

ECOCARDIOGRAFIA 2015

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**Il dolore
toracico: eco
“fast” o “slow”?**

Dr.ssa I. Nicastro

Dolore toracico: definizione

Per dolore toracico si intende una sindrome, caratterizzata da sensazioni dolorose e/o di fastidio a carico del torace, comprese tra la linea della bocca e quella ombelicale, spesso clinicamente drammatica ma del tutto soggettiva e poco espressiva a livello diagnostico differenziale.

Dolore toracico: "entità" del problema



5,7% del totale degli accessi al PS

Dolore toracico: caratteristiche

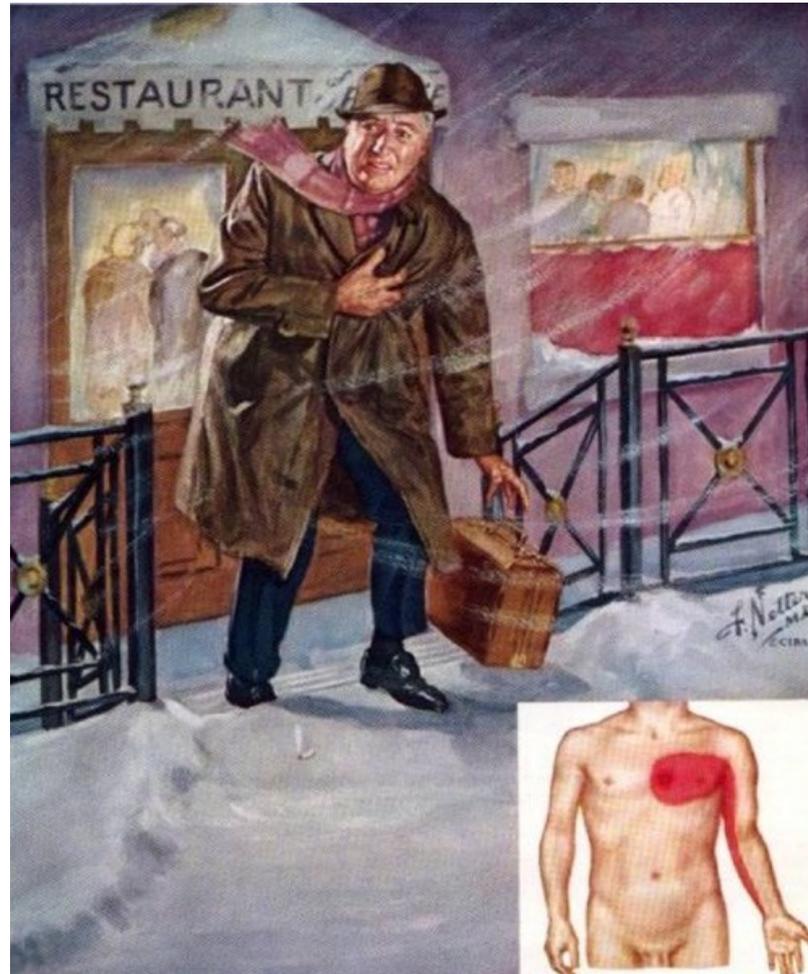
Dolore

Oppressione

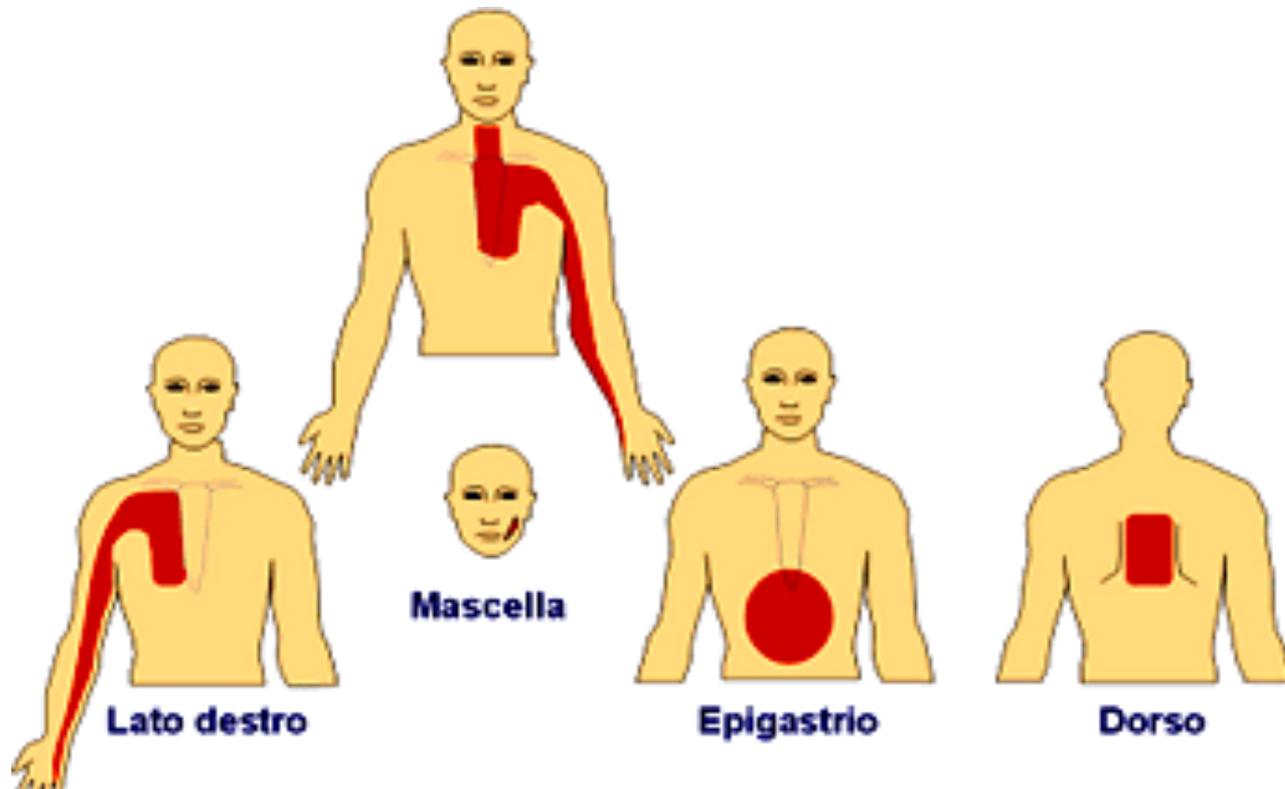
Costrizione

Tensione

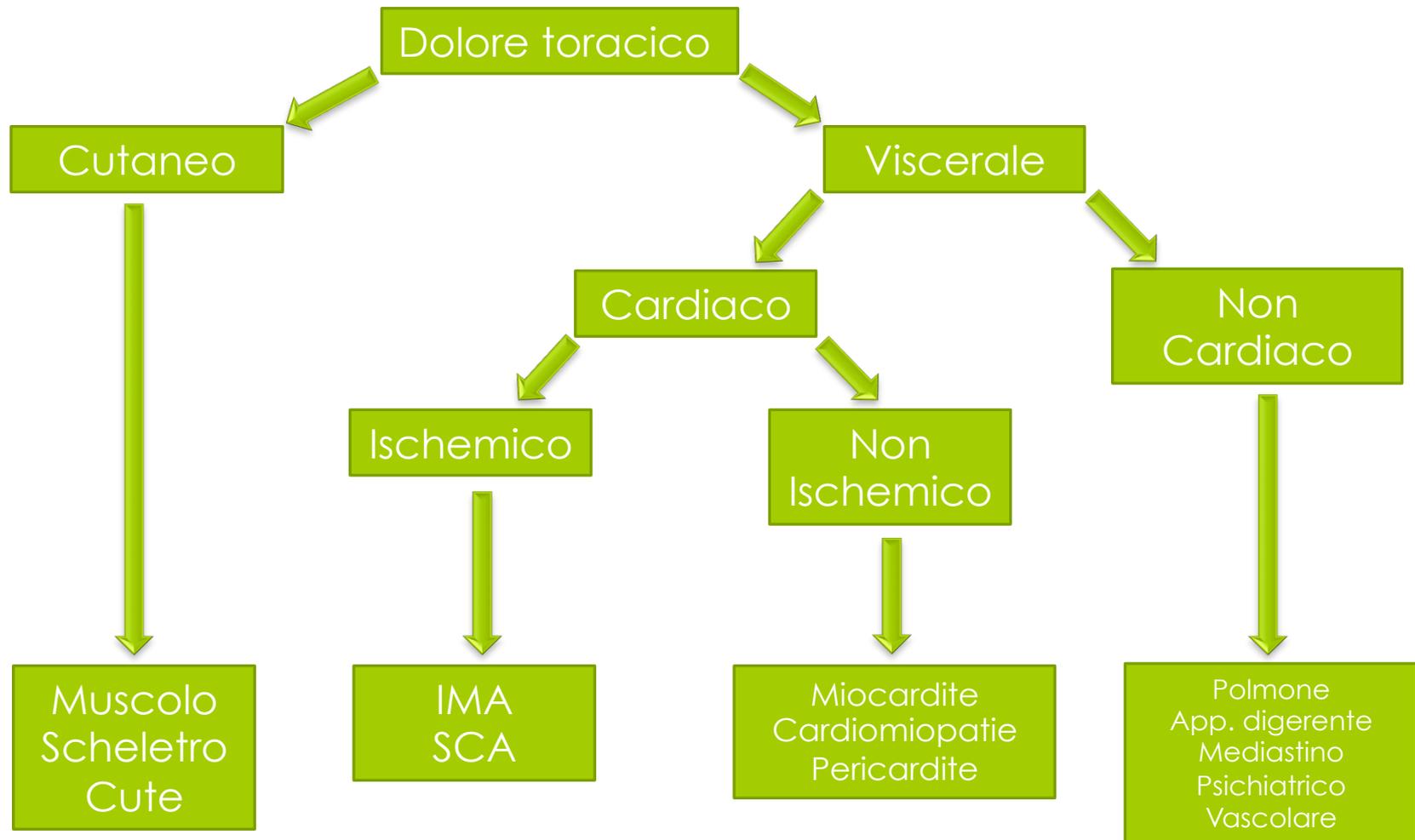
Pesantezza



Dolore toracico: sede



Dolore toracico: cause



Dolore toracico

Fattori di rischio
cardiovascolare

Durata
Insorgenza
remissione

entità e carattere

Sintomi
d'accompagnamento

Variazione con
atti respiratori
e postura

Risposta
a farmaci

Dolore toracico

ECG

Sopraslivellamento del tratto ST
Sottoslivellamento del tratto ST
Negativizzazione dell'onda T
BBS di nuova insorgenza

Sensibilità < 50%

2%-4% dei pz con IMA hanno un ECG normale o non diagnostico

Markers di necrosi miocardica

Troponina T I
Creatin chinasi
Mioglobina

Linee guida

Task Force sulla gestione del dolore toracico

L. Erhardt (Presidente), J. Herlitz (Segretario), L. Bossaert, M. Halinen, M. Keltai, R. Koster, C. Marcassa, T. Quinn, H. van Weert

Dolore toracico

Anamnesi

Esame obiettivo

ECG

Enzimi

ECOCARDIOGRAFIA

Dolore toracico

Non invasiva

No radiazioni ionizzanti

Eseguibile al letto del malato

Basso costo

Ripetibile

Cattiva finestra acustica

Operatore dipendente

Dolore toracico

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The use of echocardiography in acute cardiovascular care: Recommendations of the European Association of Cardiovascular Imaging and the Acute Cardiovascular Care Association

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Recommendations for echocardiography in patients with acute chest pain

Recommended:

- (1) Evaluation of acute chest pain in patients with suspected myocardial ischaemia, non-diagnostic ECG and cardiac necrosis biomarkers, and when resting echocardiogram can be performed during the pain;
- (2) Evaluation of acute chest pain in patients with underlying cardiac disease (valvular, pericardial or primary myocardial disease);
- (3) Evaluation of patients with chest pain and haemodynamic instability unresponsive to simple therapeutic measures;
- (4) Evaluation of chest pain in patients with suspected acute aortic syndromes, myocarditis, pericarditis or pulmonary embolism.

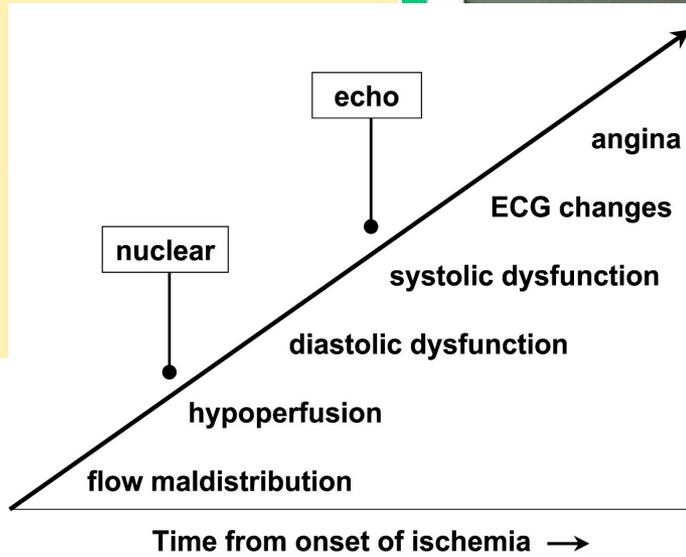
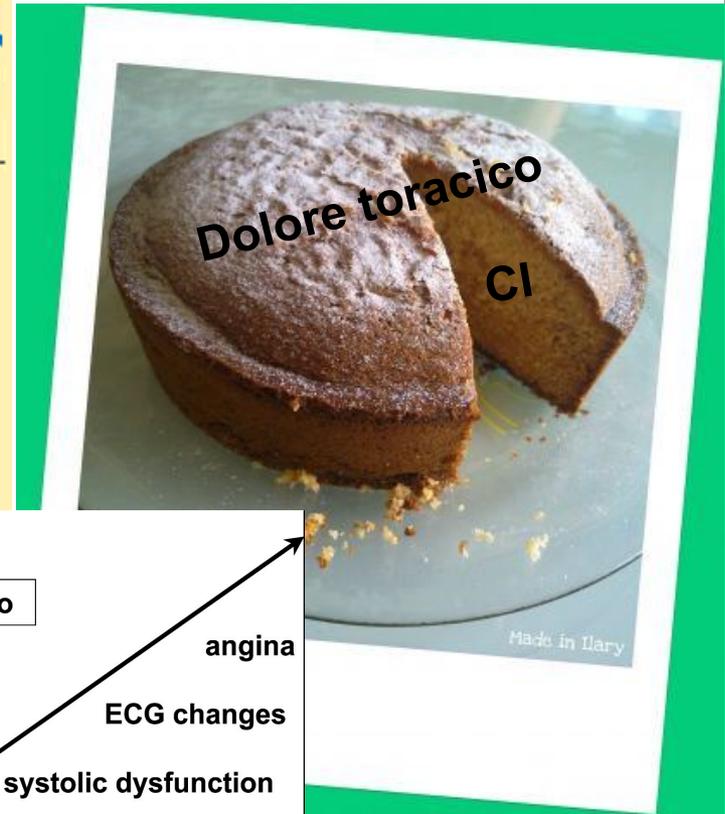
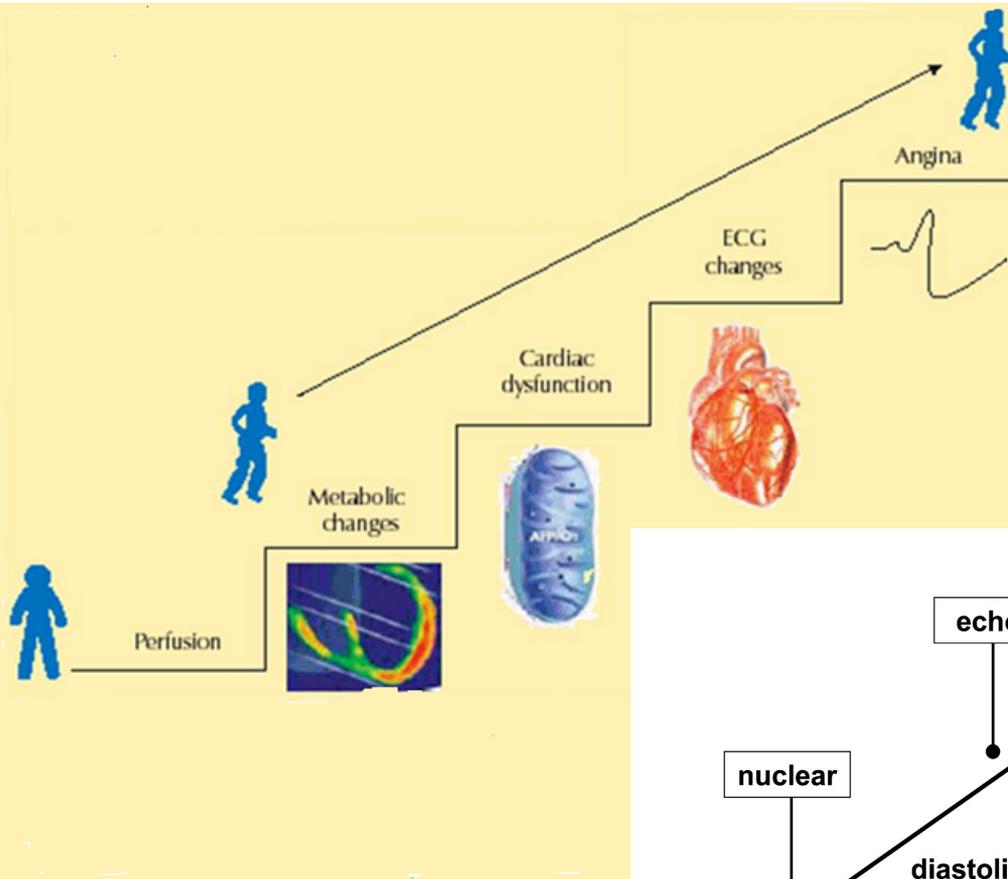
Not recommended:

- (1) Evaluation of chest pain in patients for which a non-cardiac aetiology is apparent;
- (2) Evaluation of ongoing chest pain in patients with a confirmed diagnosis of myocardial ischaemia/infarction.

Note: TOE may be indicated when TTE studies are non-diagnostic.

Here, echocardiography is a valuable bedside technique in the triage of patients with acute chest pain. Echocardiography can be very useful to identify acute myocardial ischaemia and other major causes of chest pain such as acute aortic dissection, pericardial effusion and pulmonary embolism and for evaluation of chest pain in patients with unresponsive/persistent haemodynamic instability despite intervention. Further, myocardial ischaemia is frequently

Dolore toracico: cardiopatia ischemica



Dolore toracico

Cardiopatía ischemica: ecocardio

- Alterazioni della funzione diastolica
- Ridotto o assente ispessimento sistolico
- Alterazioni del movimento parietale
- Aumento del volume telesistolico
- Riduzione della frazione di eiezione
- Diagnosi complicanze

ACCURATEZZA:

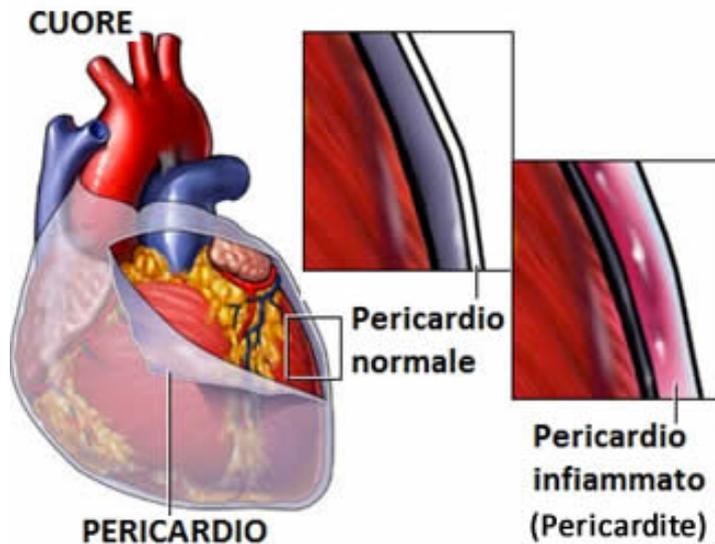
SENSIBILITA':

SPECIFICITA':



- (1) Evaluation of acute chest pain in patients with suspected myocardial ischaemia, non-diagnostic ECG and cardiac necrosis biomarkers, and when resting echocardiogram can be performed during the pain;

Dolore toracico: pericardite



Eziologia:

Infettiva

(micotica, virale, tubercolare, da piogeni...)

Non infettiva

(uremia, sarcoidosi, neoplasie...)

Sintomatologia:

Dolore

Dispnea

Febbre

La pericardite è un processo infiammatorio del pericardio con presenza nel sacco pericardico di liquido in quantità variabile.

Dolore toracico

Pericardite: ecocardio

Recommendations for echocardiography in patients with suspected pericardial disease

Recommended:

- (1) Patients with suspected pericardial disease, including effusion, constriction or effusiveconstrictive process;
- (2) Pericardial friction rubs developing in acute myocardial infarction accompanied by symptoms such as persistent pain, hypotension, and nausea;
- (3) Patients with suspected bleeding in the pericardial space (i.e. trauma, perforation);
- (4) Guidance and follow-up of pericardiocentesis.

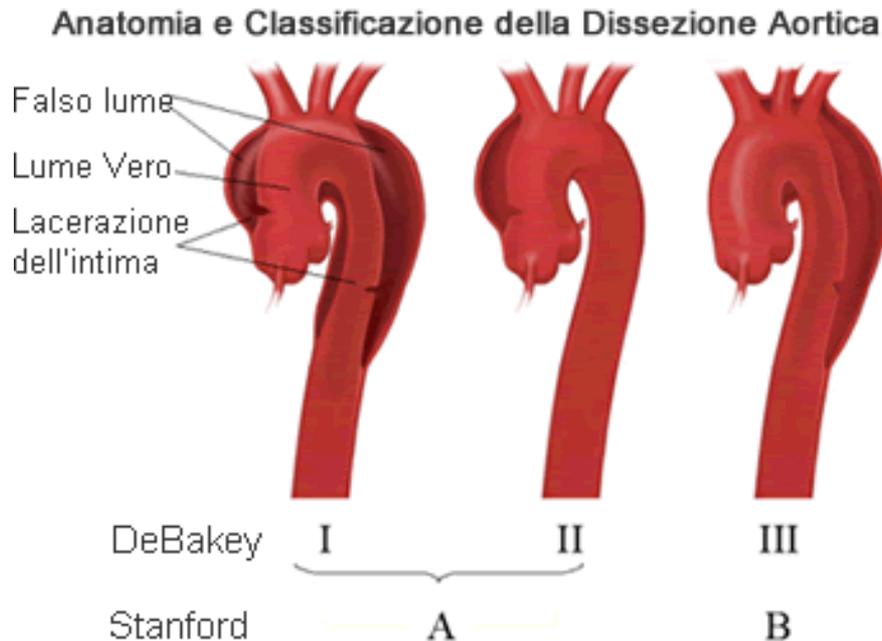
Inspessimento

Iperreflettenza

Versamento pericardico

Tamponamento cardiaco

Dolore toracico: dissezione aortica



Eziologia:

Iperensione
Traumi
Anomalie congenite
Stenosi aortica

Sintomatologia:

Dolore
Sincope/ipotensione

Lacerazione dell'intima della parete aortica che determina l'ingresso di una colonna di sangue causando una scissione longitudinale della tonaca media.

Dolore toracico

Dissezione aortica: ecocordio

Flap intimale

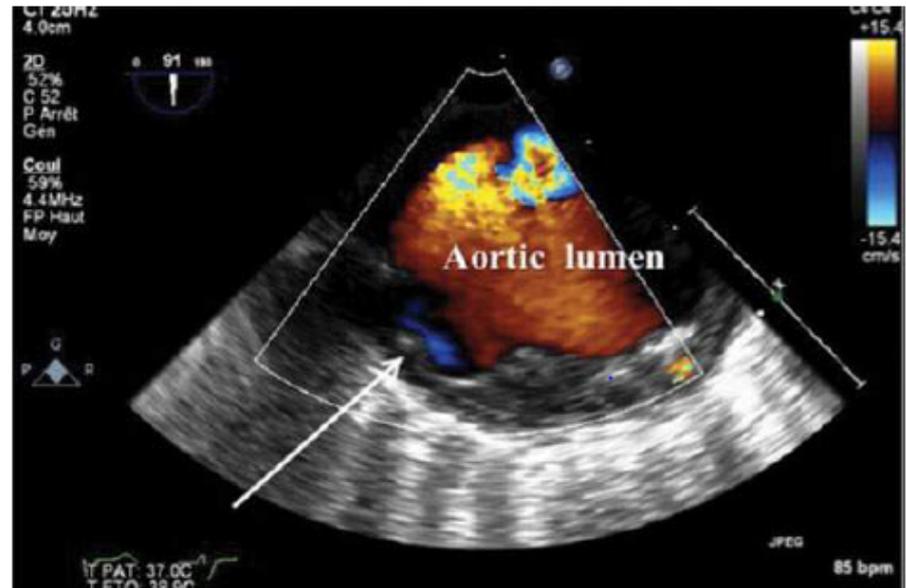
«vero» / «falso» lume

Insufficienza aortica

Anomalie di cinesi

Versamento pericardico

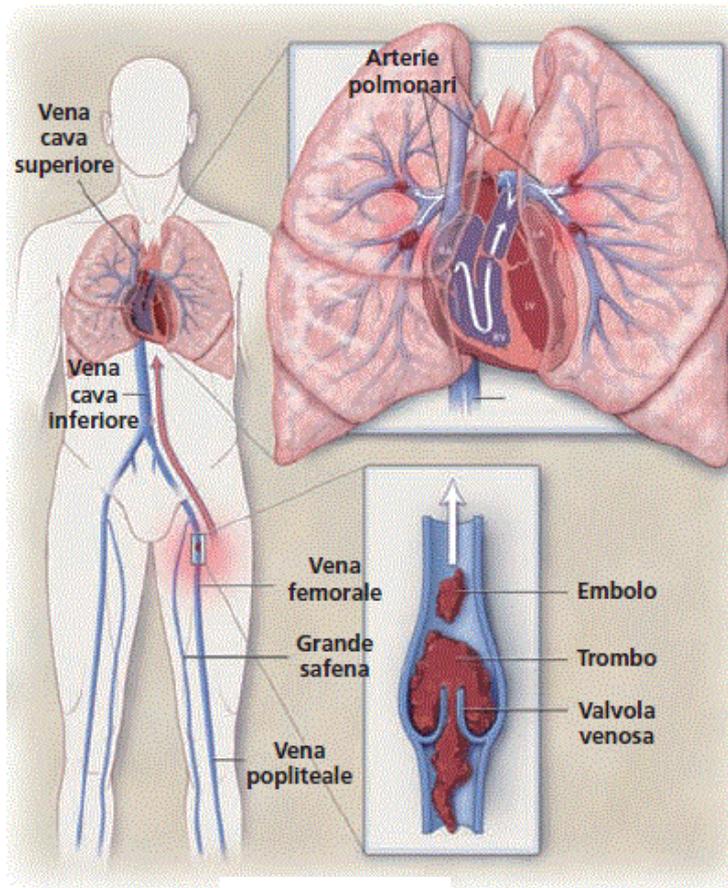
Tamponamento



Visualization of an intimal flap within the aorta separating the true and false lumens is considered diagnostic.

A normal TTE examination cannot exclude aortic dissection; however, TTE can potentially demonstrate the intimal flap in the aortic root and arch and identify complications (acute aortic regurgitation, pericardial effusion or regional wall motion abnormalities suggestive of involvement of a coronary artery). Reverberation artefacts

Dolore toracico: embolia polmonare



Eziologia:

Trombosi venosa profonda (95%)

Sintomatologia:

Dispnea

Dolore

Sincope/ipotensione

Tachipnea

Tachicardia

Shock

Ostruzione acuta, completa o parziale, di uno o più rami dell'arteria polmonare

Embolia polmonare: ecocordio

Trombo in PA/RV

Dilatazione RV

Ipocinesia RV

Rigurgito tricuspide

↑ PAPs

SENSIBILITA': 50-60%

SPECIFICITA': 80-90%

Recommendations for echocardiography in patients with suspected/confirmed pulmonary embolism

Recommended:

- (1) Suspected high risk of pulmonary embolism where shock or hypotension are present and CT is not immediately available (#);
- (2) For distinguishing cardiac vs. non-cardiac aetiology of dyspnoea in patients in whom all clinical and laboratory clues are ambiguous;
- (3) For guiding the therapeutic option in patients with pulmonary embolism at intermediate risk.

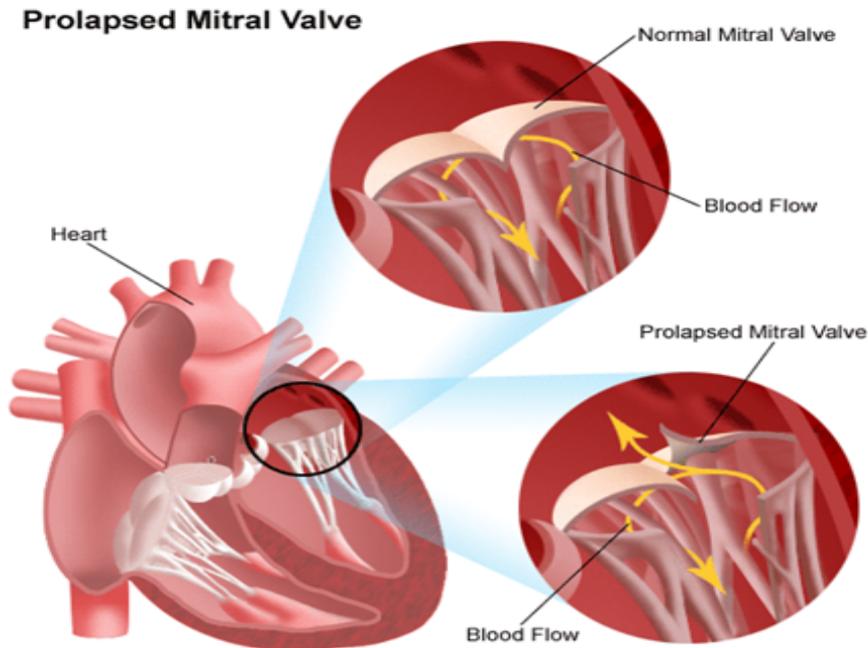
Reasonable:

- (1) Search for pulmonary emboli and suspected clots in the right atrium or ventricle or main pulmonary artery branches;
- (2) For risk-stratification in non-high risk pulmonary embolism.

Not recommended:

- (1) For elective diagnostic strategy in haemodynamically stable, normotensive patients with suspected pulmonary embolism.

Dolore toracico: prolasso mitralico



Prevalenza: 3-5%
popolazione

Forte componente
ereditaria
- trasmissione
autosomica dominante
con penetranza variabile

Sintomatologia:
Dolore
Palpitazioni

dislocamento sistolico superiore di uno o entrambi i lembi mitralici dovuto a degenerazione mixomatosa dei lembi valvolari mitralici.

Dolore toracico: prolasso mitralico



GOLD STANDARD



- Morfologia apparato valvolare
- Degenerazione mixomatosa dei lembi
- Sede del prolasso (LAM/LPM/scallop)
- Entità del prolasso
- IM associata (entità)

Dolore toracico

Eco fast o slow?

Transthoracic echocardiography (TTE) is generally the initial imaging modality in the assessment of acute cardiac conditions. It is widely available, most cardiologists are trained in TTE, and it is indicated in the majority of clinical scenarios associated with cardiac emergencies.¹ An optimal TTE study in the acute cardiac care setting may not be achievable, and echocardiography in this setting frequently requires non-standardized echocardiographic views. If the study is restricted to standard imaging planes only,² important findings, crucial for imaging and understanding altered pathology – and/or physiology – can be easily overlooked. Despite these challenges, echocardiographic examination in the acute cardiac care setting should be as comprehensive as possible, and undertaken with a fully equipped echocardiographic machine.^{2,3} This approach must be clearly distinguished from point-of-care-focussed cardiac ultrasound and/or examination with pocket-sized imaging devices.

Dolore toracico: take at home

diagnosi precoce



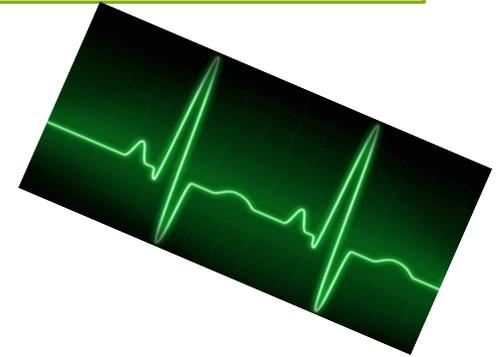
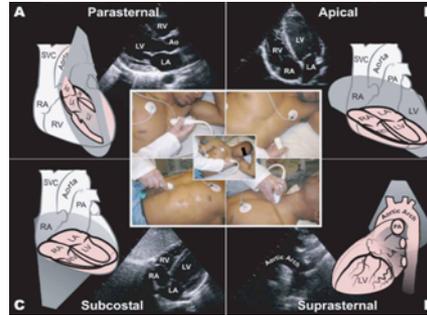
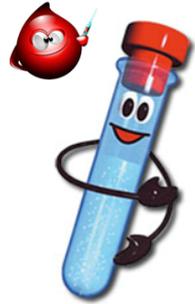
trattamento precoce



Successo terapeutico



Il dolore toracico: eco "fast" o "slow"?



**GRAZIE
PER L'ATTENZIONE....**



**Il tempo è vita.
E la vita risiede nel cuore.**

Michael Ende