Start
Antiplatelet

THE START-ANTIPLATELET REGISTER

A MULTICENTER OBSERVATIONAL PROSPECTIVE STUDY TO ASSESS THE RISK-BENEFITS OF ANTITHROMBOTIC THERAPY IN ACS PATIENTS

START–Register
SURVEY ON ANTICOAGULATED PATIENTS – REGISTER
Registro computerizzato per la raccolta dei dati di pazienti trattati cronicamente con anticoagulanti

Start
Antiplatelet

IL SETTING CLINICO

Perché un registro sugli antiaggreganti?

ACUTE CORONARY SYNDROME PATIENTS

DUAL ANTIPLATELET THERAPY

12 months

Recommendations for oral antiplatelet agents (1) NSTEMI 2011

Recommendations	Class	Level
Aspirin should be given to all patients without contraindications at an initial loading dose of 150-300 mg, and at a maintenance dose of 75-100 mg daily long-term regardless of treatment strategy.	I	A
A $P2Y_{12}$ inhibitor should be added to aspirin as soon as possible and maintained over 12 months, unless there are contraindications such as excessive risk of bleeding.	I	A
A proton pump inhibitor (preferably not omeprazole) in combination with DAPT is recommended in patients with a history of gastrointestinal haemorrhage or peptic ulcer, and appropriate for patients with multiple other risk factors *(H. elicobacter pylori* infection, age ≥ 65 years, concurrent use of anticoagulants or steroids).	I	A
Prolonged or permanent withdrawal of $P2Y_{12}$ inhibitors within 12 months after the index event is discouraged unless clinically indicated.	I	C
Ticagrelor (180 mg loading dose, 90 mg twice daily) is recommended for all patients at moderate-to-high risk of ischaemic events (e.g. elevated troponins), regardless of initial treatment strategy and including those pre-treated with clopidogrel (which should be discontinued when ticagrelor is commenced).	I	B
Prasugrel (60 mg loading dose, 10 mg daily dose) is recommended for $P2Y_{12}$-inhibitor-naïve patients (especially diabetics) in whom coronary anatomy is known and who are proceeding to PCI unless there is a high risk of life-threatening bleeding or other contraindications.	I	B

www.escardio.org/guidelines

European Heart Journal (2011) 32:2999–3054
doi:10.1093/eurheartj/ehr236

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Recommendations for oral antiplatelet agents (2) NSTEMI 2011

Recommendations	Class	Level
Clopidogrel (300 mg loading dose, 75 mg daily dose) is recommended for patients who cannot receive ticagrelor or prasugrel.	I	A
A 600 mg loading dose of clopidogrel (or a supplementary 300 mg dose at PCI following an initial 300 mg loading dose) is recommended for patients scheduled for an invasive strategy when ticagrelor or prasugrel is not an option.	I	B
A higher maintenance dose of clopidogrel 150 mg daily should be considered for the first 7 days in patients managed with PCI and without increased risk of bleeding.	IIa	B
Increasing the maintenance dose of clopidogrel based on platelet function testing is not advised as routine, but may be considered in selected cases.	IIb	B
Genotyping and/or platelet function testing may be considered in selected cases when clopidogrel is used.	IIb	B
In patients pre-treated with $P2Y_{12}$ inhibitors who need to undergo non-emergent major surgery (including CABG), postponing surgery at least for 5 days after cessation of ticagrelor or clopidogrel, and 7 days for prasugrel, if clinically feasible and unless the patient is at high risk of ischaemic events should be considered.	IIa	C
Ticagrelor or clopidogrel should be considered to be (re-)started after CABG surgery as soon as considered safe.	IIa	B
The combination of aspirin with an NSAID (selective COX-2 inhibitors and non-selective NSAID) is not recommended.	III	C

www.escardio.org/guidelines

European Heart Journal (2011) 32:2999–3054
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ESC Guidelines for the management of acute myocardial infarction in patients presenting with ST-segment elevation

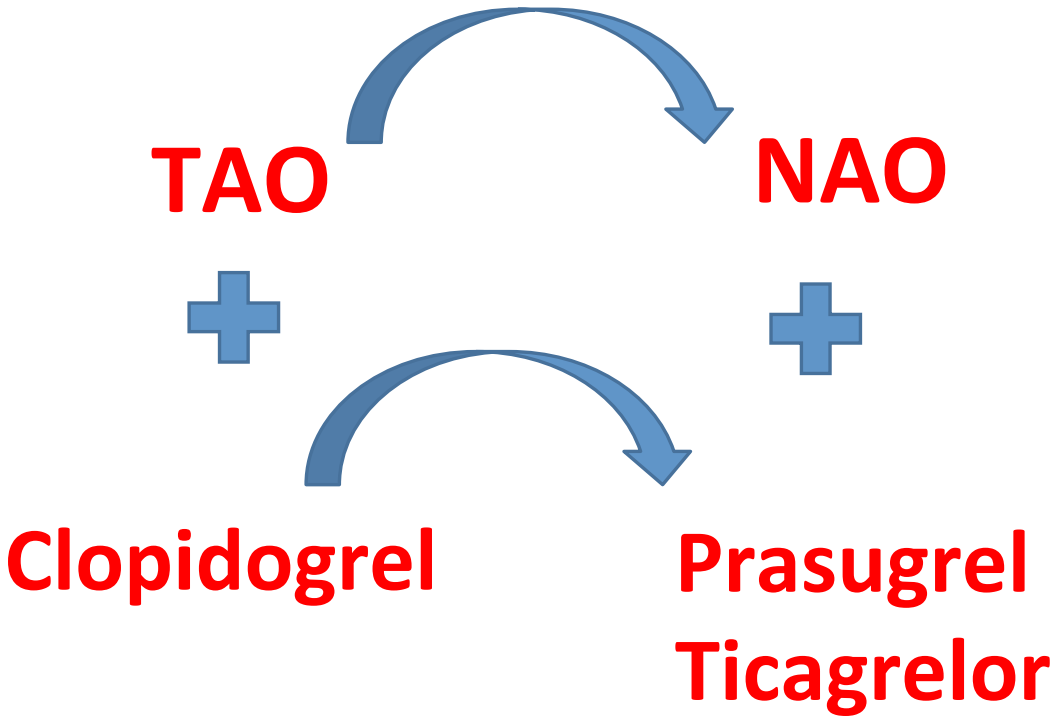
2012

Recommendations	Class[a]	Level[b]	Ref[c]
Antiplatelet therapy			
Aspirin oral or i.v. (if unable to swallow) is recommended	I	B	133, 134
An ADP-receptor blocker is recommended in addition to aspirin. Options are:	I	A	135, 136
• Prasugrel in clopidogrel-naive patients, if no history of prior stroke/TIA, age <75 years.	I	B	109
• Ticagrelor.	I	B	110
• Clopidogrel, preferably when prasugrel or ticagrelor are either not available or contraindicated.	I	C	-
GP IIb/IIIa inhibitors should be considered for bailout therapy if there is angiographic evidence of massive thrombus, slow or no-reflow or a thrombotic complication.	IIa	C	-
Routine use of a GP IIb/IIIa inhibitor as an adjunct to primary PCI performed with unfractionated heparin may be considered in patients without contraindications.	IIb	B	137–141
Upstream use of a GP IIb/IIIa inhibitor (vs. in-lab use) may be considered in high-risk patients undergoing transfer for primary PCI.	IIb	B	127, 128, 137, 142
Options for GP IIb/IIIa inhibitors are (with LoE for each agent):			
• Abciximab		A	137
• Eptifibatide (with double bolus)		B	138, 139
• Tirofiban (with a high bolus dose)		B	140, 141
Anticoagulants			
An injectable anticoagulant must be used in primary PCI.	I	C	-
Bivalirudin (with use of GP IIb/IIIa blocker restricted to bailout) is recommended over unfractionated heparin and a GP IIb/IIIa blocker.	I	B	124
Enoxaparin (with or without routine GP IIb/IIIa blocker) may be preferred over unfractionated heparin.	IIb	B	122
Unfractionated heparin with or without routine GP IIb/IIIa blocker must be used in patients not receiving bivalirudin or enoxaparin.	I	C	1
Fondaparinux is not recommended for primary PCI.	III	B	118
The use of fibrinolysis before planned primary PCI is not recommended.	III	A	127, 143

Un problema clinico emergente

- La TRIPLICE terapia antitrombotica
DOPPIA antiaggregazione + ANTICOAGULANTE

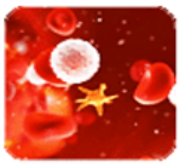
- La DOPPIA terapia antitrombotica
con i NUOVI antiaggreganti e/o anticoagulanti



Emergency Hospitalizations for Adverse Drug Events in Older Americans

DS Budnitz, n engl j med, 2011

Medication	Annual National Estimate of Hospitalizations (N = 99,628)		Proportion of Emergency Department Visits Resulting in Hospitalization
	no.	*% (95% CI)*	%
Most commonly implicated medications†			
Warfarin	33,171	33.3 (28.0–38.5)	46.2
Insulins	13,854	13.9 (9.8–18.0)	40.6
Oral antiplatelet agents	13,263‡	13.3 (7.5–19.1)	41.5
Oral hypoglycemic agents	10,656	10.7 (8.1–13.3)	51.8
Opioid analgesics	4,778	4.8 (3.5–6.1)	32.4
Antibiotics	4,205	4.2 (2.9–5.5)	18.3
Digoxin	3,465	3.5 (1.9–5.0)	80.5
Antineoplastic agents	3,329‡	3.3 (0.9–5.8)‡	51.5
Antiadrenergic agents	2,899	2.9 (2.1–3.7)	35.7
Renin–angiotensin inhibitors	2,870	2.9 (1.7–4.1)	32.6
Sedative or hypnotic agents	2,469	2.5 (1.6–3.3)	35.2
Anticonvulsants	1,653	1.7 (0.9–2.4)	40.0
Diuretics	1,071‡	1.1 (0.4–1.8)‡	42.4
High-risk or potentially inappropriate medications§			
HEDIS high-risk medications	1,207	1.2 (0.7–1.7)	20.7
Beers-criteria potentially inappropriate medications	6,607	6.6 (4.4–8.9)	42.0
Beers-criteria potentially inappropriate medications, excluding digoxin	3,170	3.2 (2.3–4.1)	27.6



Start Antiplatelet

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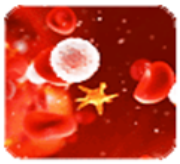


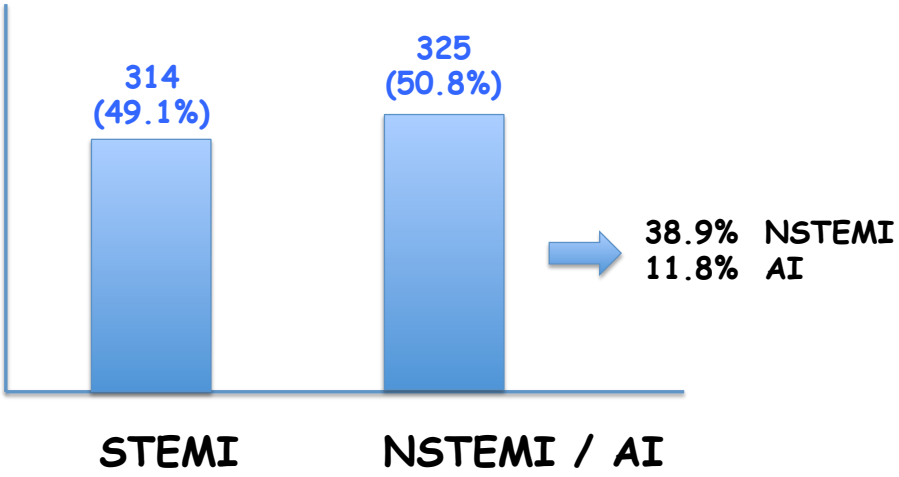
Start Antiplatelet

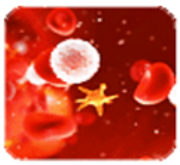
N = 639 pazienti con SCA

478 M/ 161 F

Età: 66,7± 12,6

Analisi a dicembre 2014





Start Antiplatelet

n=639

Analisi a dicembre 2014

ANAMNESI….

Pregresso IMA 132/639 (20,7%)

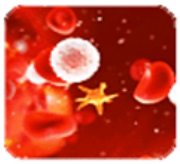
Pregressa PCI 128/639 (20%)

Pregresso TIA 26/639 (4,1%)
Pregresso stroke 18/639 (2,8%)

PAD 53/639 (8,3%)

Pregressa emorragia maggiore 9/639 (1,4%)
3 cerebrale
4 gastrointestinale
1 metrorragia

Pregressa emorragia minore 3/639 (0.4%)



Start Antiplatelet

n=639

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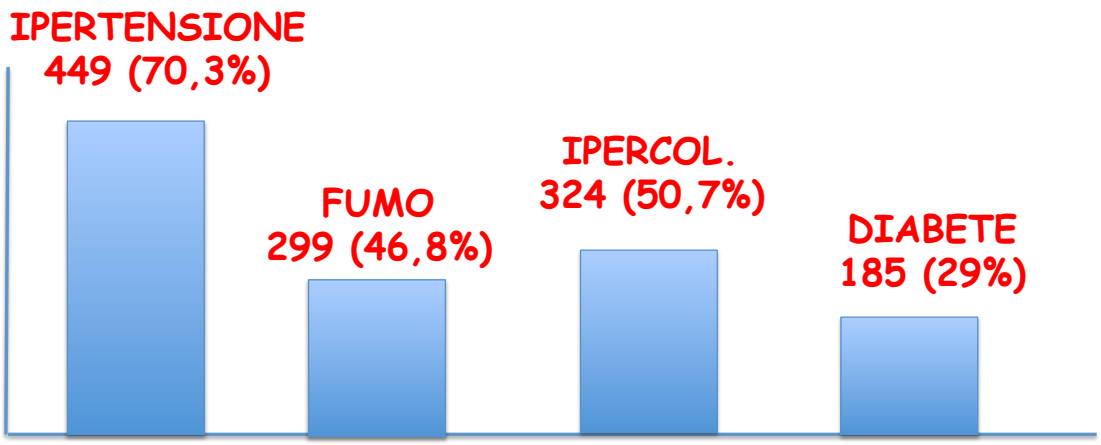
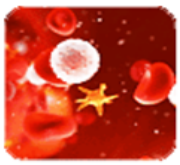
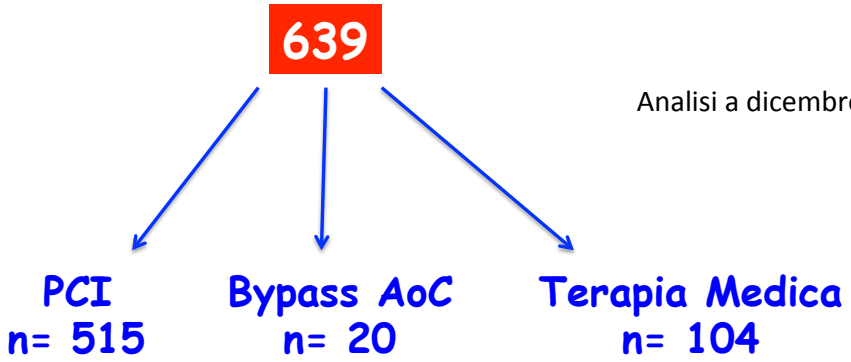
FANV	35/ 639 (5,5%)
FAV	11/639 (1,7%)
Protesi Valvolari Meccaniche	4/639 (0,6%)
TEV	6/639 (0,9%)

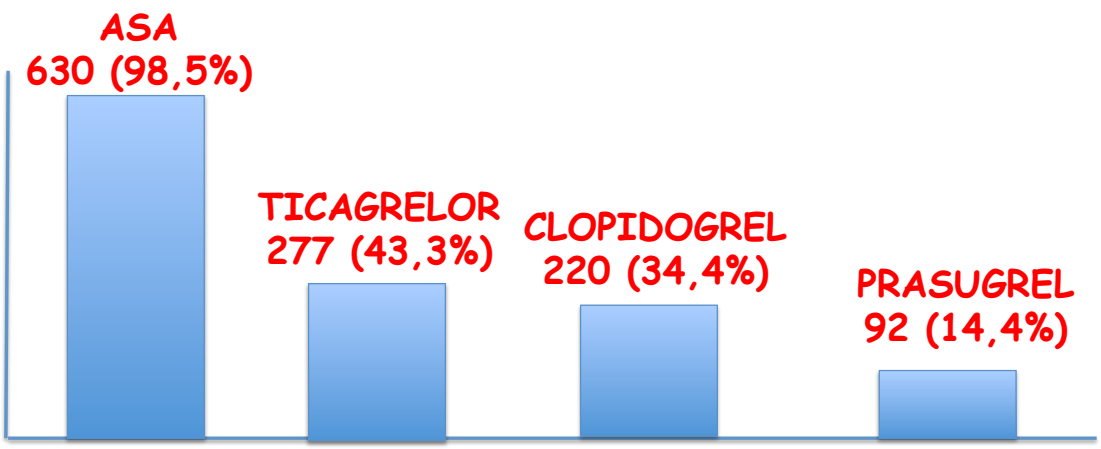


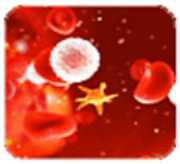


Start Antiplatelet



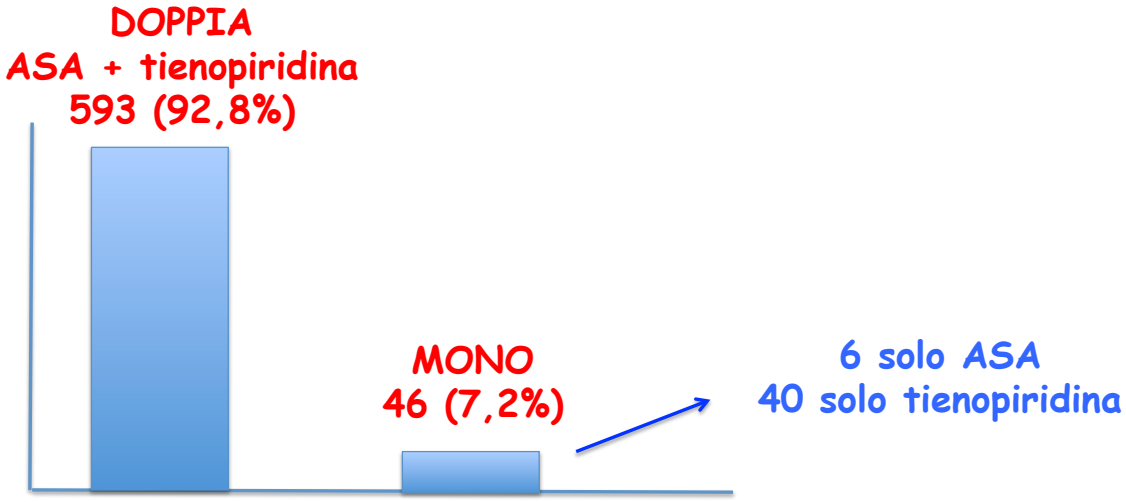
Analisi a dicembre 2014

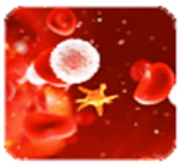




Analisi a dicembre 2014

TERAPIA ANTIAGGREGANTE





Analisi a dicembre 2014

TERAPIA ANTIAGGREGANTE

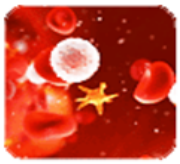
TRIPLICE TERAPIA ANTITROMBOTICA

46/639 7.2%

35: WARFARIN + ASA + CLOPIDOGREL

10: DABIGATRAN + ASA + CLOPIDOGREL

1: APIXABAN + ASA + CLOPIDOGREL



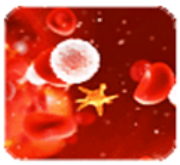
Analisi a dicembre 2014

FATTORI PREDITTIVI SOMMINISTRAZIONE CLOPIDOGREL

Variabili nell'equazione

		B	E.S.	Wald	df	Sig.	Exp(B)	95% CI per EXP(B)	
								Inferiore	Superiore
Passo 1[a]	Sesso	,104	,261	,159	1	,690	1,110	,665	1,852
	età	,048	,011	20,292	1	,000	1,049	1,027	1,071
	nstemistemiVAR00001	-,879	,223	15,485	1	,000	,415	,268	,643
	tiastroke	,894	,458	3,812	1	,051	2,444	,997	5,996
	Arteriopatiaobliteranteperiferica	-,342	,434	,622	1	,430	,710	,304	1,662
	BMI	-,004	,008	,175	1	,675	,997	,980	1,013
	Stent	-,432	,391	1,218	1	,270	,649	,302	1,398
	Ipertensione	-,656	,262	6,289	1	,012	,519	,311	,866
	Fumo	-,278	,237	1,373	1	,241	,757	,475	1,206
	Ipercolesterolemia	,212	,227	,871	1	,351	1,236	,792	1,930
	Diabete	,271	,244	1,234	1	,267	1,311	,813	2,113
	anticoagulante	3,127	,629	24,682	1	,000	22,809	6,642	78,324
	Costante	-2,921	,859	11,568	1	,001	,054		

a. Variabili immesse al passo 1: Sesso, età, nstemistemiVAR00001, tiastroke, Arteriopatiaobliteranteperiferica, BMI, Stent, Ipertensione, Fumo, Ipercolesterolemia, Diabete, anticoagulante.



Analisi a dicembre 2014

FATTORI PREDITTIVI SOMMINISTRAZIONE PRASUGREL

Variabili nell'equazione

		B	E.S.	Wald	df	Sig.	Exp(B)	95% CI per EXP(B)	
								Inferiore	Superiore
Passo 1[a]	Sesso	-,523	,361	2,100	1	,147	,593	,292	1,202
	età	-,048	,012	16,426	1	,000	,953	,932	,976
	nstemistemiVAR00001	1,603	,320	25,124	1	,000	4,968	2,654	9,297
	tiastroke	-1,115	,788	2,004	1	,157	,328	,070	1,535
	Arteriopatiaobliteranteperiferica	-,550	,658	,697	1	,404	,577	,159	2,097
	BMI	,013	,008	2,550	1	,110	1,013	,997	1,030
	Stent	1,658	1,039	2,547	1	,110	5,248	,685	40,203
	Ipertensione	,626	,303	4,278	1	,039	1,870	1,033	3,385
	Fumo	-,051	,280	,034	1	,854	,950	,549	1,644
	Ipercolesterolemia	-,016	,264	,003	1	,953	,985	,587	1,651
	Diabete	,225	,302	,557	1	,455	1,253	,693	2,262
	anticoagulante	-1,510	1,045	2,091	1	,148	,221	,029	1,710
	Costante	-1,878	1,320	2,026	1	,155	,153		

a. Variabili immesse al passo 1: Sesso, età, nstemistemiVAR00001, tiastroke, Arteriopatiaobliteranteperiferica, BMI, Stent, Ipertensione, Fumo, Ipercolesterolemia, Diabete, anticoagulante.

Start Antiplatelet

Analisi a dicembre 2014

FATTORI PREDITTIVI SOMMINISTRAZIONE TICAGRELOR

Variabili nell'equazione

		B	E.S.	Wald	df	Sig.	Exp(B)	95% CI per EXP(B)	
								Inferiore	Superiore
Passo 1[a]	Sesso	-,054	,228	,055	1	,814	,948	,606	1,482
	età	-,010	,008	1,456	1	,228	,990	,974	1,006
	nstemistemiVAR00001	-,168	,189	,783	1	,376	,846	,584	1,226
	tiastroke	-,081	,412	,039	1	,844	,922	,411	2,067
	Arteriopatiaobliteranteperiferica	,128	,370	,119	1	,730	1,136	,550	2,348
	BMI	-,009	,010	,842	1	,359	,991	,972	1,010
	Stent	,246	,363	,462	1	,497	1,279	,629	2,604
	Ipertensione	,090	,216	,173	1	,677	1,094	,717	1,670
	Fumo	,179	,201	,790	1	,374	1,195	,806	1,772
	Ipercolesterolemia	-,076	,190	,158	1	,691	,927	,639	1,345
	Diabete	-,187	,213	,772	1	,380	,829	,547	1,259
	anticoagulante	-2,814	,740	14,473	1	,000	,060	,014	,256
	Costante	,831	,734	1,280	1	,258	2,295		

a. Variabili immesse al passo 1: Sesso, età, nstemistemiVAR00001, tiastroke, Arteriopatiaobliteranteperiferica, BMI, Stent, Ipertensione, Fumo, Ipercolesterolemia, Diabete, anticoagulante.

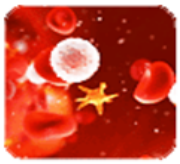
Start Antiplatelet

Analisi a dicembre 2014

FOLLOW-UP 12 MESI

n= 202

MORTE	11 (5,4%)
MORTE CARDIOVASCOLARE	10 (5%)
TVR	9 (4,5%)
IMA	5 (2,4%)
SANGUINAMENTI	
TIMI maggiori	2 (0.9%)
TIMI minori	10 (5%)
ISTH maggiori	2 (0.9%)
ISTH minori	10 (5%)



Start
Antiplatelet

FOLLOW-UP 12 MESI

Analisi a dicembre 2014

n= 202

COMPLICANZA EMORRAGICA

6/10 (60%) pazienti in TRIPLICE TERAPIA (13% dei pz in triplice ha fatto sanguinamento)

4/10 (40%) pazienti in DOPPIA TERAPIA (2.5% dei pazienti in doppia antiaggregazione)

COMPLICANZA ISCHEMICA

6 Clopidogrel (10% dei pazienti in clopidogrel)
3 Ticagrelor (5% dei pazienti in ticagrelor)
1 Prasugrel (5% dei pazienti in prasugrel)