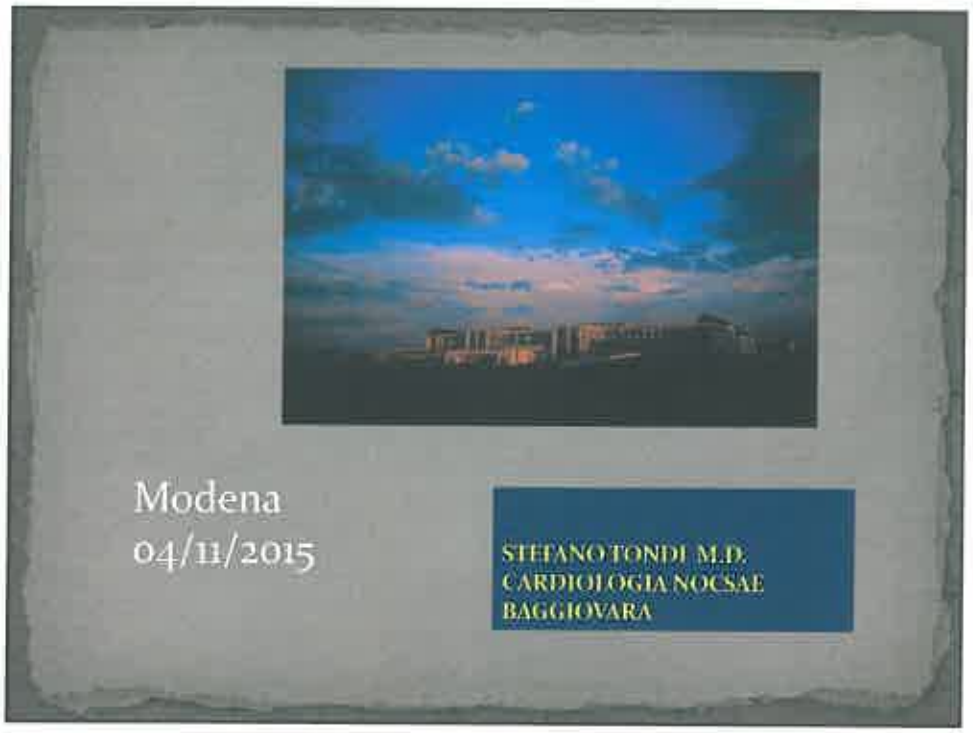
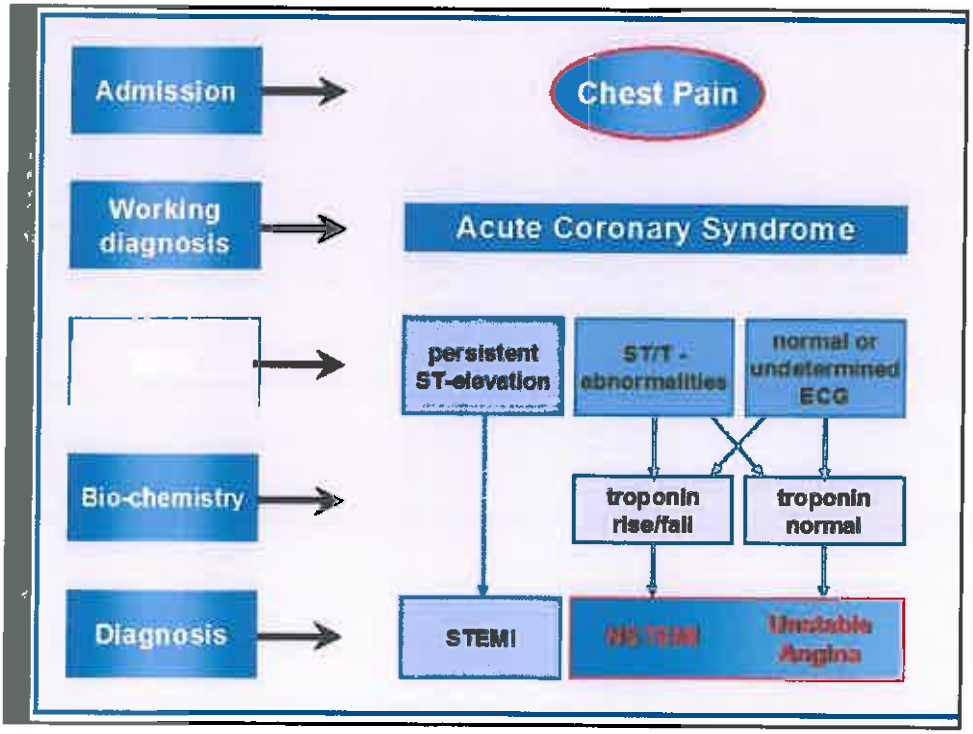
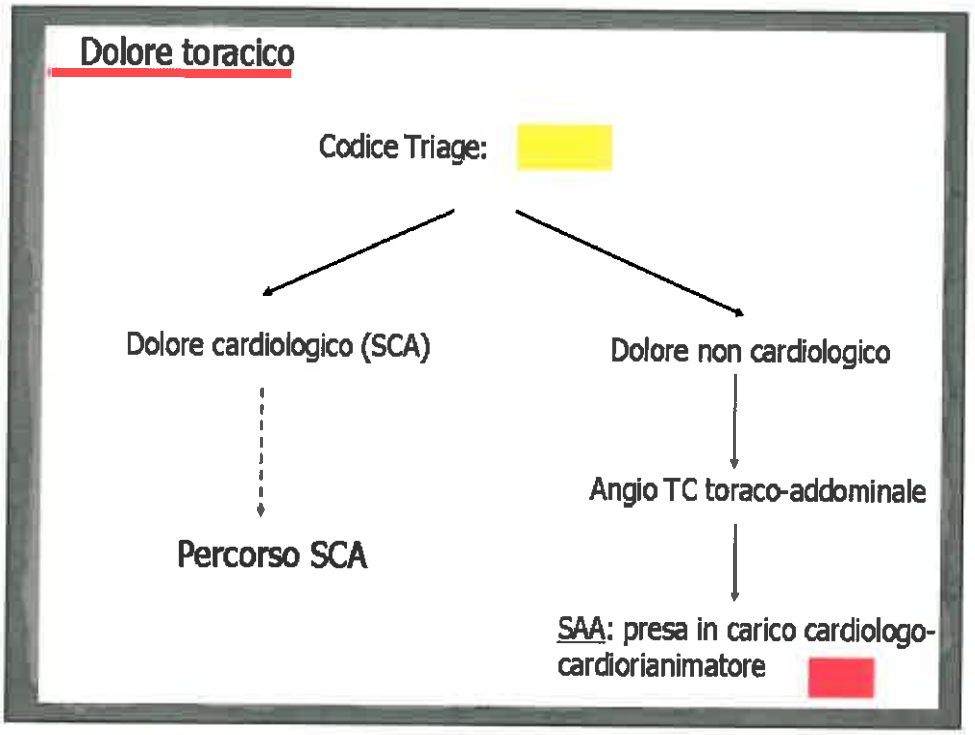
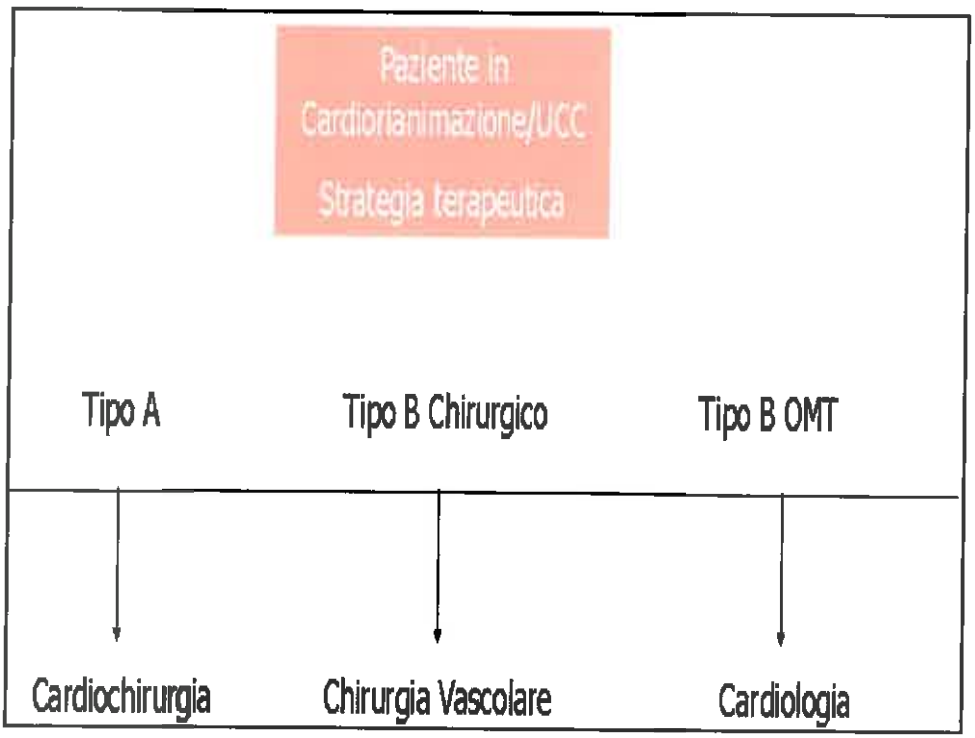

Modena
04/11/2015
STEFANO TONDI M.D.
CARDIOLOGIA NOCSAE
BAGGIOVARA


Admission
Chest Pain
Working diagnosis
Acute Coronary Syndrome
persistent ST-elevation
ST/T - abnormalities
normal or undetermined ECG
Bio-chemistry
troponin rise/fall
troponin normal
Diagnosis
STEMI
NSTEMI
Unstable Angina


Dolore toracico
Codice Triage:
Dolore cardiologico (SCA)
Dolore non cardiologico
Percorso SCA
Angio TC toraco-addominale
SAA: presa in carico cardiologo-cardiorianimatore


Paziente in Cardiorianimazione/UCC
Strategia terapeutica
Tipo A
Tipo B Chirurgico
Tipo B OMT
Cardiochirurgia
Chirurgia Vascolare
Cardiologia

Criteria for Acute Myocardial Infarction

- **Detection of a rise and/or fall of cardiac biomarker values (preferably cardiac troponin) with at least one value above the 99th percentile upper reference limit (URL) and with at least one of the following:**
  - Ischaemic symptoms;
  - ECG changes of new ischaemia (new ST-T changes or new LBBB);
  - Development of pathologic Q waves in the ECG;
  - Imaging evidence of new loss of viable myocardium or new regional wall motion abnormality;
  - Identification of an intracoronary thrombus by angiography or autopsy.

Elevations of Cardiac Troponin Values because of Myocardial Injury

Injury related to primary myocardial ischaemia

- Plaque rupture.
- Intraluminal coronary artery thrombus formation.

Injury related to supply/demand imbalance of myocardial ischaemia

- Tachy-/brady-arrhythmias.
- Aortic dissection or severe aortic valve disease.
- Hypertrophic cardiomyopathy
- Cardiogenic, hypovolaemic, or septic shock.
- Severe respiratory failure.
- Severe anaemia.
- Hypertension with or without LVH.
- Coronary spasm.
- Coronary embolism or vasculitis.
- Coronary endothelial dysfunction without significant CAD.

Injury not related to myocardial ischaemia

- Cardiac contusion, surgery, ablation, pacing, or defibrillator shocks.
- Rhabdomyolysis with cardiac involvement.
- Myocarditis.
- Cardiotoxic agents, e.g. anthracyclines, herceptin.

Multifactorial or indeterminate myocardial injury

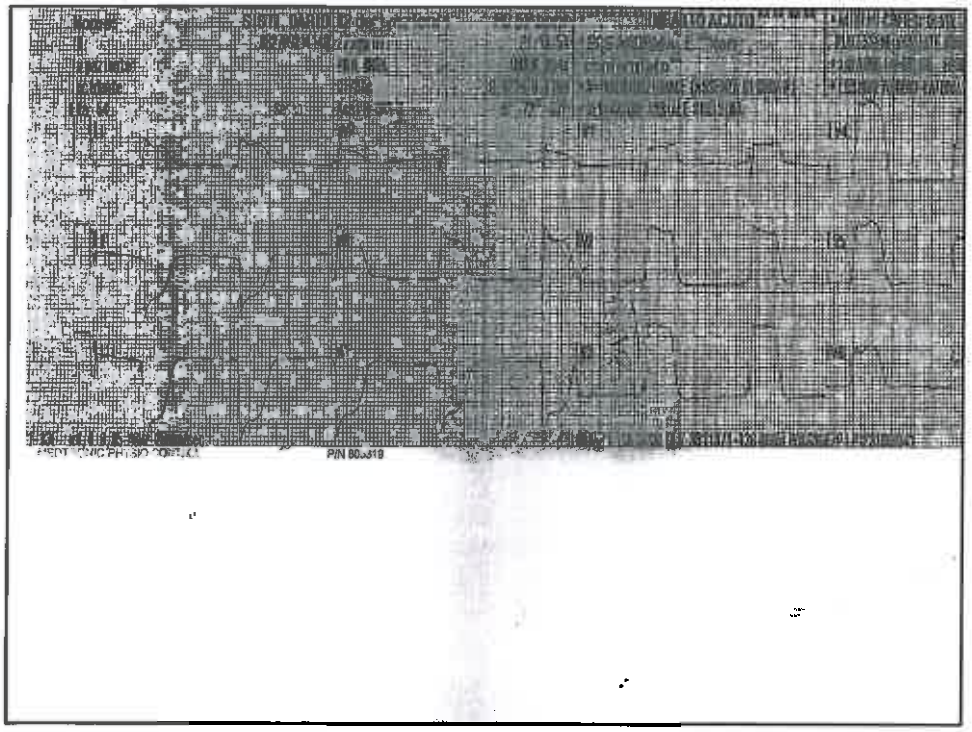
- Heart failure.
- Stress (Takotsubo) cardiomyopathy.
- Severe pulmonary embolism or pulmonary hypertension.
- Sepsis and critically ill patients.
- Renal failure.
- Severe acute neurological diseases, e.g. stroke, subarachnoid haemorrhage.
- Infiltrative diseases, e.g. amyloidosis, sarcoidosis.
- Strenuous exercise.

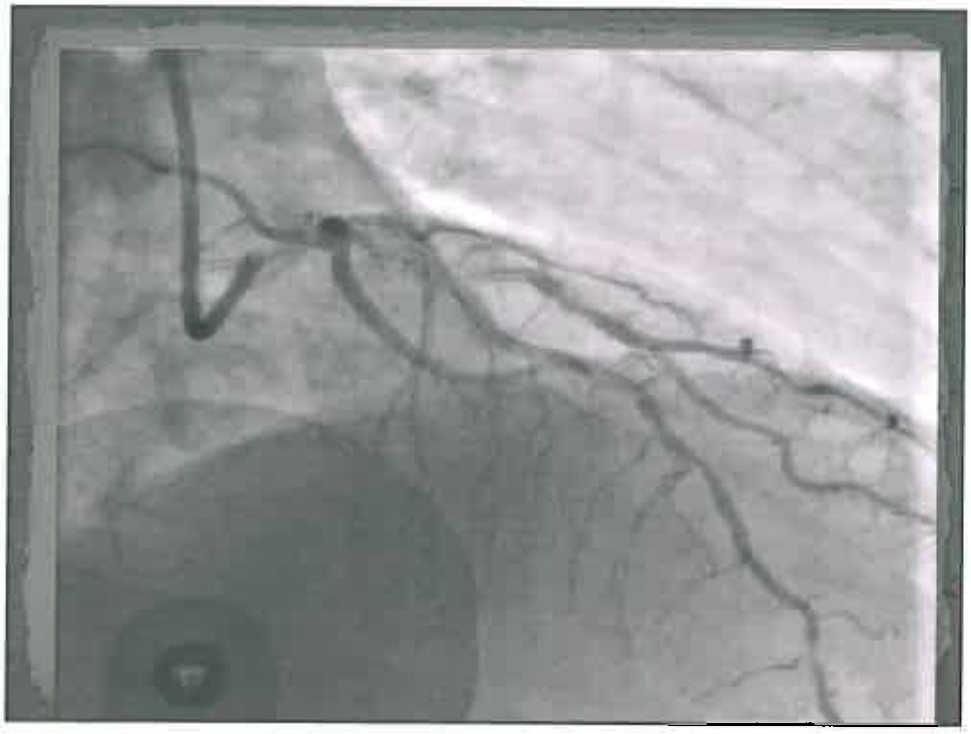
STEMI

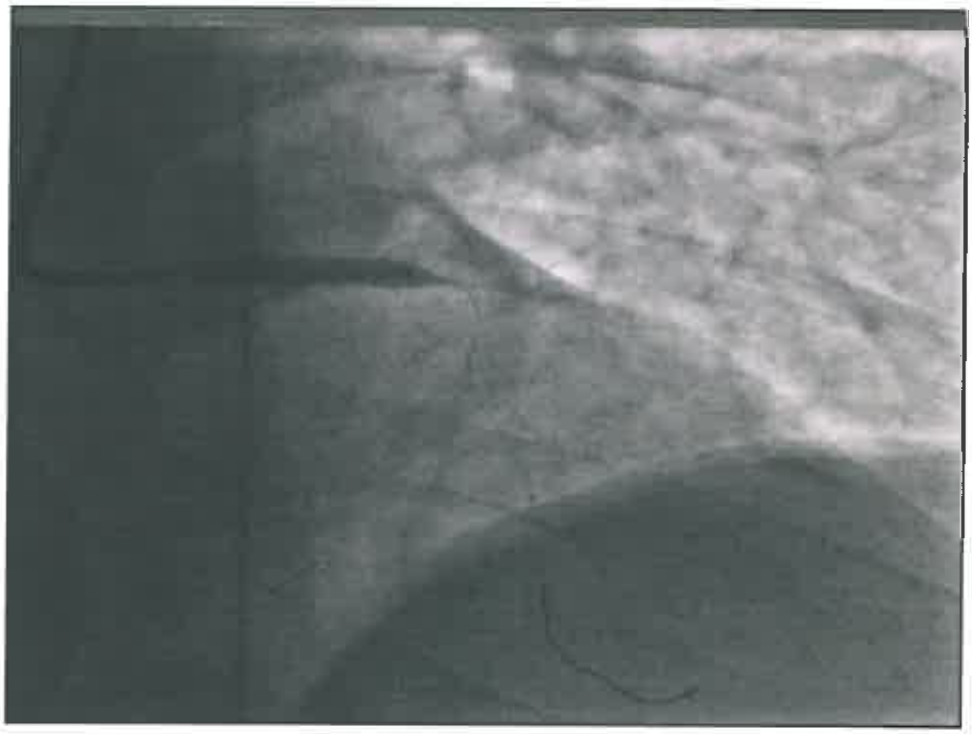
- **occlusione improvvisa** (trombotica, spastica o combinata) di una coronaria
- **circolo non condizionato**
- soggetto **giovane** o al **1° episodio infartuale**, senza circolazione collaterale, o nel **reinfarto eterosede**
- **malattia monovasale**
- **cardiopatia meno avanzata** rispetto alle NSTEACS

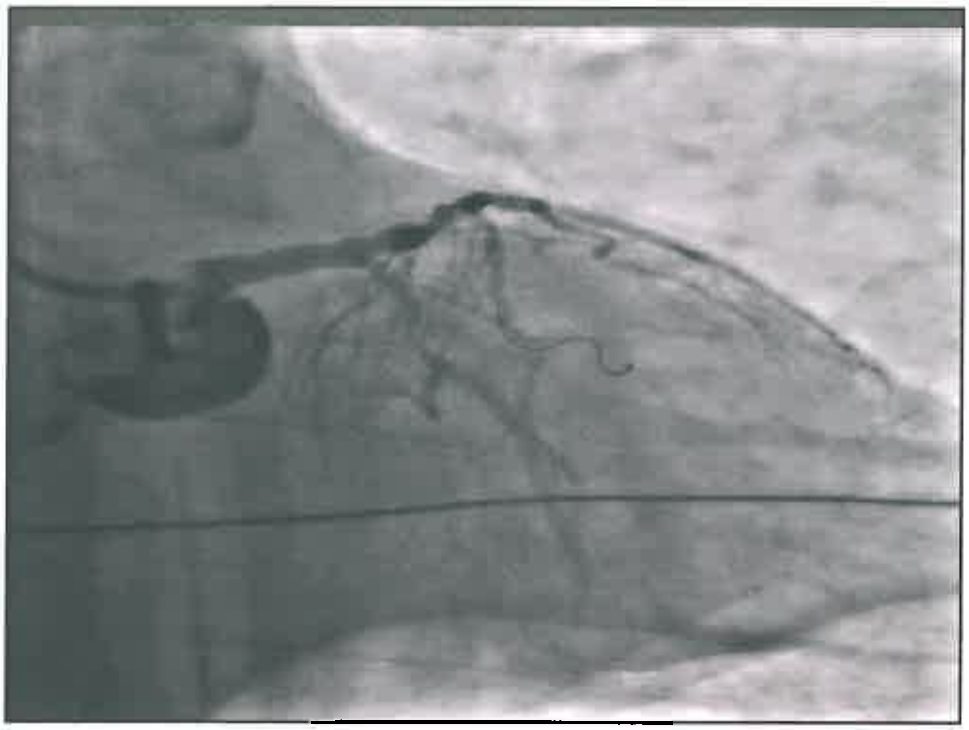
NSTEACS

- **stenosi severe non occlusive**
- soggetti più **anziani** con più **FdR coronarico**
- **storia più lunga di malattia coronarica**, con una > prevalenza di pregressi IMA, CABG ed episodi di SC
- **circolazione condizionata** da ripetuti eventi ischemici
- **circoli collaterali**



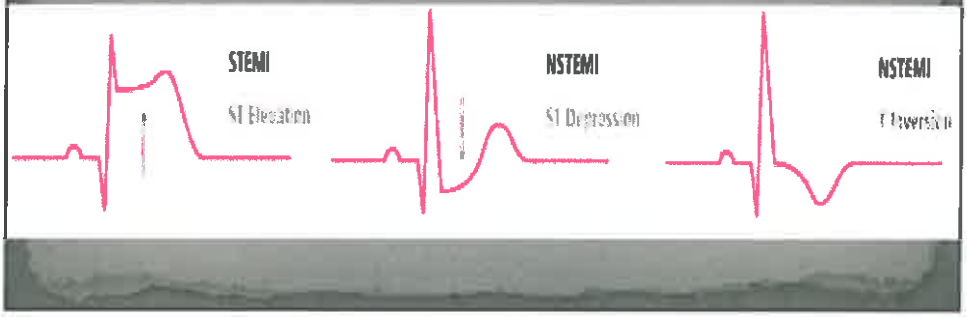


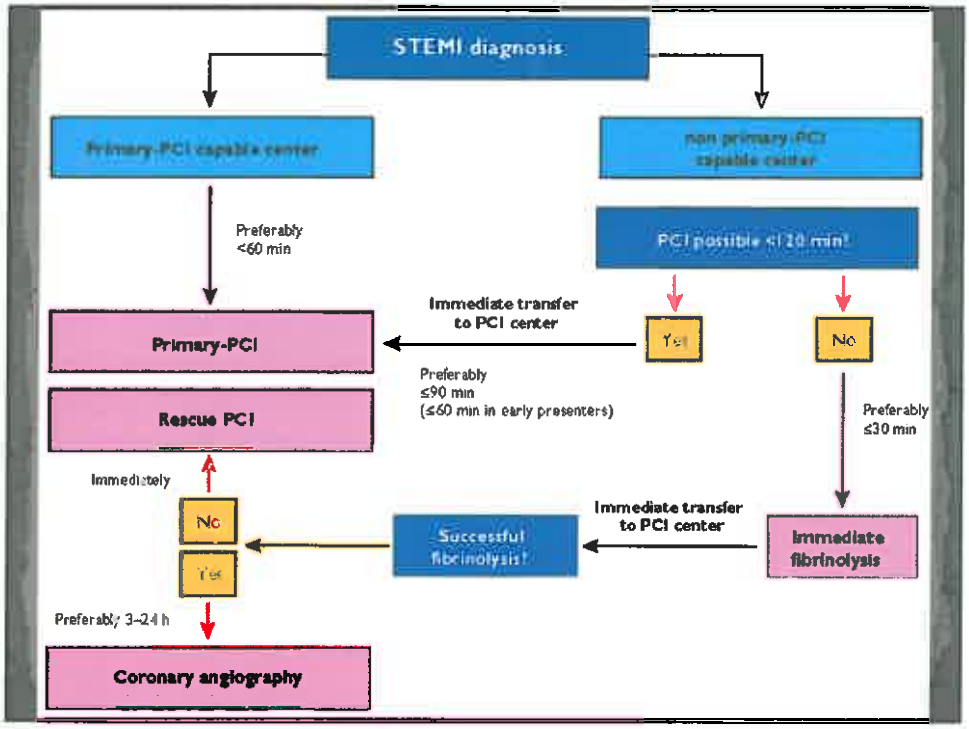




NSTEMI (IMA NON Q) = INFARTO SUBENDOCARDICO

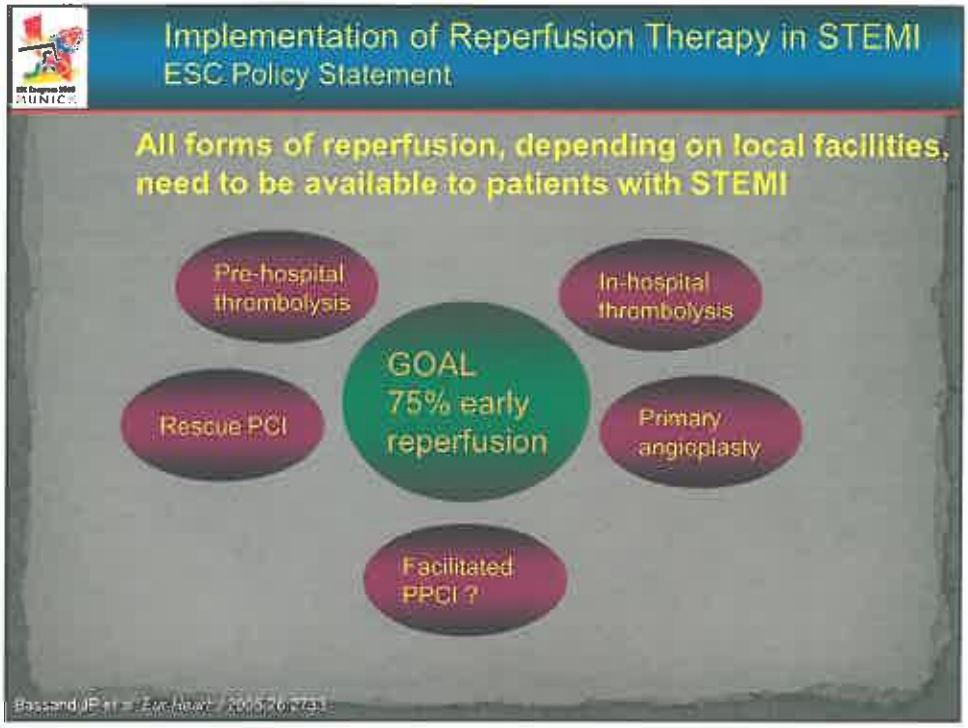
- ST sottoslivellato, anche se talvolta è possibile che ci sia solo negativizzazione dell'onda T
- mancata comparsa di onde Q di necrosi, per cui l'NSTEMI è spesso denominato *IMA non Q*

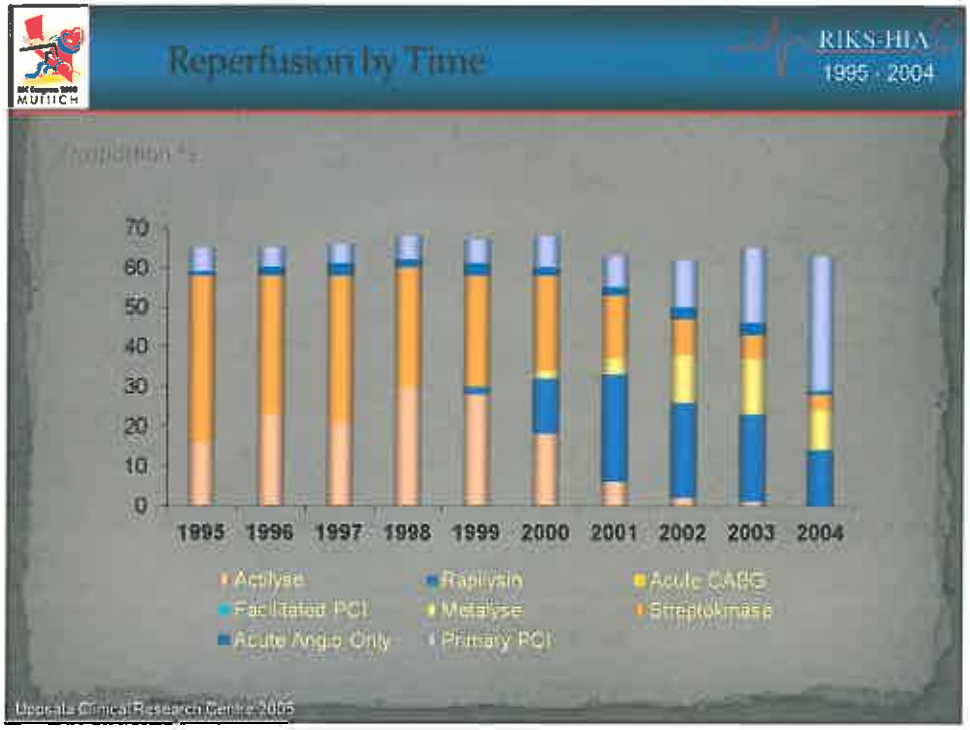


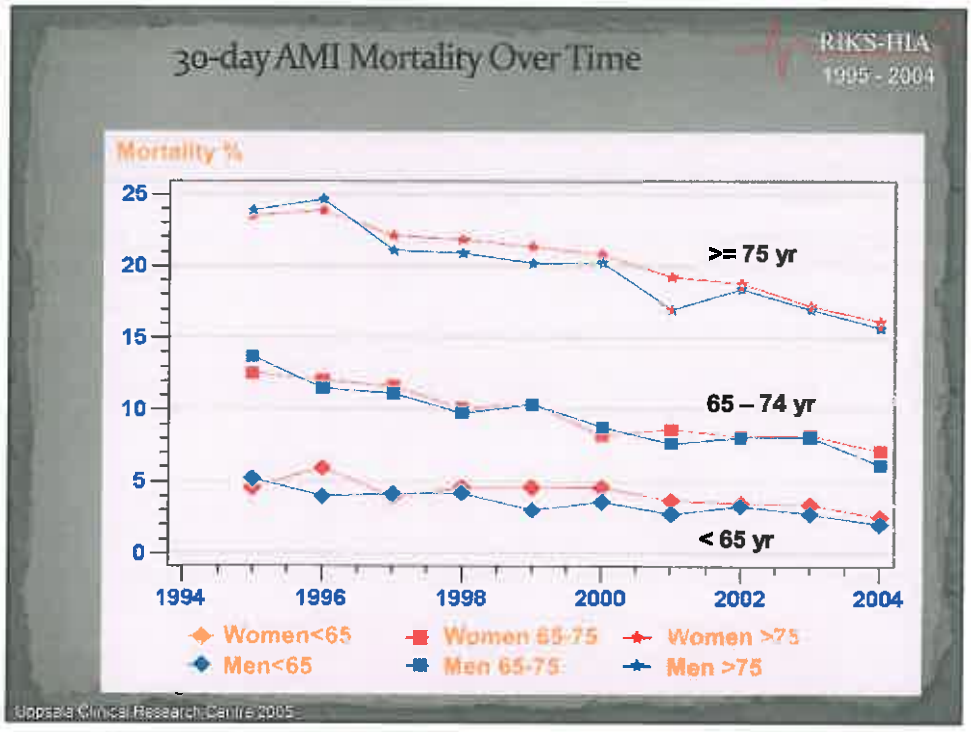


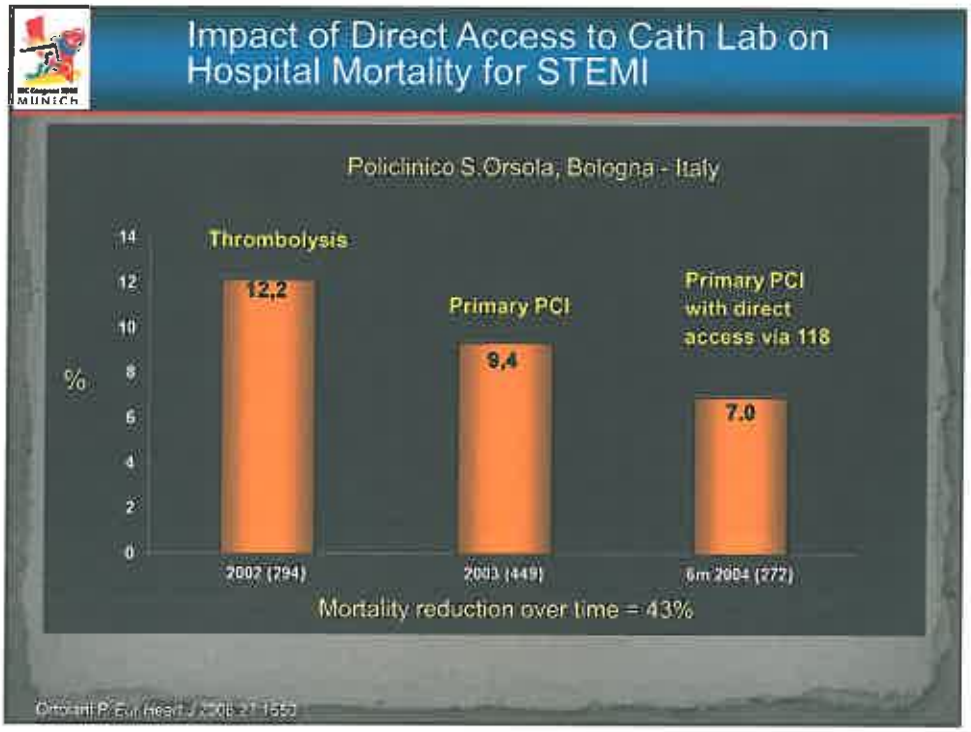
Reperfusion therapy

Recommendations	Class	Level
Reperfusion therapy is indicated in all patients with symptoms of <12 h duration and persistent ST-segment elevation or (presumed) new LBBB.	I	A
Reperfusion therapy (preferably primary PCI) is indicated if there is evidence of ongoing ischaemia, even if symptoms may have started > 12 h beforehand or if pain and ECG changes have been stuttering.	I	C
Reperfusion therapy with primary PCI may be considered in stable patients presenting 12-24 h after symptom onset.	IIb	B
Routine PCI of a totally occluded artery > 24 h after symptom onset in stable patients without signs of ischaemia (regardless of whether fibrinolysis was given or not) is not recommended.	III	A


Implementation of Reperfusion Therapy in STEMI
ESC Policy Statement
All forms of reperfusion, depending on local facilities, need to be available to patients with STEMI
Pre-hospital thrombolysis
In-hospital thrombolysis
GOAL 75% early reperfusion
Rescue PCI
Primary angioplasty
Facilitated PPCI ?


Reperfusion by Time
RIKS-HIA
1995 - 2004
70
60
50
40
30
20
10
0
1995 1996 1997 1998 1999 2000 2001 2002 2003 2004
Acylase
Rapilysin
Acute CABG
Facilitated PCI
Metalyse
Streptokinase
Acute Angio Only
Primary PCI
Uppsala Clinical Research Center 2005


30-day AMI Mortality Over Time
RIKS-HIA
1995 - 2004
Mortality %
25
20
15
10
5
0
1994
1996
1998
2000
2002
2004
>= 75 yr
65 – 74 yr
< 65 yr
Women<65
Women 65-75
Women >75
Men<65
Men 65-75
Men >75
Uppsala Clinical Research Centre 2005

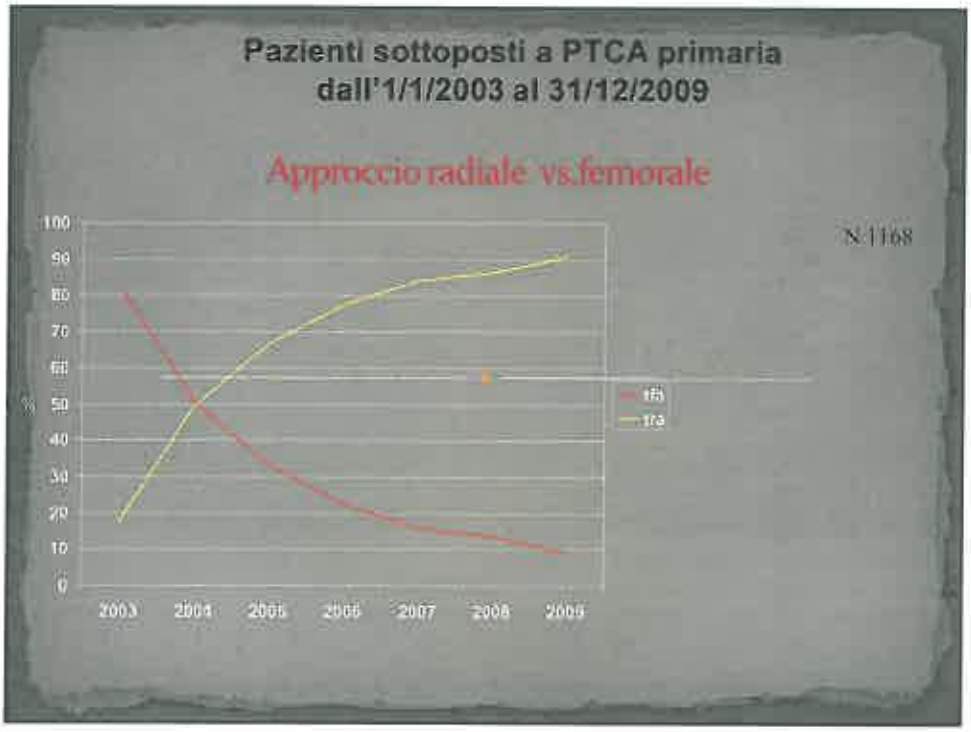

Impact of Direct Access to Cath Lab on Hospital Mortality for STEMI
MUNICH
Policlinico S.Orsola, Bologna - Italy
%
14
12
10
8
6
4
2
0
Thrombolysis
12,2
Primary PCI
9,4
Primary PCI with direct access via 118
7.0
2002 (794)
2003 (449)
6m 2004 (272)
Mortality reduction over time = 43%

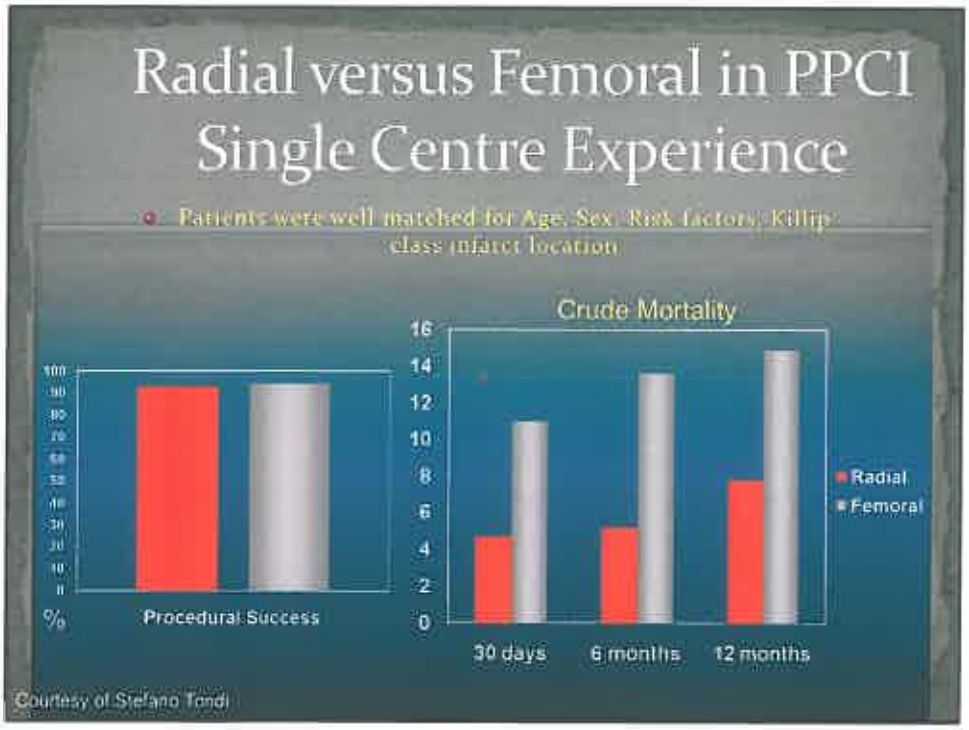
Procedural aspects of primary PCI

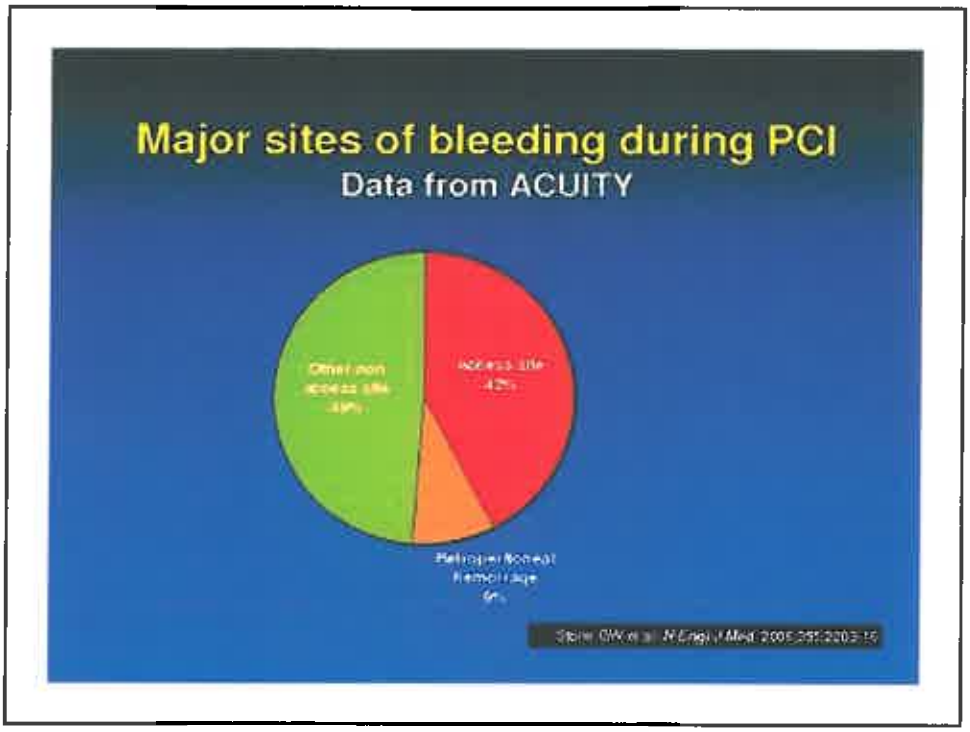
Recommendations	Class	Level
Procedural aspects of primary PCI		
Primary PCI should be limited to the culprit vessel with the exception of cardiogenic shock and persistent ischaemia after PCI of the supposed culprit lesion.	IIa	B
If performed by an experienced radial operator, radial access should be preferred over femoral access.	IIa	B
If the patient has no contraindications to prolonged DAPT (indication for oral anticoagulation, or estimated high long-term bleeding risk) and is likely to be compliant, DES should be preferred over BMS.	IIa	A
Routine thrombus aspiration should be considered.	IIa	B

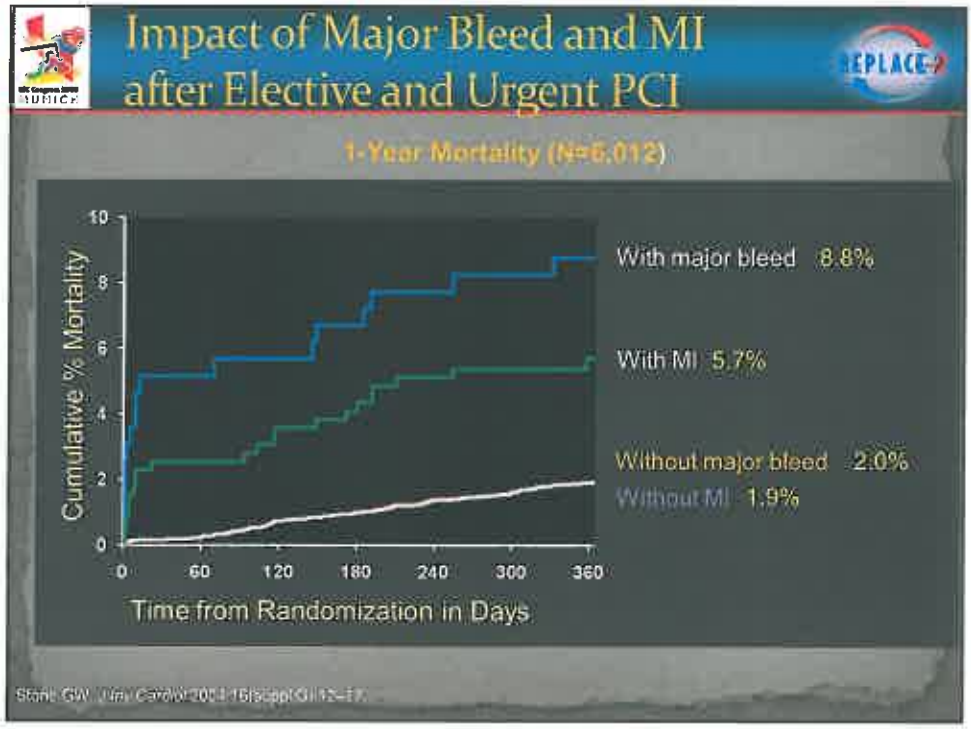
Pazienti sottoposti a PTCA primaria dall'1/1/2003 al 31/12/2009

Approccio radiale vs femorale




Radial versus Femoral in PPCI
Single Centre Experience
Patients were well matched for Age, Sex, Risk factors, Killip class infarct location
Crude Mortality
16
14
12
10
8
6
4
2
0
%
Procedural Success
30 days
6 months
12 months
Radial
Femoral
Courtesy of Stefano Tondi


Major sites of bleeding during PCI
Data from ACUITY



Rete modenese per il trattamento dello STEMI

Modello Hub and Spoke

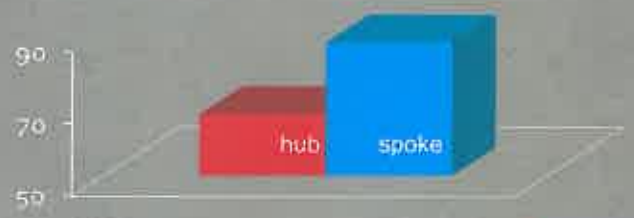
2 (1) Hub : Baggiovara (Policlinico)

6 Spoke : Mirandola, Carpi, Sassuolo, Vignola, Castelfranco, Pavullo + area metropolitana della città di Modena

I pazienti che provengono dai centri periferici e quelli che giungono direttamente al NOCSAE sono risultati comparabili per età, sesso,principali fattori di rischio ecc.

	GROUP A: HUB	GROUP B: SPOKE	P
Age (aa)	66,5	66,5	n.s.
sex (male %)	77,0	75,7	n.s.
diabetes (%)	13,1	14,7	n.s.
active smoker (%)	21,5	20,9	n.s.
hypertension (%)	28,5	25,1	n.s.
shock (%)	5,1	5,9	n.s.
Killip 1-2 (%)	96,3	95,8	n.s.

Il tempo intercorso fra la diagnosi ECG di STEMI e l'arrivo nel CathLab era **significativamente maggiore** nel gruppo di pazienti giunti dalla periferia (tempo di trasporto)

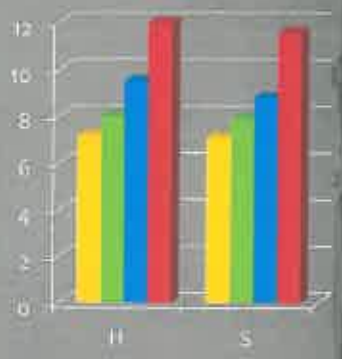


	HUB	SPOKE
MIN	67±33	87±49

p<0,004

Follow up

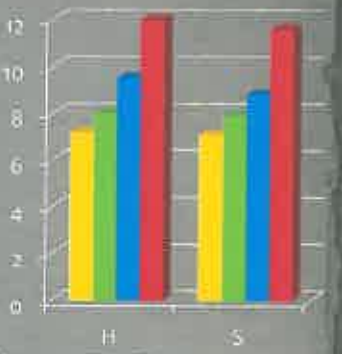
MORTALITA'	HUB	SPOKE
1 mese	7,2%	7,1%
3 mesi	8,3%	8,2%
6 mesi	9,5%	8,8%
12 mesi	12,0%	11,6%



Mortality rates at 1,3,6,12 month was similar

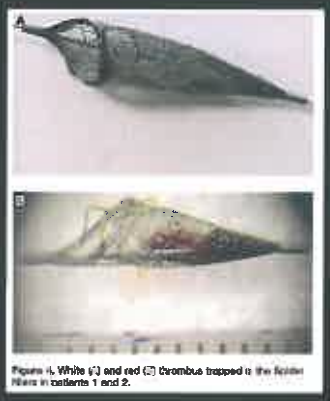
Follow up 2

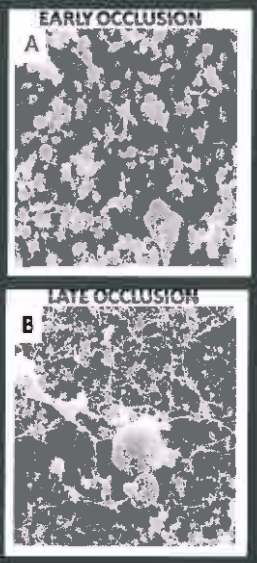
mace	HUB	SPOKE
1 mese	5,2%	5,1%
3 mesi	8,3%	8,2%
6 mesi	11,5%	10,8%
12 mesi	13,0%	12,6%



Mace (reinfarction, angina, TLR) rates at 1,3,6,12 month was similar

Generation of the Hypothesis … "Time make the difference"





Boyguí F, Collet JP, Nagaswami C, Weisel JW, Montalescot G, Beygui et al. Circulation 2006;113:e27-e27

Interpretation of previous clinical trials

Symptoms Onset to First Medical Contact

EARLY <3H

Platelets +++ Fibrin + Lysis ++

Aspirin OK
Anti Thrombin OK
P2Y12 Inhibitors OK*

*Especially fast acting agent

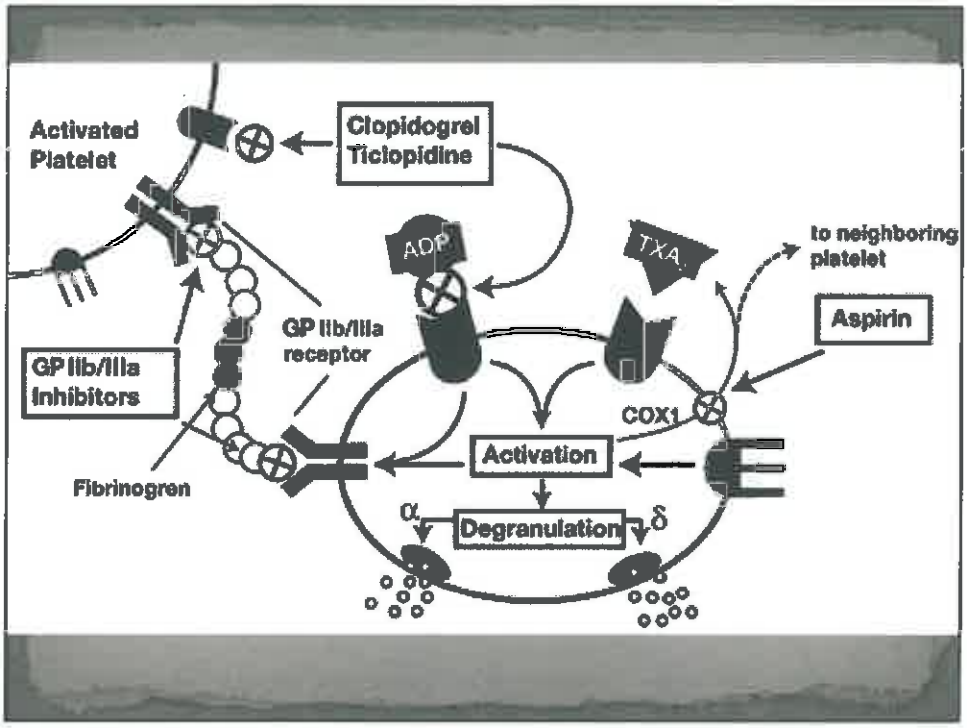
Fibrinolysis
PCI + Anti IIbIIIa

LATE >6H

Platelets + Fibrin +++ Rigidity (FXIII)

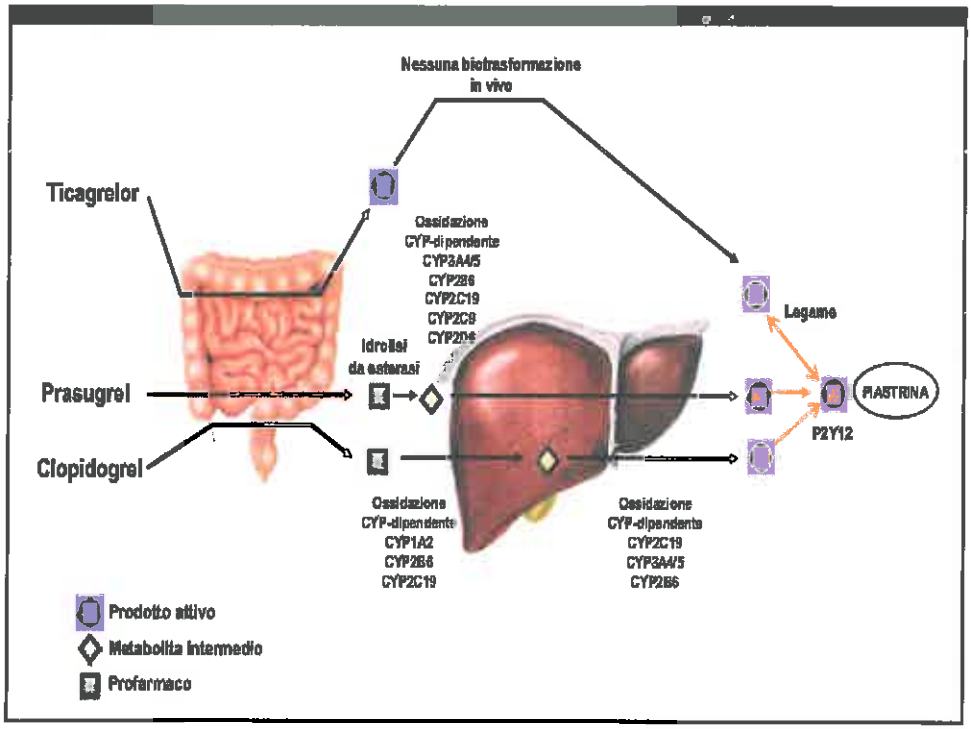
Aspirin OK
Anti Thrombin OK
P2Y12 Inhibitors OK

Fibrinolysis
PCI
Anti IIbIIIa



$P2Y_{12}$ Inhibitors

	Clopidogrel	Prasugrel	Ticagrelor
Class	Thienopyridine	Thienopyridine	Triazolopyrimidine
Reversibility	Irreversible	Irreversible	Reversible
Activation	Prodrug, limited by metabolization	Prodrug, not limited by metabolization	Active drug
Onset of effect*	2–4 h	30 min	30 min
Withdrawal before major surgery	5 days	7 days	5 days

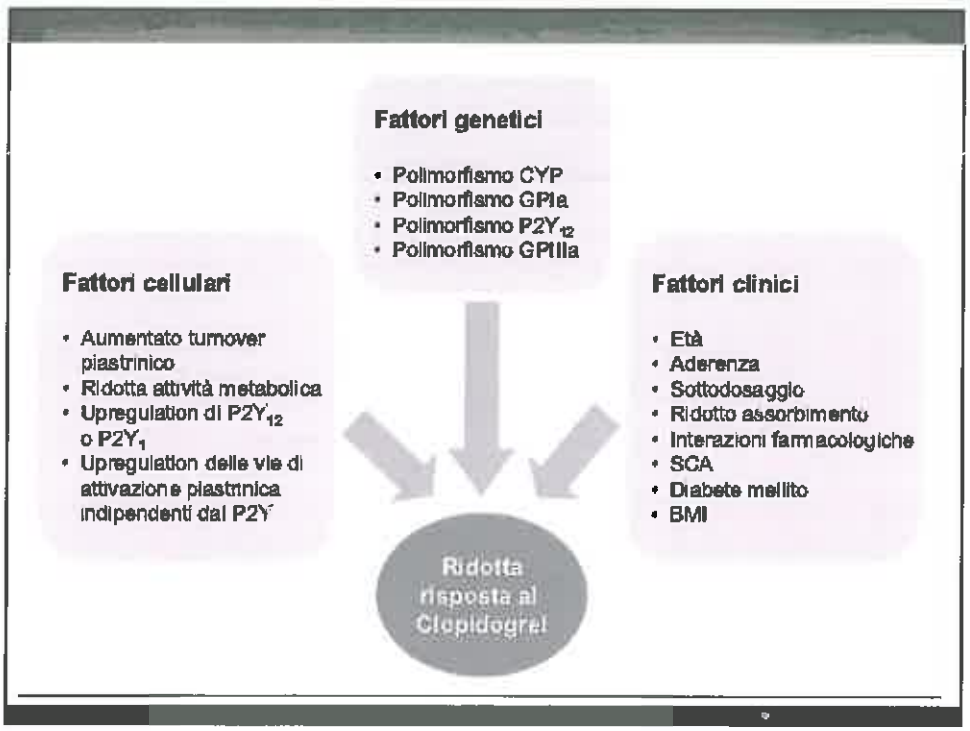


Clopidogrel (*Plavix*®) e *Ticlopidina* (*Tiklid*®)

- necessitano dell'attivazione epatica (P450)
- *Ticlopidina* può dare piastrinopenia e diarrea; è utilizzata spt dai chirurghi vascolari per curare l'AOCP
- variabilità interindividuale della risposta terapeutica al *Clopidogrel* (spt diabetici, anziani, pz con SCA sottoposti a PCI)

Prasugrel (*Efient*®) e ***Ticagrelor*** (*Brilique*®)

- antiaggregazione più rapida con minore variabilità interindividuale dell'efficacia tp e meno interazioni farmacologiche (**NO attivazione epatica**)
- *Prasugrel* è più rapido ma ha > rischio di sanguinamento (*Clopidogrel* e *Ticagrelor* sono più sicuri)



Fibrinolytic therapy

Recommendations	Class	Level
Fibrinolytic therapy is recommended within 12 h of symptom onset in patients without contraindications if primary PCI cannot be performed by an experienced team within 120 min of FMC.	I	A
In patients presenting early (< 2 h after symptom onset) with a large infarct and low bleeding risk, fibrinolysis should be considered if time from FMC to balloon inflation is > 90 min.	IIa	B
If possible, fibrinolysis should start in the prehospital setting.	IIa	A
A fibrin-specific agent (tenecteplase, alteplase, reteplase) is recommended (over non-fibrin specific agents).	I	B
Interventions following fibrinolysis		
Rescue PCI is indicated immediately when fibrinolysis has failed (< 50 % ST-segment resolution at 60 min).	I	A
Emergency PCI is indicated in the case of recurrent ischaemia or evidence of reocclusion after initial successful fibrinolysis.	I	B

FIBRINOLISI

- entro 2 h dall'inizio dei sintomi (comunque entro 12 h)
- se sintomi insorti da non >2 h e PPCI non eseguibile entro 90 min.
- senza controindicazioni al trattamento

CONTROINDICAZIONI

1. stroke emorragico o di origine sconosciuta
2. stroke ischemico nei precedenti 6 mesi
3. tumore/aneurisma/malformazione SNC
4. trauma / / trauma cranico / chirurgia nelle 3 settimane precedenti
5. sanguinamento GI nel mese precedente
6. patologia emorragica nota o in atto
7. dissezione aortica
8. puntura non comprimibile <24 h (biopsia epatica, puntura lombare)

In ogni caso, senza attendere il risultato della fibrinolisi, il pz deve ex trasportato presso un centro Hub per eseguire, in caso di mancata riperfusione, coronarografia

Contraindications to fibrinolytic therapy

Relative
Transient ischaemic attack in the preceding 6 months.
Oral anticoagulant therapy.
Pregnancy or within 1 week postpartum.
Refractory hypertension (systolic blood pressure > 180 mmHg and/or diastolic blood pressure > 110 mmHg).
Advanced liver disease.
Infective endocarditis.
Active peptic ulcer.
Prolonged or traumatic resuscitation.

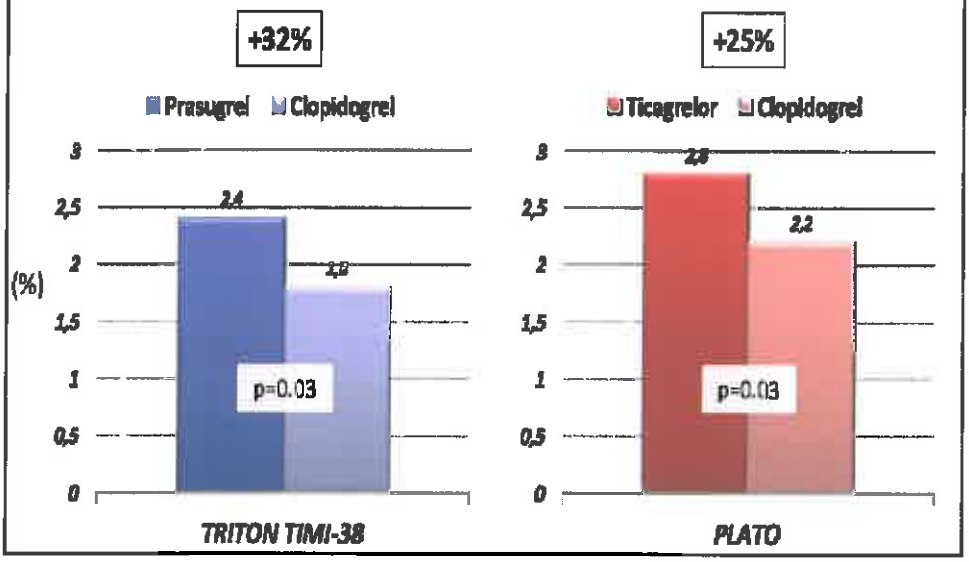
Routine therapies in the acute, subacute and long term phase of STEMI

Recommendations	Class	Level
In patients with left ventricular thrombus, anticoagulation should be instituted for a minimum of 3 months.	IIa	B
In patients with a clear indication for oral anticoagulation (e.g. atrial fibrillation with CHA_2DS_2-VASc Score ≥ 2 or mechanical valve prosthesis), oral anticoagulation must be implemented in addition to antiplatelet therapy.	I	C
In patients require triple antithrombotic therapy, combining DAPT and OAC, e.g. because of stent placement and an obligatory indication for OAC, the duration of dual antiplatelet therapy should be minimized to reduce bleeding risk.	I	C
In selected patients who receive aspirin and clopidogrel, low-dose rivaroxaban (2.5 mg twice daily) may be considered if the patient is at low bleeding risk.	IIb	B

Non considerare univocamente a 12 mesi la durata della DAPT dopo STEMI, ma considerare durate minime di:

- BMS: 3-6 mesi
- DES: 1 anno

Non CABG-related TIMI major bleeding



NSTEMI

- GRACE score ⇨ stratificazione **rischio ischemico**
- CRUSADE score ⇨ stratificazione **rischio emorragico**

Recommendations	Class	Level
It is recommended to use established risk scores for prognosis and bleeding (e.g. GRACE, CRUSADE).	I	B
Additional ECG leads (V_3R, V_4R, V_7–V_9) are recommended when routine leads are inconclusive.	I	C

Altissimo rischio

instabilità emodinamica, ipotensione o segni di SC

dolore anginoso persistente refrattario alla tp

ST sopra transitorio

aritmie ventricolari maligne (TV, FV)

coronarografia immediata (<2 h)

Alto rischio

Almeno 1 fra i seguenti criteri principali:

ST sotto transitorio o persistente e/o alterazioni **onda T**
rialzo significativo ***Tn*** in assenza di condizioni emodinamiche scatenanti

oppure almeno 1 fra i seguenti criteri secondari:

DM
IR
recente PCI
pregresso CABG
FE <40%
angina precoce post-infartuale

⇩

coronarografia entro 72 h (meglio 48 h)

All'interno dei pz ad alto rischio è possibile identificare un sottogruppo a

rischio particolarmente alto

almeno 1 **criterio principale**

oppure

GRACE score >140

⇩

coronarografia entro 24 h

Basso rischio

I pz che non entrano nelle categorie summenzionate possono essere inviati per coronarografia elettivamente o trattati conservativamente in base alla valutazione clinica individualizzata

coronarografia elettiva o strategia conservativa

European Heart Journal
doi:10.1093/eurheartj/ehv320

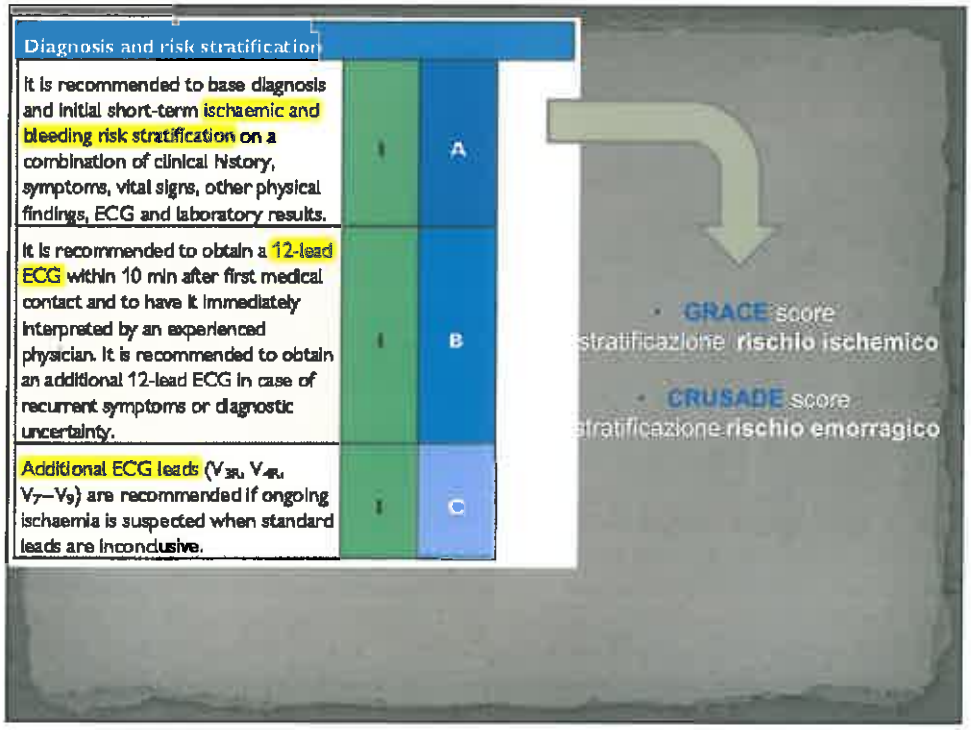
ESC GUIDELINES

2015 ESC guidelines for the management of acute coronary syndromes in patients presenting without persistent ST-segment elevation

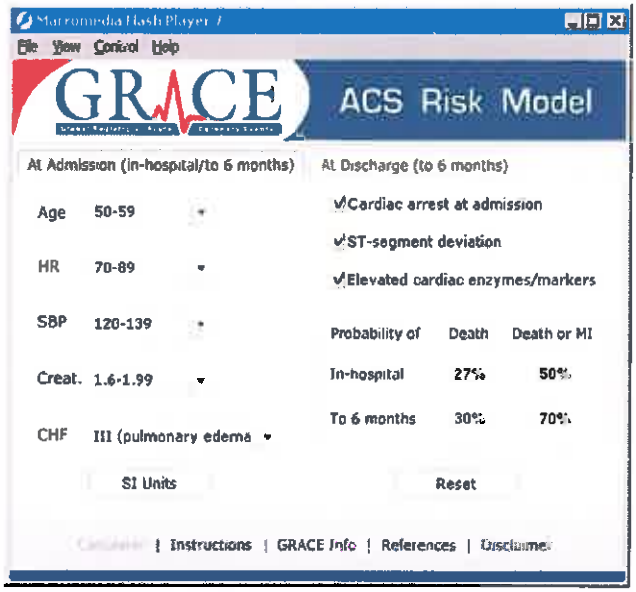
Table 7 Recommended unit and duration of monitoring according to clinical presentation after established NSTE-ACS diagnosis

Clinical Presentation	Unit	Rhythm monitoring
Unstable angina	Regular ward or discharge	None
NSTEMI at low risk for cardiac arrhythmias[a]	Intermediate care unit or coronary care unit	≤24 h
NSTEMI at intermediate to high risk for cardiac arrhythmias[b]	Intensive/coronary care units or intermediate care unit	>24 h

NSTEMI — Non-ST-elevation myocardial infarction.
[a]If none of the following criteria: haemodynamically unstable, major arrhythmias, left ventricular ejection fraction <40%, failed reperfusion, additional critical coronary stenoses of major vessels or complications related to percutaneous revascularization.
[b]If one or more of the above criteria are present.



PCR At Admission Risk Model



Risk assessment by GRACE score:

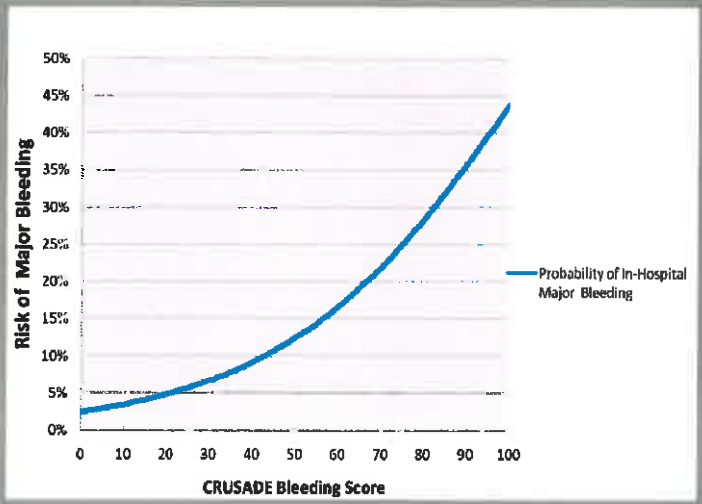
We can assess risk by summation of score for all eight parameters.

Total score	Risk assessment
≤ 100	Low risk patients– In-hospital death rate less than 1%
101-170	Medium risk patients – In-hospital death rate 1-9%
≥ 171	High risk patients – In-hospital death rate more than 9%

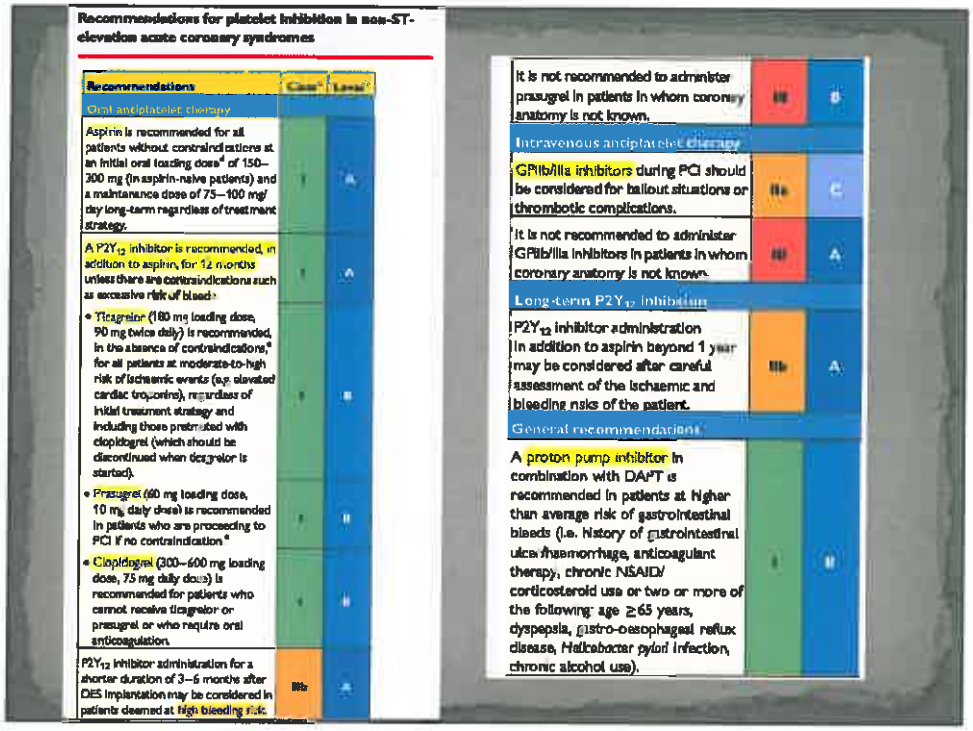
CRUSADE Bleeding Score Nomogram

Predictor	Range	Score
Baseline Hematocrit (%)		
Creatinine Clearance (ml/min)		
Heart rate (bpm)		
Sex		
Signs of CHF at presentation		
Prior Vascular Disease		
Diabetes Mellitus		
Systolic blood pressure (mm Hg)		

Risk of Major Bleeding Across the Spectrum of CRUSADE Bleeding Score

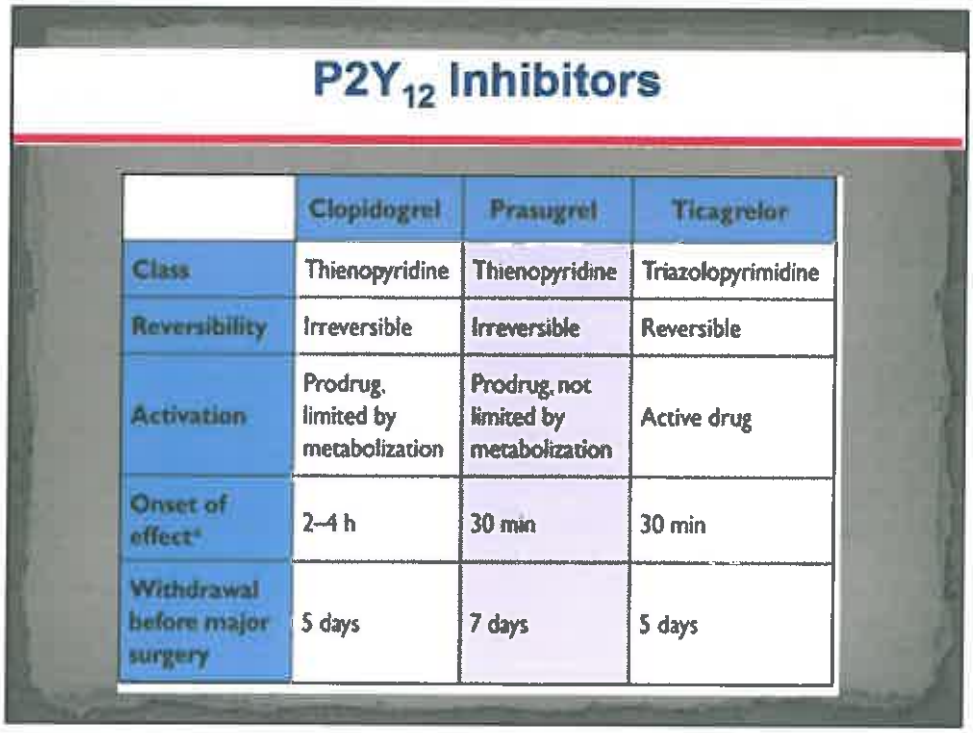


p<0.001 for trend; Derivation: C=0.71 Validation: C=0.70



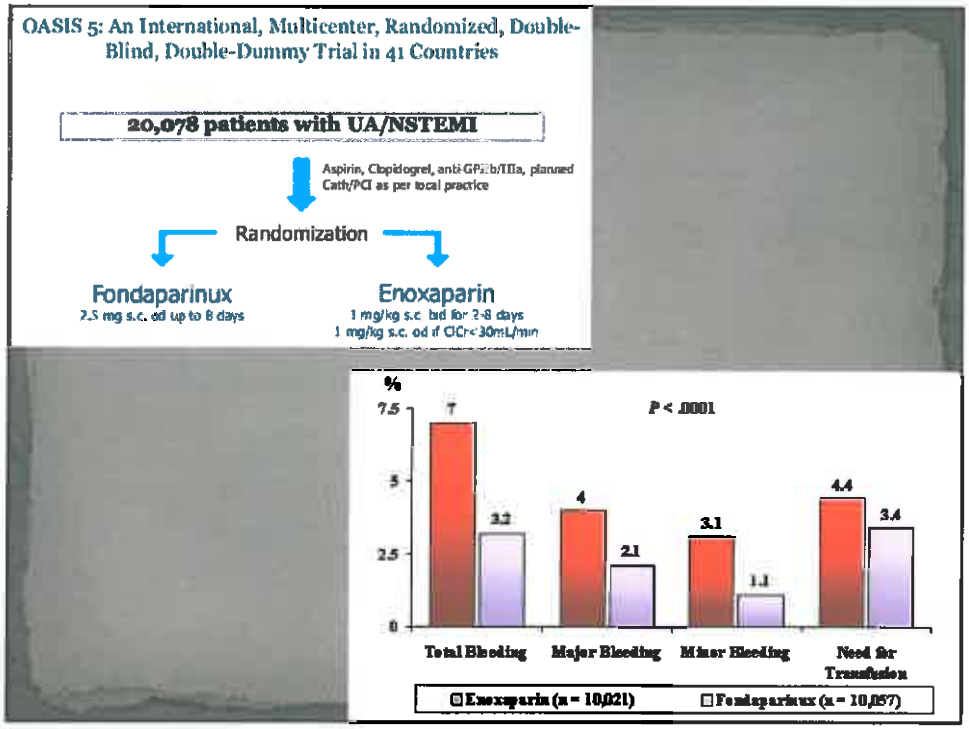
Recommendations for platelet inhibition in non-ST-elevation acute coronary syndromes

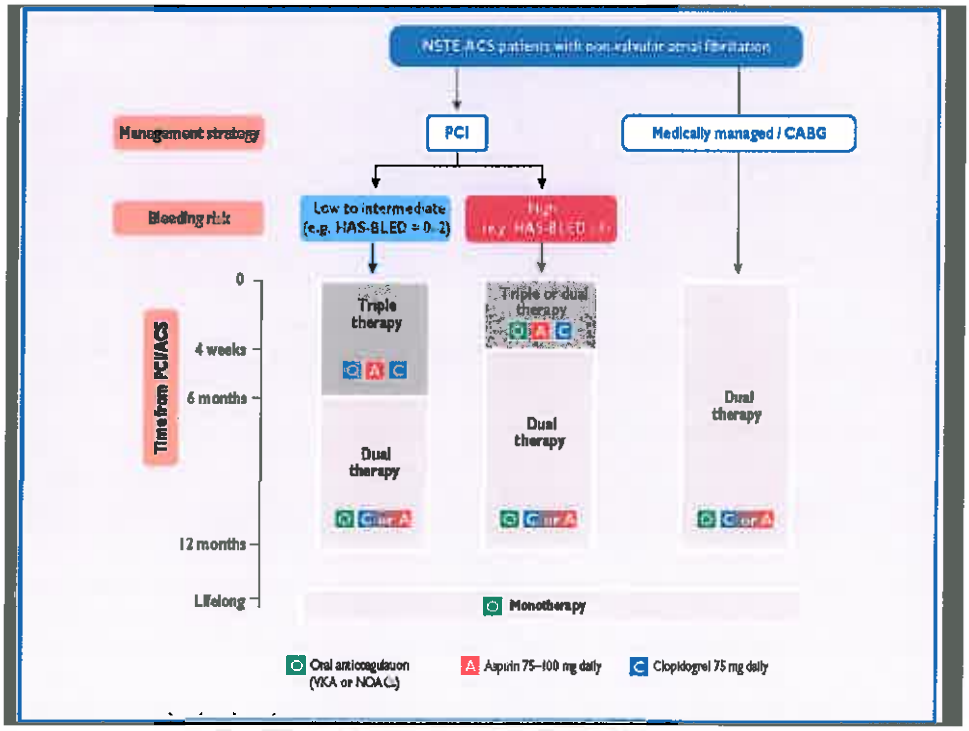
Recommendations	Class	Level
Oral antiplatelet therapy		
Aspirin is recommended for all patients without contraindications at an initial oral loading dose[a] of 150–300 mg (in aspirin-naive patients) and a maintenance dose of 75–100 mg/day long-term regardless of treatment strategy.	I	A
A $P2Y_{12}$ inhibitor is recommended, in addition to aspirin, for 12 months unless there are contraindications such as excessive risk of bleed:	I	A
• Ticagrelor (180 mg loading dose, 90 mg twice daily) is recommended, in the absence of contraindications,[b] for all patients at moderate-to-high risk of ischaemic events (e.g. elevated cardiac troponins), regardless of initial treatment strategy and including those pretreated with clopidogrel (which should be discontinued when ticagrelor is started).	I	B
• Prasugrel (60 mg loading dose, 10 mg daily dose) is recommended in patients who are proceeding to PCI if no contraindication.[b]	I	B
• Clopidogrel (300–600 mg loading dose, 75 mg daily dose) is recommended for patients who cannot receive ticagrelor or prasugrel or who require oral anticoagulation.	I	B
$P2Y_{12}$ inhibitor administration for a shorter duration of 3–6 months after DES implantation may be considered in patients deemed at high bleeding risk.	IIb	A
It is not recommended to administer prasugrel in patients in whom coronary anatomy is not known.	III	B
Intravenous antiplatelet therapy		
GPIIb/IIIa inhibitors during PCI should be considered for bailout situations or thrombotic complications.	IIa	C
It is not recommended to administer GPIIb/IIIa inhibitors in patients in whom coronary anatomy is not known.	III	A
Long-term $P2Y_{12}$ inhibition		
$P2Y_{12}$ inhibitor administration in addition to aspirin beyond 1 year may be considered after careful assessment of the ischaemic and bleeding risks of the patient.	IIb	A
General recommendations		
A proton pump inhibitor in combination with DAPT is recommended in patients at higher than average risk of gastrointestinal bleeds (i.e. history of gastrointestinal ulcer/haemorrhage, anticoagulant therapy, chronic NSAID/corticosteroid use or two or more of the following: age ≥65 years, dyspepsia, gastro-oesophageal reflux disease, *Helicobacter pylori* infection, chronic alcohol use).	I	B



$P2Y_{12}$ Inhibitors

	Clopidogrel	Prasugrel	Ticagrelor
Class	Thienopyridine	Thienopyridine	Triazolopyrimidine
Reversibility	Irreversible	Irreversible	Reversible
Activation	Prodrug, limited by metabolization	Prodrug, not limited by metabolization	Active drug
Onset of effect*	2–4 h	30 min	30 min
Withdrawal before major surgery	5 days	7 days	5 days


OASIS 5: An International, Multicenter, Randomized, Double-Blind, Double-Dummy Trial in 41 Countries
20,078 patients with UA/NSTEMI
Aspirin, Clopidogrel, anti-GPIIb/IIIa, planned Cath/PCI as per local practice
Randomization
Fondaparinux
2.5 mg s.c. od up to 8 days
Enoxaparin
1 mg/kg s.c. bid for 2-8 days
1 mg/kg s.c. od if CrCl<30mL/min
%
P < .0001
7.5
5
2.5
0
7
3.2
4
2.1
3.1
1.1
4.4
3.4
Total Bleeding
Major Bleeding
Minor Bleeding
Need for Transfusion
Enoxaparin (n = 10,021)
Fondaparinux (n = 10,057)


NSTE-ACS patients with non-valvular atrial fibrillation
Management strategy
PCI
Medically managed / CABG
Bleeding risk
Low to intermediate (e.g. HAS-BLED = 0, 1)
Triple therapy
Dual therapy
Triple or dual therapy
Dual therapy
Dual therapy
Time from PCI/ACS
0
4 weeks
6 months
12 months
Lifelong
Monotherapy
Oral anticoagulation (VKA or NOACs)
Aspirin 75–100 mg daily
Clopidogrel 75 mg daily

Risk criteria mandating invasive strategy in NSTE-ACS

Very high-risk criteria	*Immediate invasive strategy (<2 h)*
• Haemodynamic instability or cardiogenic shock	
• Recurrent or ongoing chest pain refractory to medical treatment	
• Life-threatening arrhythmias or cardiac arrest	
• Mechanical complications of MI	
• Acute heart failure	
• Recurrent dynamic ST-T wave changes, particularly with intermittent ST-elevation	
High-risk criteria	*Early invasive strategy (<24 h)*
• Rise or fall in cardiac troponin compatible with MI	
• Dynamic ST- or T-wave changes (symptomatic or silent)	
• GRACE score >140	
Intermediate-risk criteria	*Invasive strategy (<72 h)*
• Diabetes mellitus	
• Renal insufficiency (eGFR <60 mL/min/1.73 m²)	
• LVEF <40% or congestive heart failure	
• Early post-infarction angina	
• Prior PCI	
• Prior CABG	
• GRACE risk score >109 and <140	
Low-risk criteria	*Selective invasive strategy*
• Any characteristics not mentioned above	

GESTIONE DELLA TERAPIA ANTIAGGREGANTE

Condizioni ad alto rischio di trombosi

- nei primi 12 mesi dopo PTCA + stent medicato
- prima di 6 settimane da PTCA + stent non medicato
- prima di 2 settimane da PTCA senza stent
- infarto miocardico acuto (<7 gg) o recente (<30 gg)
- sindrome coronarica acuta
- anatomia coronarica ad alto rischio

ANGIOPLASTICA CORONARICA E STENT

Oltre il 90% delle procedure interventistiche coronariche comprende l'impianto di almeno uno stent endocoronarico

Bare Metal Stent (BMS)

- endotelizzazione: 30 gg
- restenosi: 10-30%

Drug Eluting Stent (DES)

- endotelizzazione: 180-300 gg
- restenosi: 5-10%

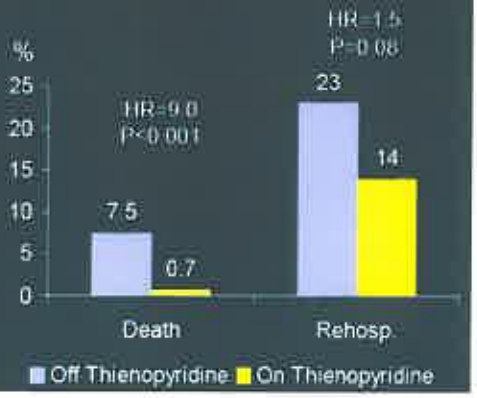
Premature Discontinuation of Thienopyridine Therapy After DES Implantation

Spertus JA et al. *Circulation* 2006;113:2803-9

Multicenter, prospective PREMIER registry in patients admitted with myocardial infarction
-500 DES patients enrolled at 19 sites
-68 (14%) patients d/c thienopyridine

Factors associated with premature Thienopyridine discontinuation
-older age
-lower socioeconomic status
-preexisting cardiovascular disease
-inadequate discharge instructions
-lack of referral to cardiac rehab

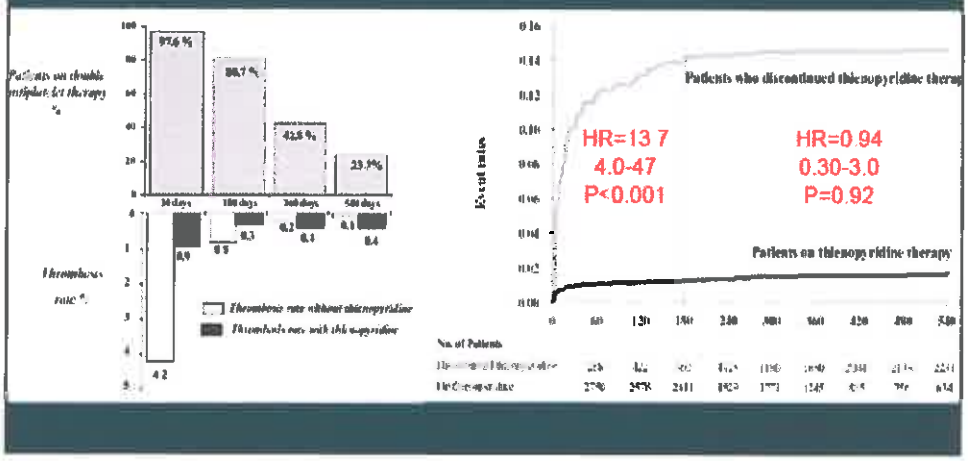
Mortality Between 30 Days and 1 Year



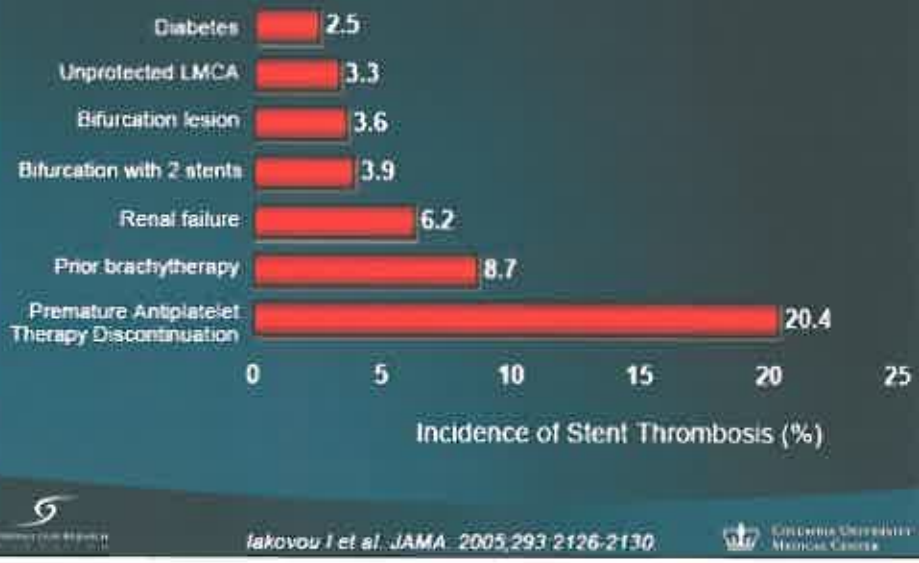
Discontinuation of Thienopyridine and Risk of Stent Thrombosis: Milan-Siegburg Cohort Study

Airoldi F et al. *Circulation* 2007;116:745-54

3,021 patients with 5,389 lesions treated with DES (2002-2004)



Predictors of Thrombosis After Successful Implantation of DES



Iakovou I et al. JAMA. 2005;293:2126-2130

Mortality rate associated with in-DES late thrombosis

45% Milan register

44.4% ERACI III register

Iakovou JAMA

RISCHIO EMORRAGICO
CHIRURGIA ORALE

		RISCHIO EMORRAGICO
Chirurgia Dentale (uso di tecniche di emostasi adeguate e acido tranexamico)	Estrazioni singole o multiple Protesi Endodonzia Igiene dentale Terapia periodontale	Basso
Chirurgia orale estesa		Intermedio

GESTIONE ANTIAGGREGANTI IN CHIRURGIA ORALE

La maggior parte delle pubblicazioni che ha considerato il rischio di sospendere vs continuare la terapia antiaggregante nelle procedure dentali ha concluso che la maggior parte dei pazienti può essere sottoposto a tali procedure senza interrompere la terapia antiaggregante, assicurandosi che metodi di emostasi locale vengano usati per controllare eventuali sanguinamenti.

Dati su aspirina

Non dati su clopidogrel o doppia antiaggregazione

Rischio emorragico basso (+++ frequente)

- Rischio trombotico basso : che fare?
- ASA: PROSEGUIRE
- INIBITORI RECETTORE P2Y12: sospendere 5 giorni prima, riprendere entro 24-72 ore con dose di carico

Rischio emorragico intermedio : implantologia e chirurgia orale

Rischio trombotico basso: che fare?

ASA :proseguire

Inibitori recettori P2Y12: sospendere 5 giorni prima, riprendere entro 24-72 ore con dose carico

Rischio trombotico intermedio: che fare?

- Chirurgia elettiva : differire
- Chirurgia non differibile:

ASA: proseguire

Inibitori recettori P2Y12: sospendere 5 giorni prima, riprendere entro 24-72 ore con dose carico

Rischio trombotico basso: quando?

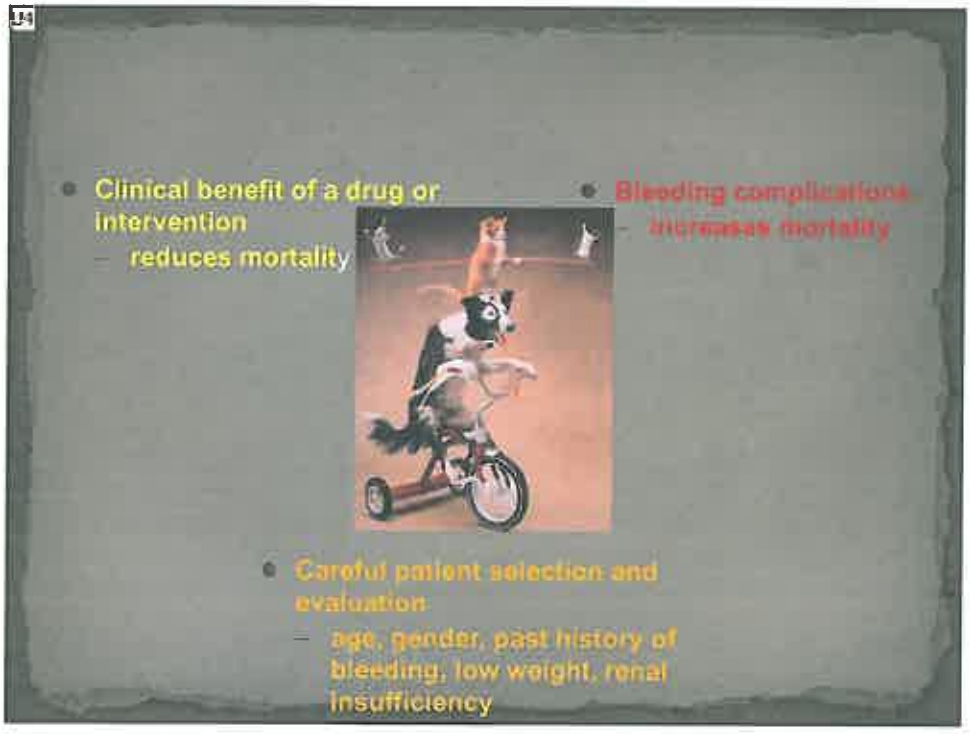
- > 6 mesi dopo impianto di BMS
- > 12 mesi dopo impianto di DES

Rischio trombotico intermedio: quando?

- > 1 mese < 6 mesi dopo PCI + BMS
- > 6 mesi < 12 mesi dopo PCI + DES
- > 12 mesi dopo DES a rischio elevato (stent lunghi, multipli, in overlapping, piccoli vasi, biforcazioni, tronco comune, last remaining vessel)

Rischio trombotico alto

- < 1 mese dopo BMS
- < 6 mesi dopo DES
- < 12 mesi dopo DES a rischio elevato



Diapositiva 72

U4 Pertanto il trattamento del paziente con UA/NSTEMI passa attraverso una equilibrio molto delicato che deve prevedere una attenta selezione del paziente e delle sue caratteristiche cliniche al fine di valutare le caratteristiche potenzialmente positive dei farmaci e delle procedure invasive, tenendo conto di quella temibile variabile come il bleeding risk che può contribuire ad aumentare la mortalità

User; 20/09/2011

TAKE HOME MESSAGE

- **NSTEACS >> fondamentale la stratificazione del rischio, riconoscendo l'opportunità di un intervento precoce solamente nei pz a > rischio.** L'entità del vantaggio derivante dall'aggressività angiografica immediata è minore, anche perché **i pz con NSTEACS sono più complessi e l'entità della coronaropatia può ex maggiore che nello STEMI, tant'è vero che alla coronarografia segue un'angioplastica solo in 50-70% casi.** Anche la scelta della procedura di rivascolarizzazione (PCI vs CABG) pone maggiori dubbi rispetto allo STEMI, e le linee guida raccomandano una valutazione della scelta da parte dell'*Heart Team* (cardiologo clinico, cardiologo interventista e cardiochirurgo)

- **STEMI >> riperfusione sistematica**, pressoché **non basata sulla stratificazione del rischio**, che viene raccomandata successivamente, più che altro al fine di valutare l'ischemia residua a carico dei territori non infartuati e ai fini di prevenzione secondaria