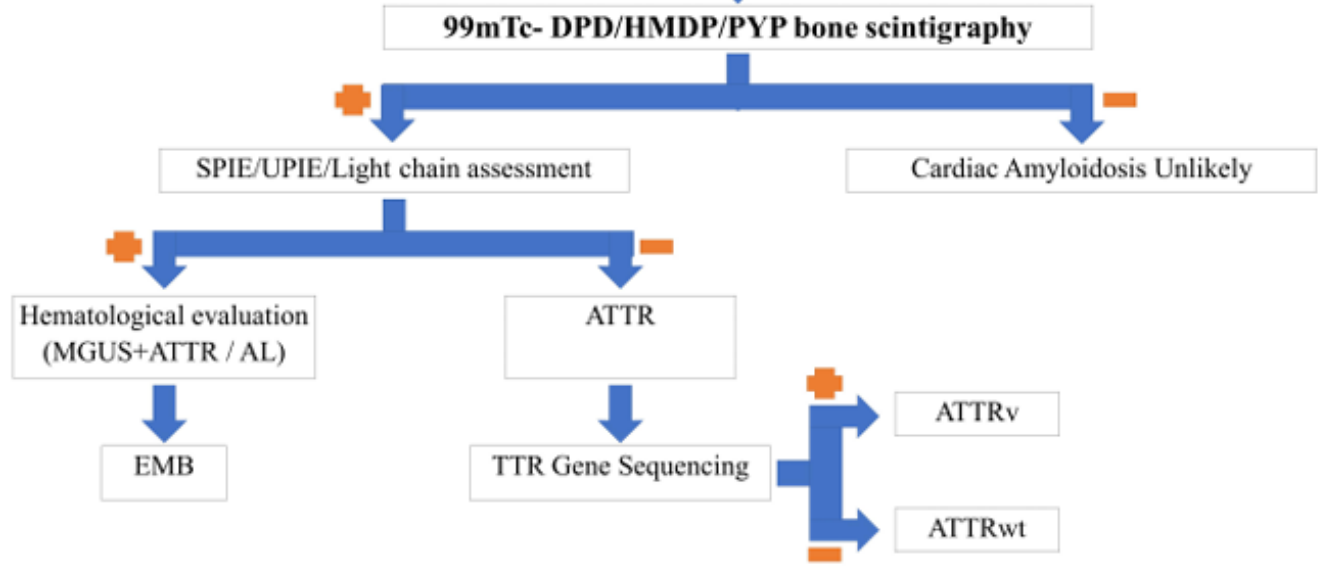
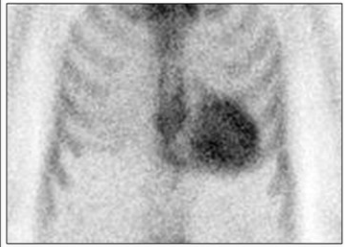
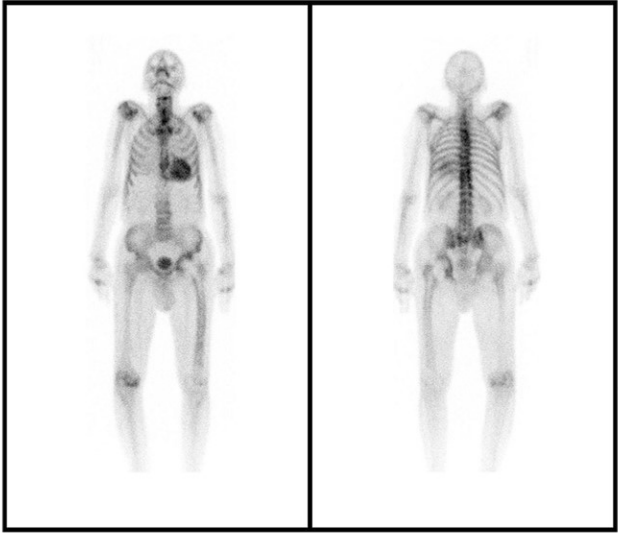
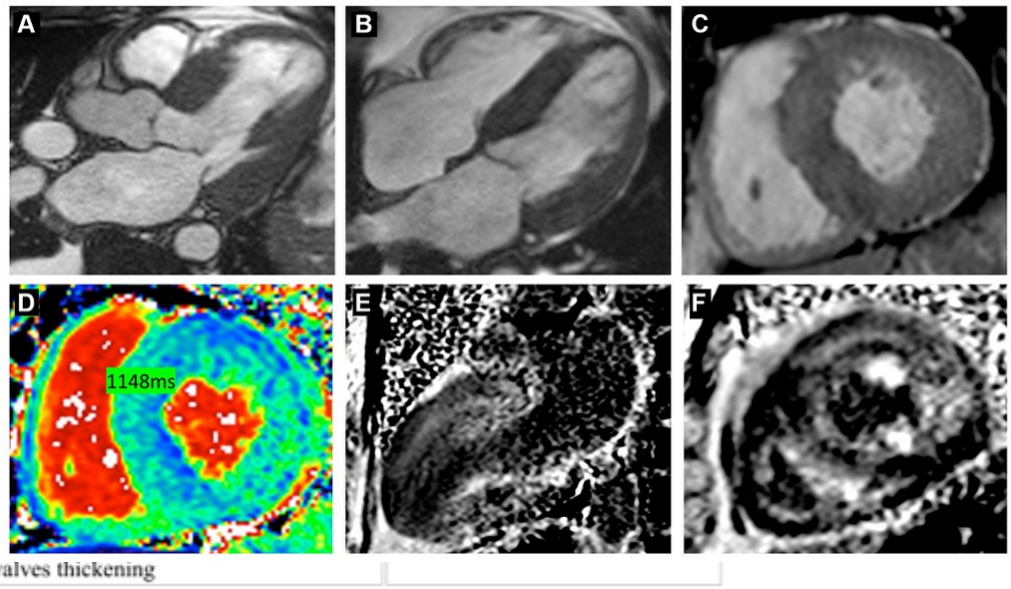
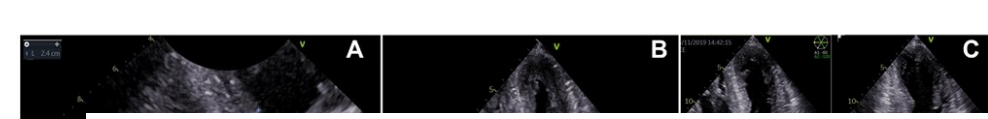
- Caratteristiche:
- FE depressa (<50%),
 - severa ipertrofia parietale con ipocinesia diffusa
 - GLS severamente ridotto (-10%) ma apical sparing
 - disfunzione diastolica con pattern restrittivo
 - stroke volume index <30 ml/m²
 - Quadro di low-flow low-gradient

CHAD-STOP: Conduction and rhythm disorders prevention, High heart rate maintenance, Anticoagulation, Diuretic agents, and STOP β -receptor and calcium-channel blockers, digoxin, RAA inhibitors

Terapia specifica

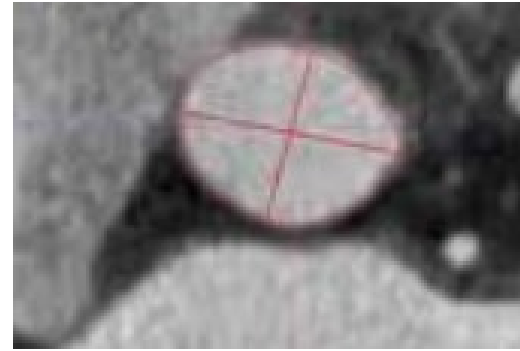
AL: chemioterapia

TTR (wild type o ereditario): Tafamidis

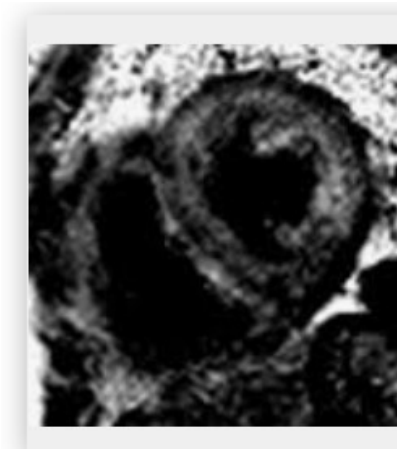


MULTIMODALITY IMAGING

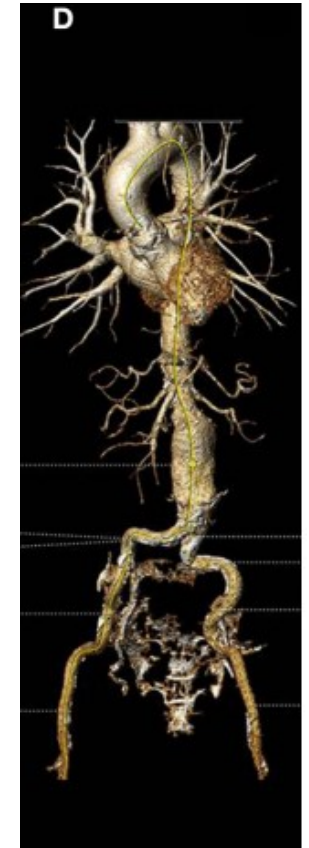
CORRETTO SIZING



PIANIFICAZIONE
PROCEDURA



CARATTERIZZAZIONE
TISSUTALE



Cardiologia Gavazzeni
Cardiologia Clinica
Emodinamica
Cardiologia Intensiva
Ecocardiografia
Imaging Cardiovascolare



Grazie!