SESIÓN BIBLIOGRÁFICA HEMODINÁMICA

CvLPRIT:

Complete **v**ersus **L**esion only **PR**imary-PC**I** **T**rial

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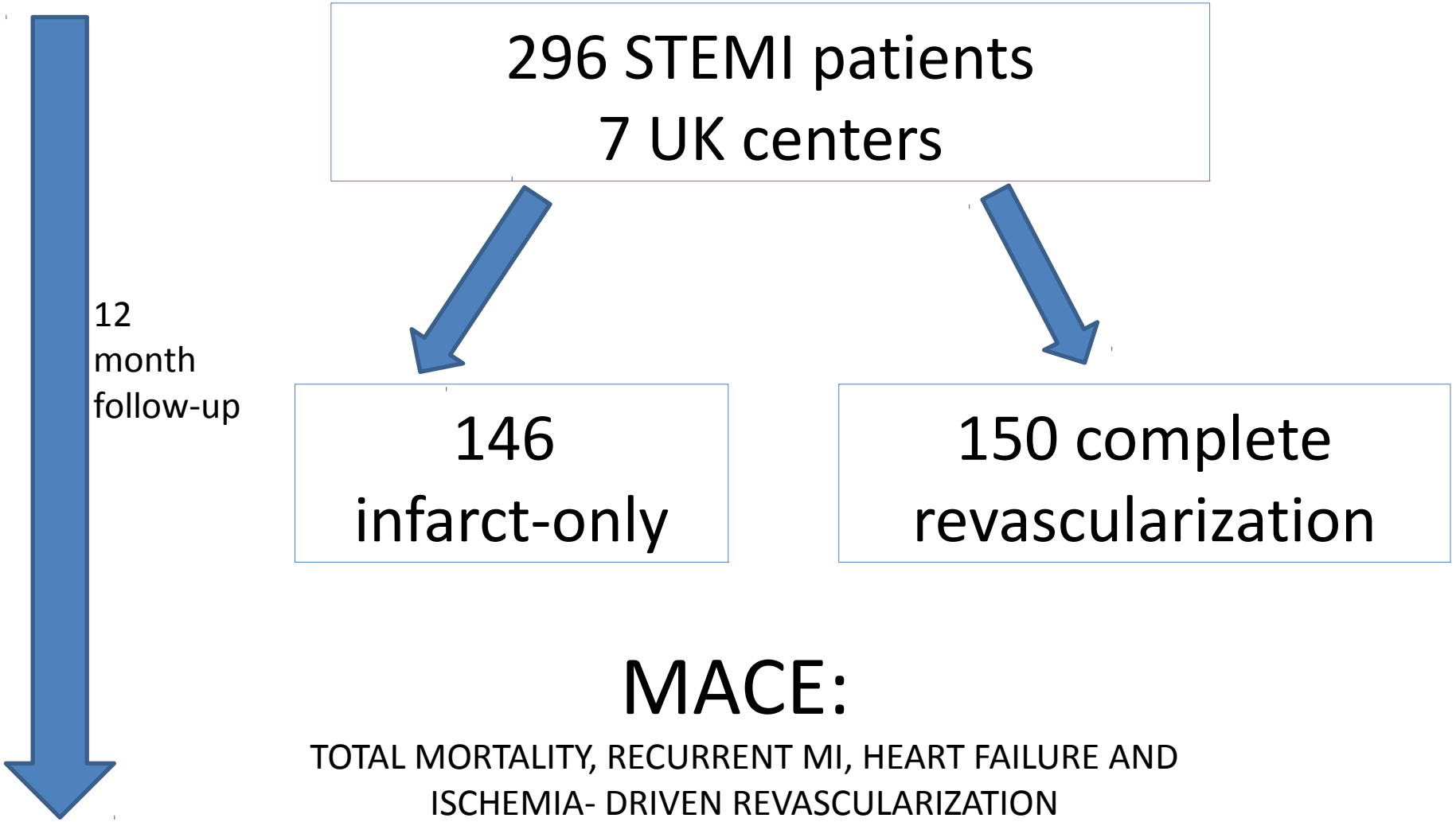
Complete **v**ersus **L**esion only **PR**imary-PC**I** **T**rial



MACE:

TOTAL MORTALITY, RECURRENT MI, HEART FAILURE AND ISCHEMIA- DRIVEN REVASCULARIZATION

CvLPRIT:

Complete versus Lesion only PRimary-PCI Trial

Table 4. Potential benefits and risks of multivessel PCI during PPCI for STEMI.

Potential benefits of MV PCI in STEMI	Potential risks of MV PCI in STEMI
Limitation of infarct size by increasing collateral flow to the at-risk, but non-necrotic, peri-infarct zone	Infarct size may be increased. Approximately one third of patients undergoing elective PCI experience a rise in troponin levels
Reducing overall hospital stay and total cost of care	Risk of contrast-induced nephropathy with increased contrast load may be increased
Reduced ischaemic burden which appears to be an important determinant of outcome following MI, at least in the era before PPCI/stenting	Stenting of bystander lesions in the non-IRAs, which are causing neither ischaemia nor symptoms, may not benefit the patient and merely increases costs
Reduced need for further PCI, either for symptoms or silent ischaemia as per current guidelines	There may be an increased risk of both early, especially in the thrombogenic milieu of acute infarction, and late stent thrombosis and restenosis
Reduced subsequent hospitalisation for the patients and with resultant economic benefits	N-IRA revascularisation may not reduce ischaemia more effectively than by intensive medical therapy following MI
Reduced risk of recurrent MI/death, as has been observed for non-STEMI, although this finding has not been replicated in chronic stable angina	
Reduction in vascular complications by having all PCI performed during the index intervention through a single access site	

CvLPRIT:

Complete versus Lesion only PRimary-PCI Trial

296 STEMI patients
7 UK centers

146
infarct-only

150 complete
revascularization

In the Complete Revascularization (CR) group, the infarct-related artery underwent PCI first before treatment of any significantly blocked non-infarct-related arteries, ideally within the same procedure but at least during the index hospitalization.

CvLPRIT:

Complete versus Lesion only PRimary-PCI Trial

296 STEMI patients
7 UK centers

146
infarct-only

150 complete
revascularization

- Randomization was stratified by infarct site (anterior vs nonanterior) and symptom-onset-to-balloon time (more or less than 3 hours).
- Significant blockage was defined as > 70% on single view or > 50% on 2 views.

CvLPRIT:

Complete versus Lesion only PRimary-PCI Trial

296 STEMI patients
7 UK centers

146
infarct-only

150 complete
revascularization

- Complete revascularization increased both procedure time (55 vs 41 minutes; *P* < .0001) and contrast volume (250 vs 190 mL; *P* < .0001)
- Did not raise the risk of contrast-induced nephropathy (2% in each group; *P* = .95)

CvLPRIT:

Complete versus Lesion only PRimary-PCI Trial

	Infarct-Only (n = 146)	Complete (n = 150)	HR (95% CI)	P Value
MACE	21.2%	10.0%	0.45 (0.24-0.84)	.009
All-Cause Mortality	4.1%	1.3%	0.32 (0.06-1.60)	.14
Recurrent MI	2.7%	1.3%	0.48 (0.09-2.62)	.39
Heart Failure	6.2%	2.7%	0.43 (0.13-1.39)	.14
Repeat Revascularization	8.2%	4.7%	0.55 (0.22-1.39)	.20

CvLPRIT:

Complete versus Lesion only PRimary-PCI Trial

Complete vs Culprit-only Revascularization to Treat Multi-vessel Disease After Primary PCI for STEMI (COMPLETE)

To determine whether, on a background of optimal medical therapy, including ticagrelor, opening of all suitable narrowings or blockages found at the time of primary PCI for an acute heart attack is better than treating only the culprit lesion in patients with multi-vessel disease.

1. Primary Outcome Measures:
Composite of Cardiovascular death or new myocardial Infarction

2. Secondary Outcome Measures: Composite of CV death, new MI, ischemia-driven revascularization or hospitalization for unstable angina or heart failure

3. Other Outcome Measures: Major Bleeding

Estimated Enrollment:	**3900**
Study Start Date:	December 2012
Estimated Study Completion Date:	December 2018

Meta-analysis: No Need for Thienopyridine Loading Dose in NSTE-ACS Patients

Bellemain-Appaix A, Kerneis M, O'Connor SA, et al. Reappraisal of thienopyridine pretreatment in patients with non-ST elevation acute coronary syndrome: a systematic review and meta-analysis. BMJ. 2014;Epub ahead of print.

- **7 studies**, published between 2001 and 2013, including a total of 32,383 NSTE-ACS patients, of whom 17,545 (54.5%) underwent PCI.
  - 3 randomized controlled trials.
  - 1 observational analysis derived from a randomized trial
  - 3 observational studies

- Thienopyridine **pretreatment varied**.
  - Most studies involved a 300-mg clopidogrel loading dose, though 1 employed a loading dose of 600 mg and another left dosing to operator discretion.
  - In the ACCOAST study, pretreated patients received a 30-mg dose of prasugrel at the time of diagnosis and another 30-mg dose with PCI.
  - No study was identified for ticagrelor or cangrelor, and analyses were thus limited to thienopyridines

Meta-analysis: No Need for Thienopyridine Loading Dose in NSTE-ACS Patients

All cause death

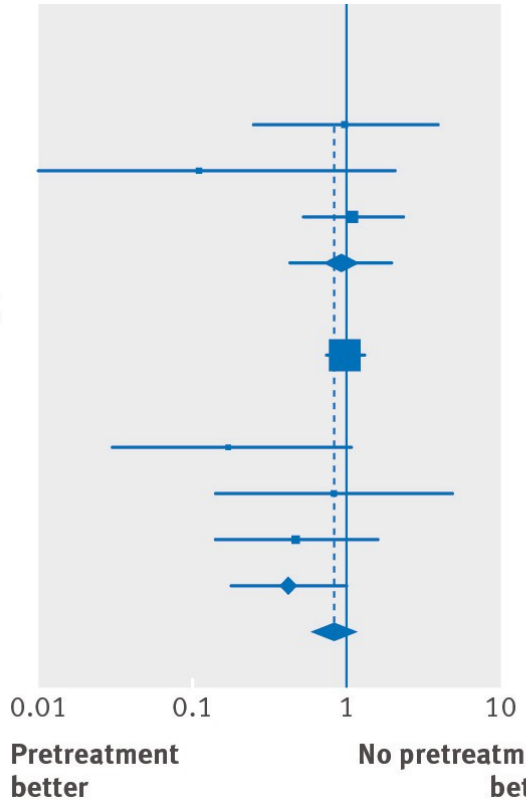
Study	No of events/patients: Pretreatment	No of events/patients: No pretreatment	Odds ratio (95% CI)	Weight (%)	Odds ratio (95% CI)	I^2 value (%) (P value)
Analysis of all patients						
Randomized controlled trials						
ACCOAST	8/2037	10/1996		3·6	0·78 (0·31 to 1·99)	5 (P=0.35)
CREDO	0/900	4/915		0·4	0·11 (0·01 to 2·09)	
CURE*	359/6259	390/6303		62.8	0·92 (0·80 to 1·07)	
Subtotal	367/6196	404/9214		66.8	0·48 (0·09 to 2·61)	
Observational analysis of randomized controlled trial						
ACUITY†	204/5753	64/1770		29.1	0·98 (0·74 to 1·30)	
Observational studies						
Assali et al	2/235	3/64		11·9	0·17 (0·03 to 1·07)	0 (P=0.48)
Feldman et al	2/467	3/574		12·2	0·82 (0·14 to 4·92)	
Chan et al	19/4477	3/332		26·2	0·47 (0·14 to 1·59)	
Subtotal	23/5179	9/970		50.3	0·42 (0·18 to 1·02)	
Total	594/20 128	477/11954		100.0	0·90 (0·75 to 1·07)	10 (P=0.35)

*Follow-up at 9 months
†Follow-up at 1 year

Meta-analysis: No Need for Thienopyridine Loading Dose in NSTE-ACS Patients

All cause death

Analysis of PCI treated patients only					
Randomized controlled trials					
ACCOAST	4/1394	4/1376	5·8	0·98 (0·25 to 3·95)	13 (P=0.32)
CREDO	0/900	4/915	1·3	0·11 (0·01 to 2·09)	
PCI-CURE	14/1313	13/1345	17·8	1·10 (0·52 to 2·36)	
Subtotal	18/3610	21/3636	24.9	0·92 (0·43 to 1·98)	
Observational analysis of randomized controlled trial					
ACUITY-PCI†	105/3511	49/1515	60.9	0·92 (0·65 to 1·30)	
Observational studies					
Assali et al	2/235	3/64	3·4	0·17 (0·03 to 1·07)	0 (P=0.48)
Feldman et al	2/467	3/574	3·5	0·82 (0·14 to 4·92)	
Chan et al	19/4477	3/332	7·3	0·47 (0·14 to 1·59)	
Subtotal	23/5179	9/970	14.3	0·42 (0·18 to 1·02)	
Total	146/12 300	79/6121	100.0	0·83 (0·59 to 1·17)	6 (P=0.38)

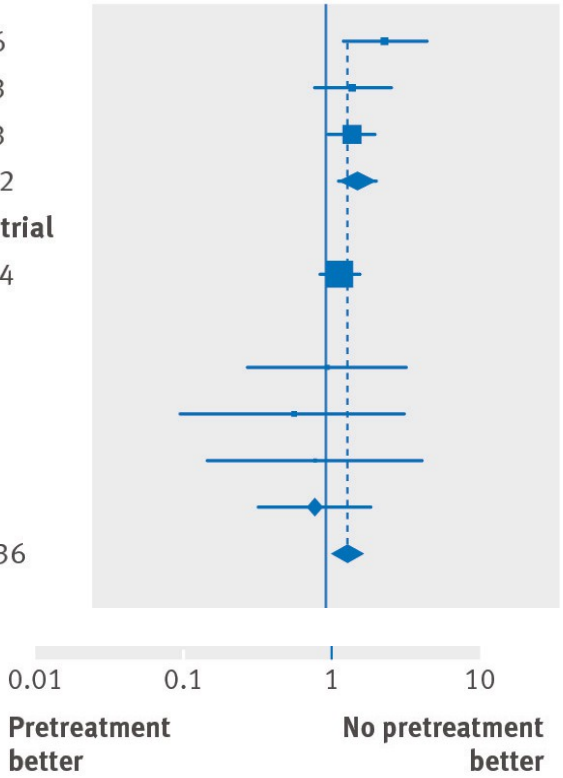


*Follow-up at 9 months
†Follow-up at 1 year

Meta-analysis: No Need for Thienopyridine Loading Dose in NSTE-ACS Patients

Major bleeding

Study	No of events/patients: Pretreatment	No of events/patients: No pretreatment	Weight (%)	Odds ratio (95% CI)	I^2 value (%) (P value)
Analysis of all patients					
Randomized controlled trials					
ACCOAST*	52/2037	27/1996	9·5	1·91 (1·20 to 3·05)	0 (P=0.40)
CREDO*	50/1053	38/1063	11·3	1·34 (0·87 to 2·07)	
CURE	125/6259	95/6303	28.9	1·33 (1·02 to 1·74)	
Subtotal	227/9349	160/9362	49.7	1·43 (1·16 to 1·76)	
Observational analysis of randomized controlled trial					
ACUITY	258/5753	128/3304	44·7	1·16 (0·94 to 1·45)	
Observational studies					
Assali et al	26/235	7/64	2·7	1·01 (0·42 to 2·45)	0 (P=0.89)
Feldman et al	4/467	7/574	1·4	0·70 (0·20 to 2·41)	
Chan et al	36/4477	3/332	1·5	0·89 (0·27 to 2·90)	
Subtotal	66/5179	17/970	5.5	0·89 (0·48 to 1·65)	
Total	551/20 281	305/13 636	100.0	1·27 (1·10 to 1·47)	0 (P=0.52)



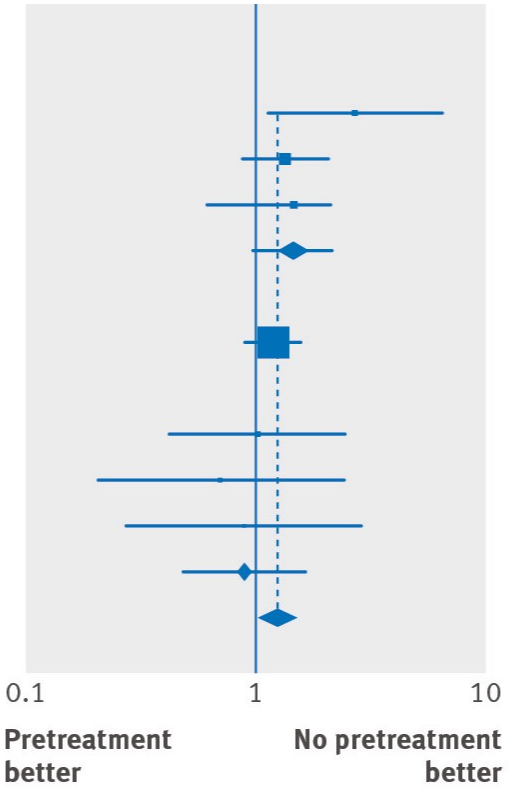
*Follow-up at 9 months
†Follow-up at 1 year

Meta-analysis: No Need for Thienopyridine Loading Dose in NSTE-ACS Patients

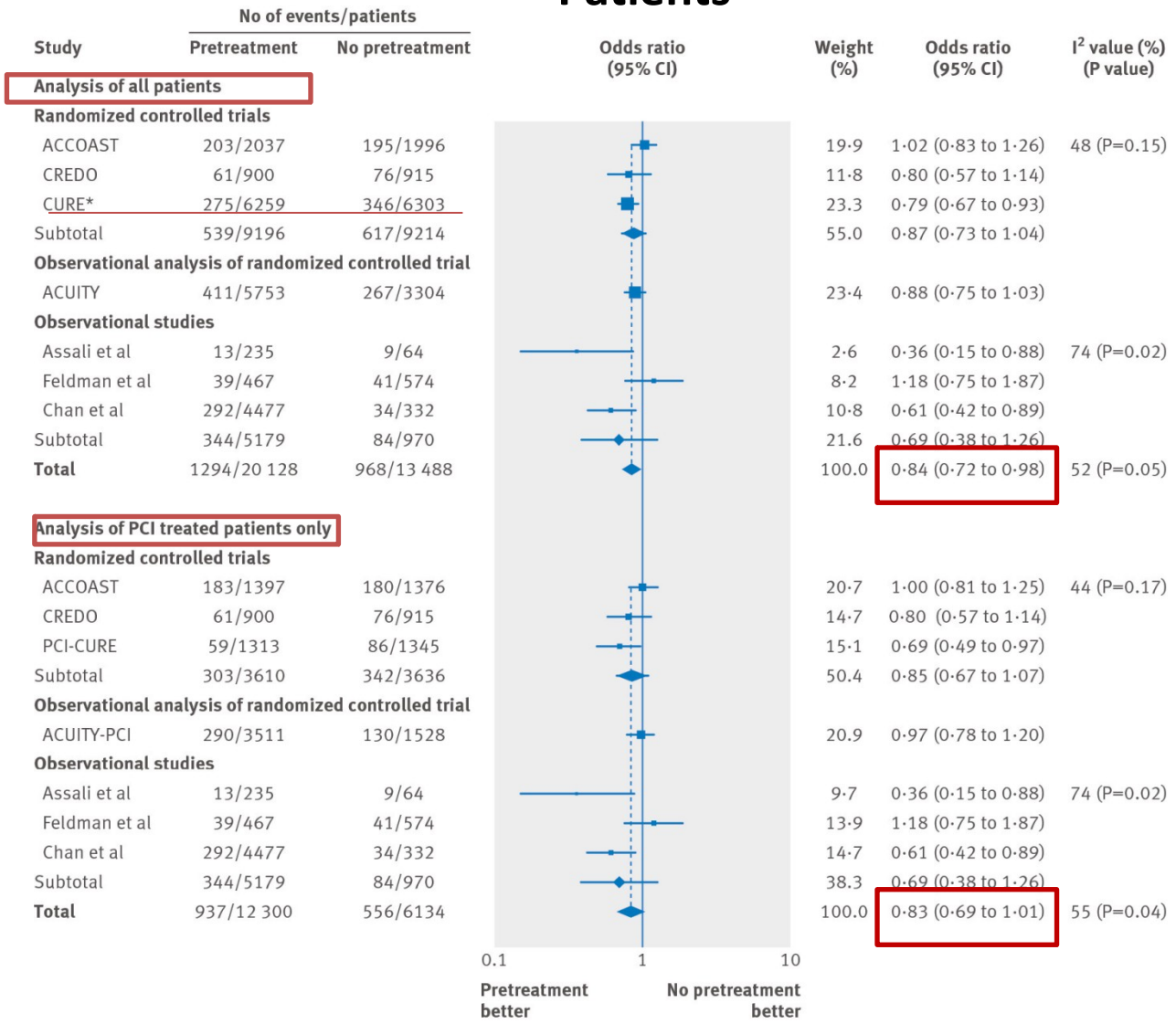
Major bleeding

Analysis of PCI treated patients only					
Randomized controlled trials					
ACCOAST†	19/1397	7/1376	5·4	2·70 (1·13 to 6·44)	25 (P=0.27)
CREDO†	50/1053	38/1063	21·9	1·34 (0·87 to 2·07)	
PCI-CURE	21/1313	19/1345	10·4	1·13 (0·61 to 2·12)	
Subtotal	90/3763	64/3784	37.7	1·45 (0·97 to 2·15)	
Observational analysis of randomized controlled trial					
ACUITY-PCI	188/3511	70/1528	51.5	1·18 (0·89 to 1·56)	
Observational studies					
Assali et al	26/235	7/64	5·2	1·01 (0·42 to 2·45)	0 (P=0.89)
Feldman et al	4/467	7/574	2·7	0·70 (0·20 to 2·41)	
Chan et al	36/4477	3/332	2·9	0·89 (0·27 to 2·90)	
Subtotal	66/5179	17/970	10.8	0·89 (0·48 to 1·65)	
Total	344/12 453	151/6282	100.0	1·23 (1·00 to 1·50)	0 (P=0.58)

*Coronary artery bypass graft (CABG) and non-CABG
†Non-CABG



Meta-analysis: No Need for Thienopyridine Loading Dose in NSTE-ACS Patients



Study	No of events/patients: Pretreatment	No of events/patients: No pretreatment	Weight (%)	Odds ratio (95% CI)	I^2 value (%) (P value)
Analysis of all patients					
Randomized controlled trials					
ACCOAST	203/2037	195/1996	19·9	1·02 (0·83 to 1·26)	48 (P=0.15)
CREDO	61/900	76/915	11·8	0·80 (0·57 to 1·14)	
CURE*	275/6259	346/6303	23.3	0·79 (0·67 to 0·93)	
Subtotal	539/9196	617/9214	55.0	0·87 (0·73 to 1·04)	
Observational analysis of randomized controlled trial					
ACUITY	411/5753	267/3304	23·4	0·88 (0·75 to 1·03)	
Observational studies					
Assali et al	13/235	9/64	2·6	0·36 (0·15 to 0·88)	74 (P=0.02)
Feldman et al	39/467	41/574	8·2	1·18 (0·75 to 1·87)	
Chan et al	292/4477	34/332	10·8	0·61 (0·42 to 0·89)	
Subtotal	344/5179	84/970	21.6	0·69 (0·38 to 1·26)	
Total	1294/20 128	968/13 488	100.0	0·84 (0·72 to 0·98)	52 (P=0.05)
Analysis of PCI treated patients only					
Randomized controlled trials					
ACCOAST	183/1397	180/1376	20·7	1·00 (0·81 to 1·25)	44 (P=0.17)
CREDO	61/900	76/915	14·7	0·80 (0·57 to 1·14)	
PCI-CURE	59/1313	86/1345	15·1	0·69 (0·49 to 0·97)	
Subtotal	303/3610	342/3636	50.4	0·85 (0·67 to 1·07)	
Observational analysis of randomized controlled trial					
ACUITY-PCI	290/3511	130/1528	20.9	0·97 (0·78 to 1·20)	
Observational studies					
Assali et al	13/235	9/64	9·7	0·36 (0·15 to 0·88)	74 (P=0.02)
Feldman et al	39/467	41/574	13·9	1·18 (0·75 to 1·87)	
Chan et al	292/4477	34/332	14·7	0·61 (0·42 to 0·89)	
Subtotal	344/5179	84/970	38.3	0·69 (0·38 to 1·26)	
Total	937/12 300	556/6134	100.0	0·83 (0·69 to 1·01)	55 (P=0.04)

Meta-analysis: No Need for Thienopyridine Loading Dose in NSTE-ACS Patients

Table 1. Outcomes of NSTE-ACS Patients With vs Without Thienopyridine Pretreatment

	OR	95% CI
All-Cause Death		
Overall	0.90	0.75-1.07
PCI Subgroup	0.83	0.59-1.17
CV Death		
Overall	0.72	0.39-1.35
PCI Subgroup	0.78	0.28-2.14
Major Bleeding		
Overall	1.32	1.16-1.49
PCI Subgroup	1.23	1.00-1.50

Meta-analysis: No Need for Thienopyridine Loading Dose in NSTE-ACS Patients

- **No significant reduction of mortality** (odds ratio 0-90 (0.75- to 1.07)
- A significant **30-45% excess of major bleeding** was consistently observed in all patients (odds ratio 1.32 (1.16 to 1.49), P<0.0001) and in those undergoing PCI.
- There was **a reduction in major adverse cardiovascular** events in the analysis of all patients (odds ratio 0.84 (0.72 to 0.98), P=0.02), driven by the **old clopidogrel studies (CURE and CREDO)**, but the difference was not significant for the cohort of patients undergoing PCI
- Stent thrombosis, stroke, and urgent revascularization **did not differ between groups** (pretreatment *vs* no pretreatment)

Meta-analysis: No Need for Thienopyridine Loading Dose in NSTE-ACS Patients

1. In patients presenting with non-ST elevation ACS, pretreatment with thienopyridines **is associated with no significant reduction of mortality but with a significant excess of major bleeding no matter the strategy adopted, invasive or not**.

2. Our results **do not support a strategy of routine pretreatment** in patients with non-ST elevation ACS

GRACIAS

An interventional cardiologist without knwoledge is only just a posh plumber