

Early administration of GpIIb/IIIa inhibitors before Primary PCI



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Acute MI < 12 hrs in the region of 3.2 mln inhabitants



transfer delay
< 30min (Ia)

transfer delay
< 90min (Ib)

transfer delay
> 90min (II)

June
2001

Time to PCI
abciximab
abciximab + 1/2 lytles
& transfer for PCI

Cathlab

Thrombectomy

and
PCI

PCI
and

abciximab

PCI

PCI



PCI guidelines 2005 (ACC/AHA vs ESC)

GPIIb/IIIa inhibitors (STEMI)

ACC/AHA

1. In patients with STEMI undergoing PCI, it is reasonable to administer abciximab as early as possible. (*IIa B*)
2. In patients with STEMI undergoing PCI, treatment with eptifibatide or tirofiban may be considered. (*IIb C*)

ESC

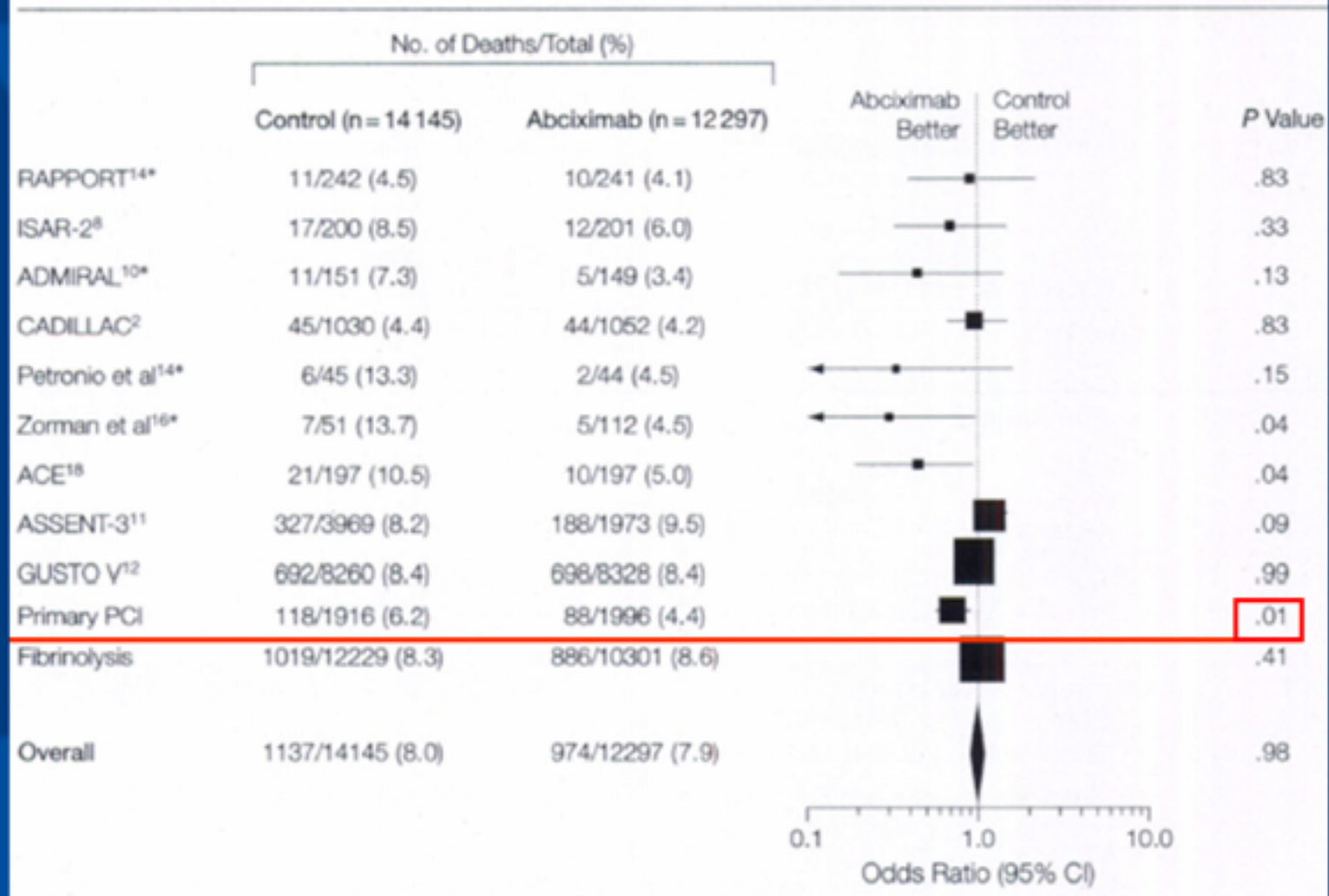
1. Abciximab in STEMI. All Primary PCI (preferably in high-risk patients) (*IIa A*)



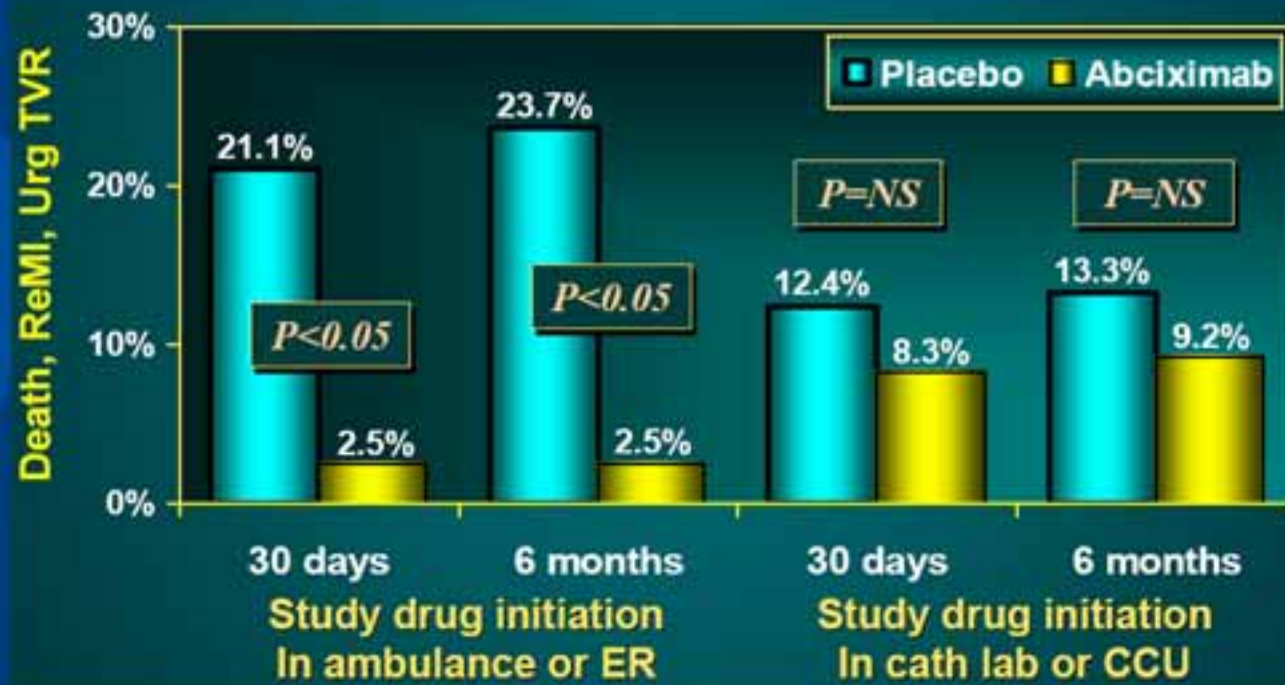
Abciximab randomized studies meta-analysis

Abciximab as Adjunctive Therapy to Reperfusion in Acute ST-Segment Elevation Myocardial Infarction
A Meta-analysis of Randomized Trials

Figure 2. Abciximab and Long-Term (6- and 12-Month) Mortality From Fixed-Effects Model



ADMIRAL



- **ADMIRAL:**
 - Early abciximab administration and MACE



Impact of abciximab administration

ADMIRAL study 3-year follow-up

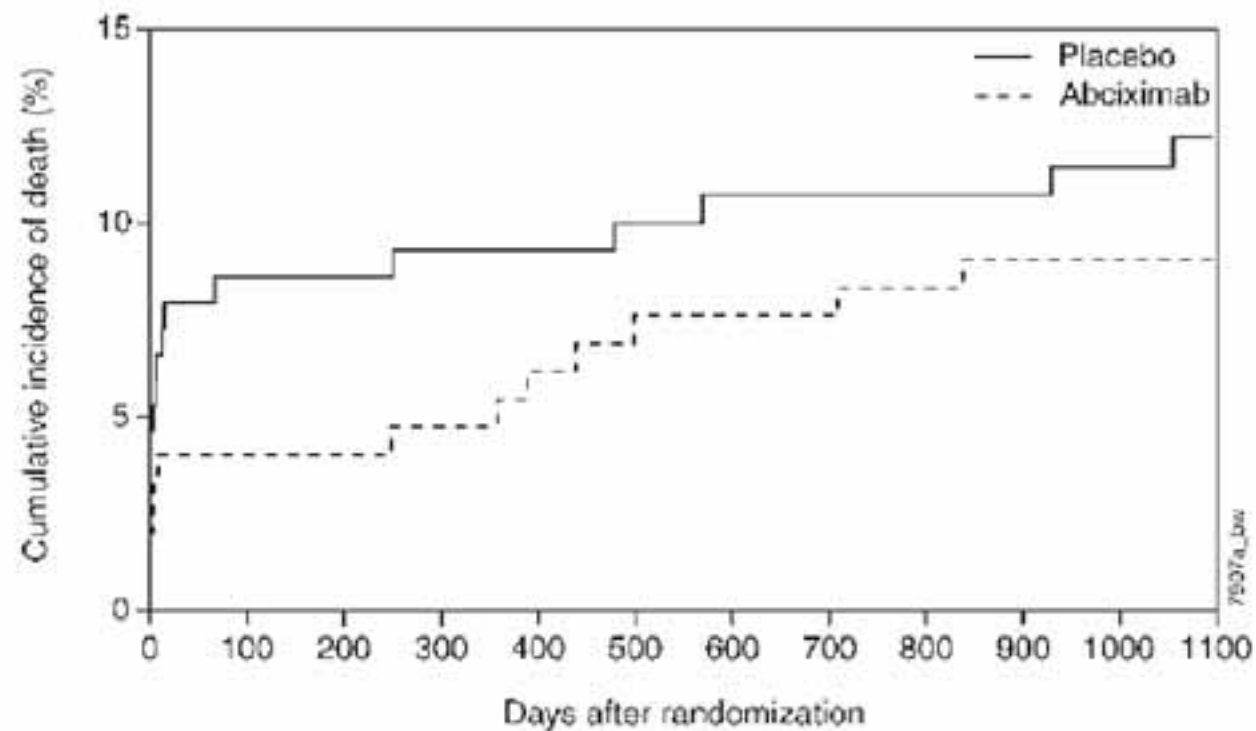


Figure 1 Cumulative incidence of all-cause mortality at 3 years after randomization. The absolute difference at 3 years was 3.1% (95% CI: -3.9%; 10.1%), $P = 0.36$.



Acute MI < 12 hrs in the region of 3.2 mln inhabitants



transfer < 30min
(Ia)

transfer < 90min
(Ib)

TELE -EKG

Cathlab

Thrombectomy

and
PCI

PCI

and
abciximab



Acute MI < 12 hrs in the region of 3.2 mln inhabitants



Cathlab

Thrombolysis

and

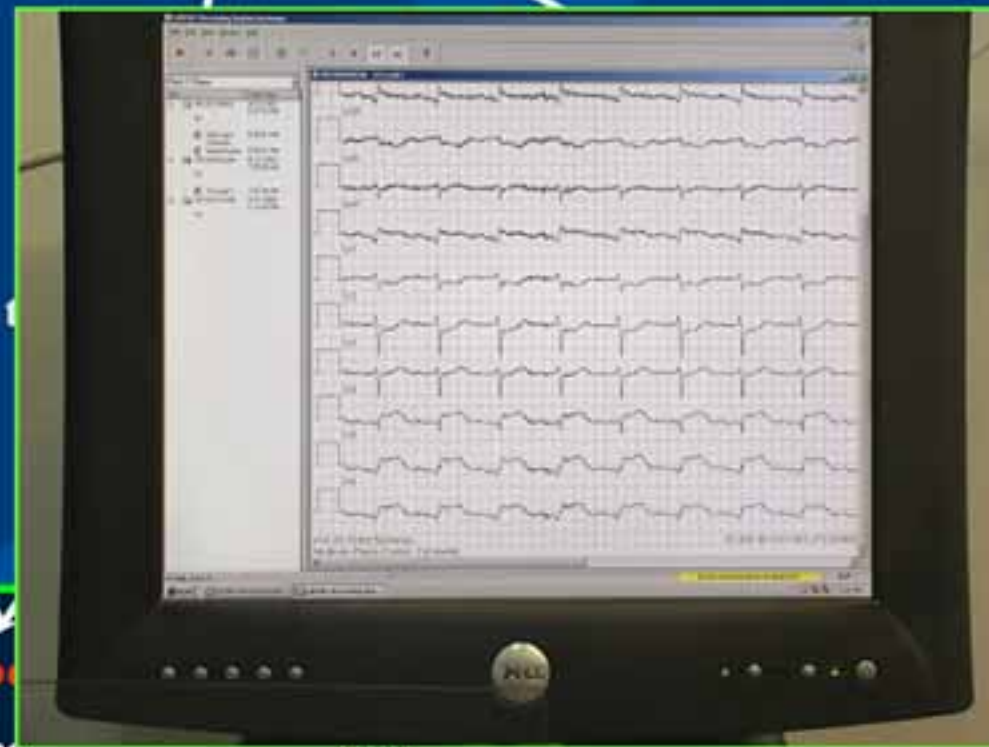
PCI

and

abciximab



Acute MI < 12 hrs in the region of 3.2 mln inhabitants



Cathlab

Thrombolysis

and
PCI

and
abciximab



Acute MI < 12 hrs in the region of 3.2 mln inhabitants



transfer < 30min
(Ia)

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TELE -EKG

abciximab

Thrombectomy

PCI

PCI

Cathlab

and
PCI

and

abciximab



Facilitated PCI – meta analysis

Facilitated PCI Meta-analysis

Trials Included in Analysis

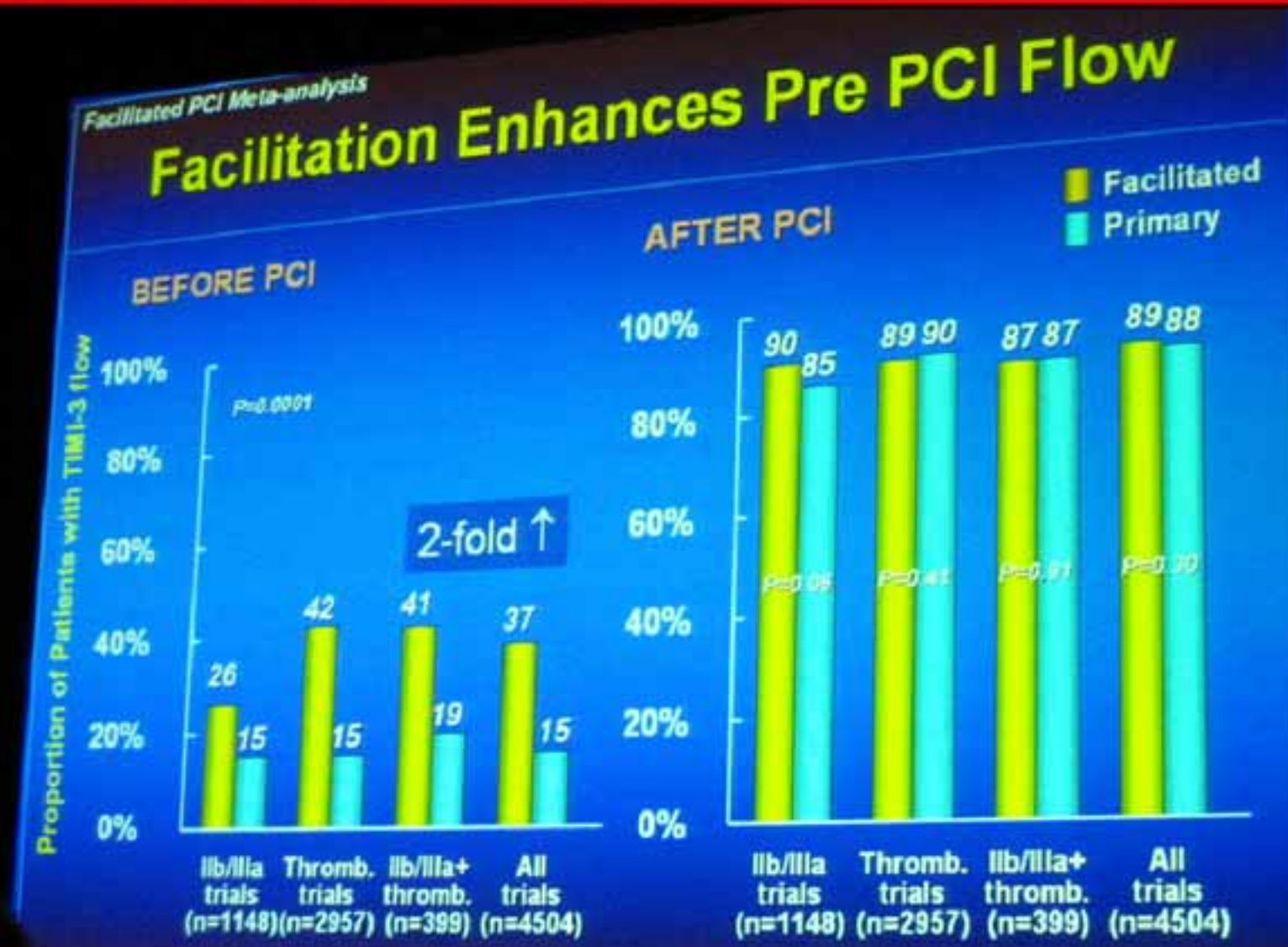
IIb/IIIa N=1148	Full Dose Lytic N=2957	½ Lytic + IIb/IIIa N=399
On-TIME TIGER-PA ERAMI REOMOBILE Zorman Cutlip ReoPro-Bridging INTAMI Bellandi	ASSENT-4 PCI SAMI PRAGUE LIMI PACT GRACIA-2	ADVANCE-MI BRAVE

6 studies used fibrin-specific agent

Keeley and Grines, 2005



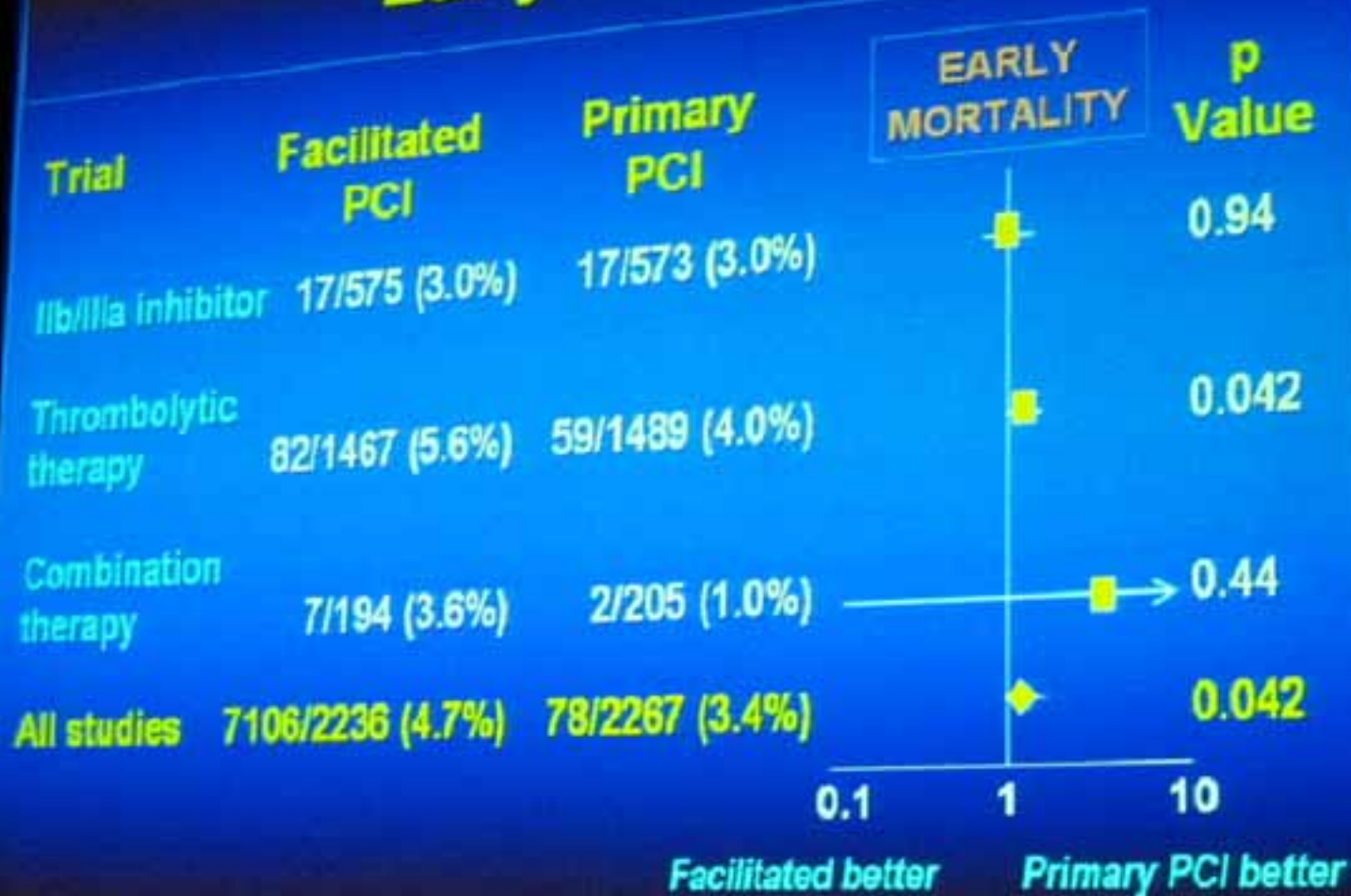
Facilitated PCI – meta analysis



Facilitated PCI – meta analysis

Facilitated PCI Meta-analysis

Early Mortality



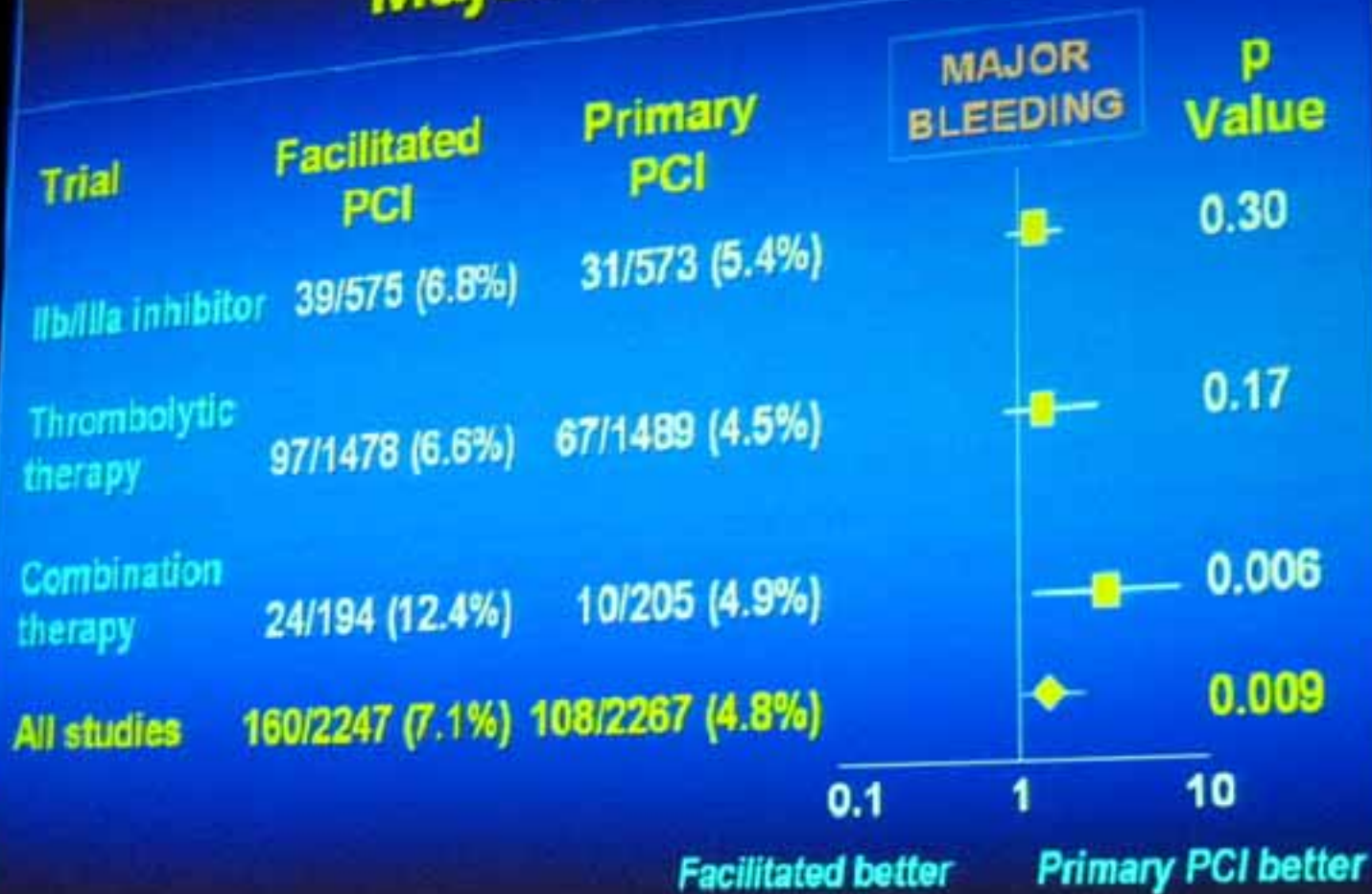
Keeley and Grines, 2005



Facilitated PCI – meta analysis

Facilitated PCI Meta-analysis

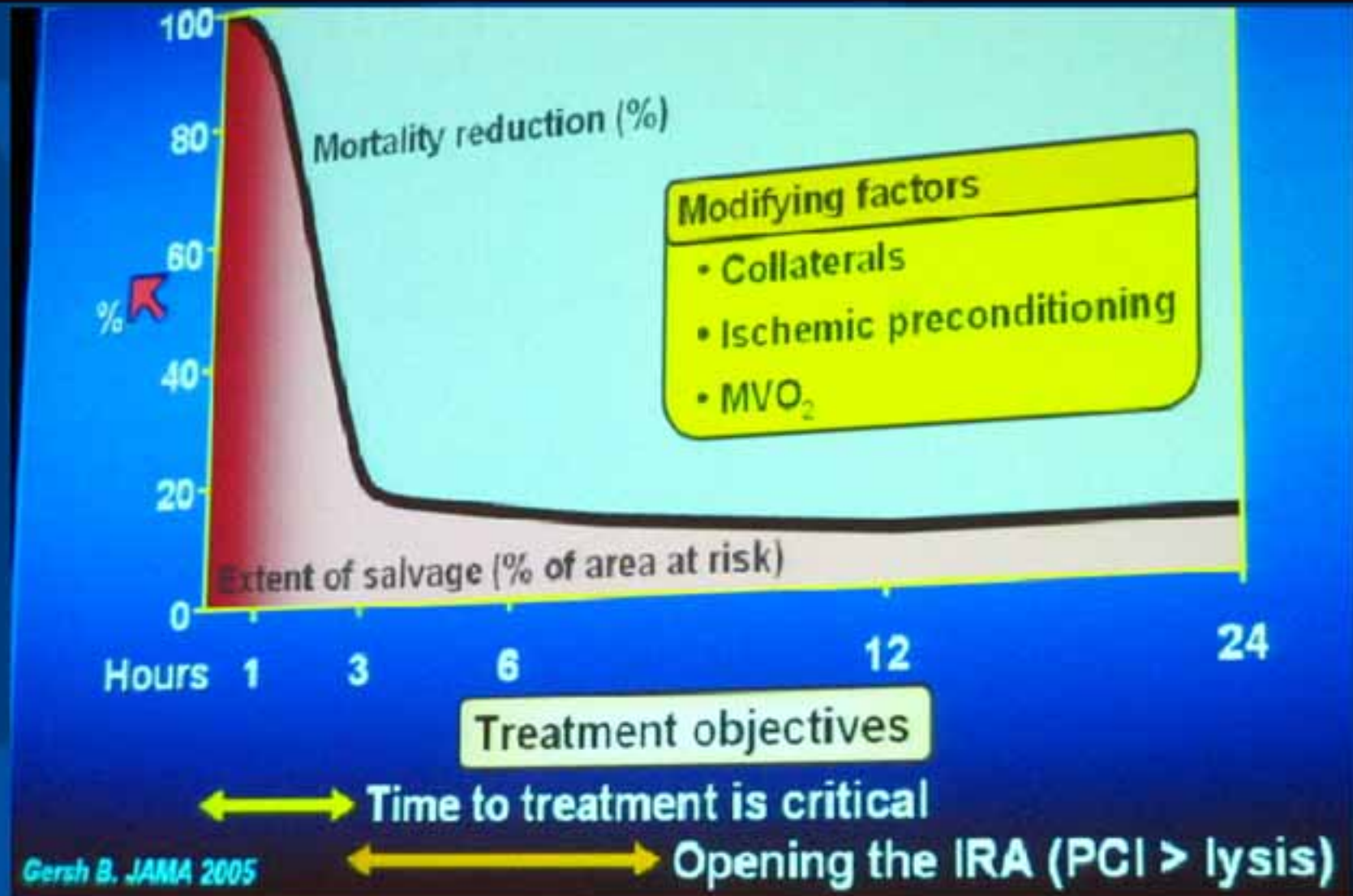
Major Bleeding



Keeley and Grines, 2005



STEMI – PCI or lysis and TIME



Gersh B. JAMA 2005



Facilitated PCI – meta analysis

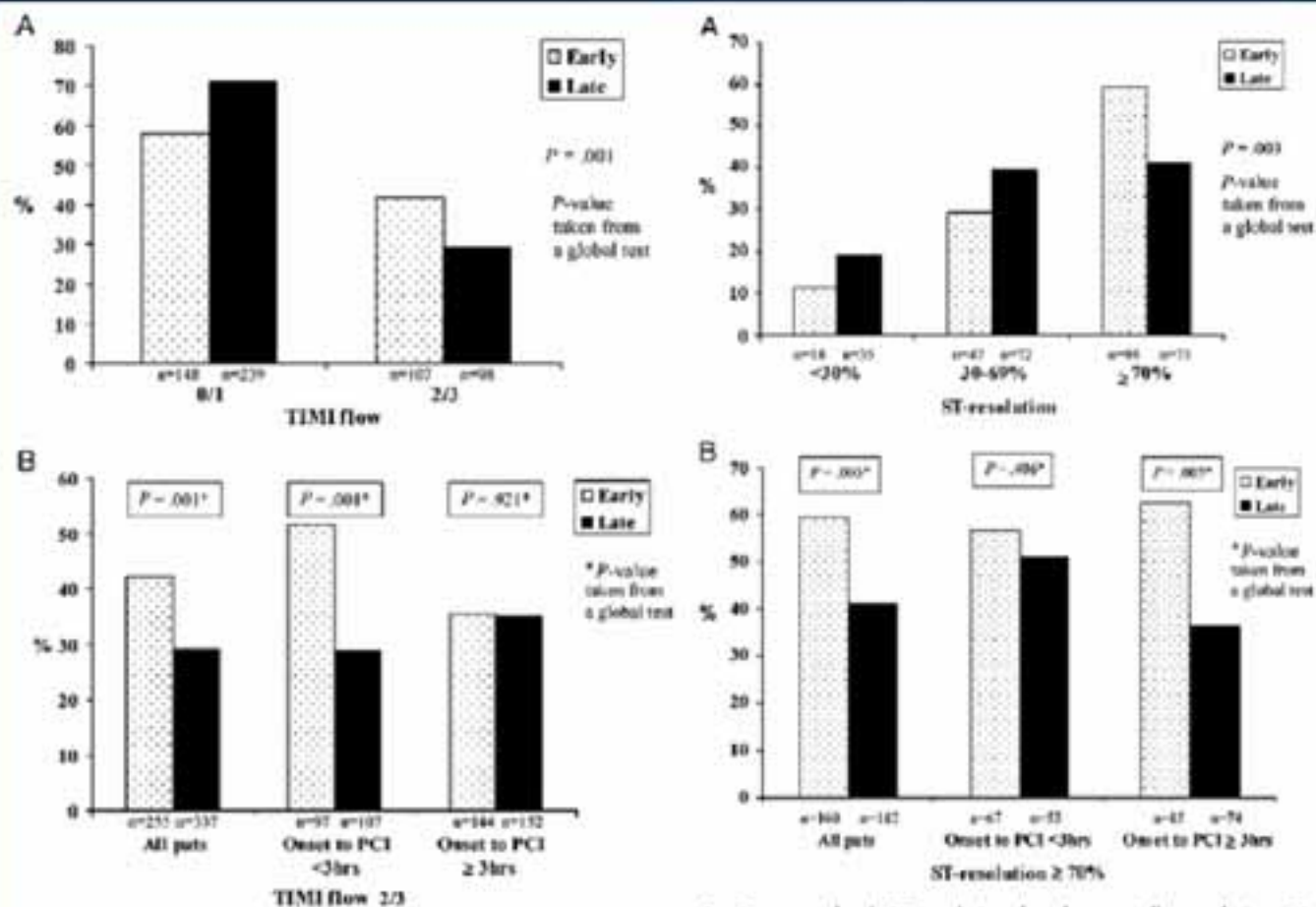
1. In STEMI patients, pharmacologic pretreatment prior to PCI does improve initial TIMI3 flow
2. However, facilitated PCI does not result in improved clinical outcome



Impact of early abciximab administration (metaanalysis)

abciximab

Early administration of abciximab improves epicardial patency (TIMI flow) before PCI and results in better myocardial tissue perfusion (ST-resolution) after the procedure.



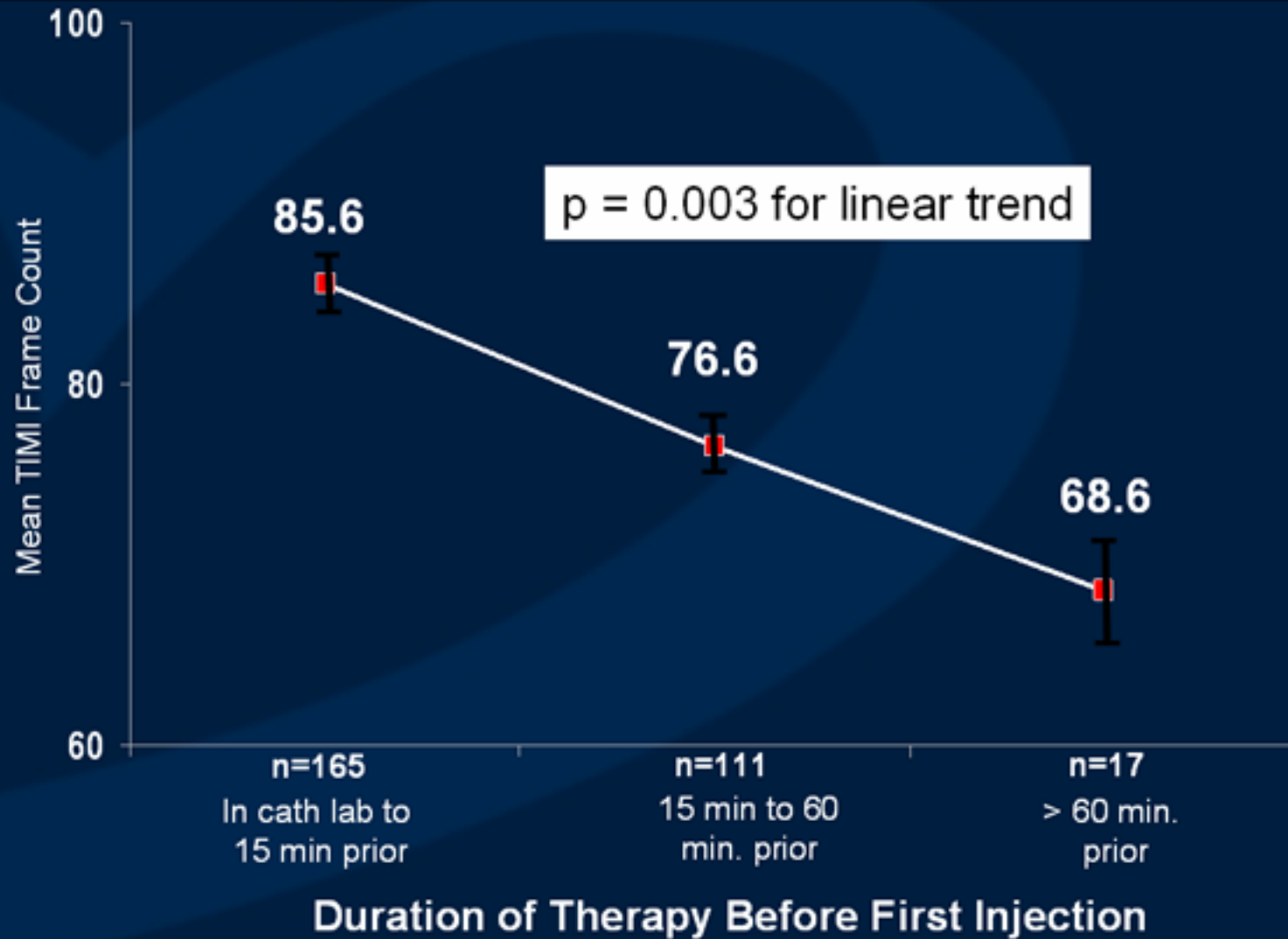
A. Pre-PCI TIMI flow for the overall population. **B.** Pre-PCI TIMI flow 2/3 by timing of PCI from symptom onset.

A. Postprocedural ST-resolution for the overall population. **B.** Postprocedural ST-resolution ≥70% by timing of PCI from symptom onset.



TITAN-TIMI 34: Duration of Therapy and Pre-PCI TIMI Frame Count

**F
A
S
T
E
R
F
L
O
W**



Earlier Treatment



Early abciximab administration in acute myocardial infarction treated with primary coronary intervention.

abciximab

- Randomized study
- 27 pts – abciximab before transfer to cath lab (EA)
- 28 pts – abciximab during PCI (LA)
- SPECT 0, 7, 30 day
- salvage index and left ventricular function recovery significantly greater in the early abciximab group (P=0.007; and P=0.043).

	Early (n=27)	Late (n=28)	P value
Initial TIMI flow grade			
0	15 (55.6)	19 (67.9)	0.51
1	1 (3.7)	2 (7.1)	0.97
2	1 (3.7)	4 (14.3)	0.37
3	10 (37)	3 (10.7)	0.048
Initial myocardial blush grade			0.1
0 or 1	17 (63)	24 (85.8)	
2 or 3	10 (37)	4 (14.2)	
Initial corrected TIMI frame count (frames)	71±39	89±21	0.037
Final TIMI flow grade			0.037
2	1 (3.7)	4 (14.3)	
3	26 (96.3)	24 (85.7)	
Final myocardial blush grade			0.046
0 or 1	4 (14.8)	12 (42.9)	
2 or 3	23 (85.2)	16 (57.1)	
Final corrected TIMI frame count (frames)	23.4±9.3	27±13.3	0.25



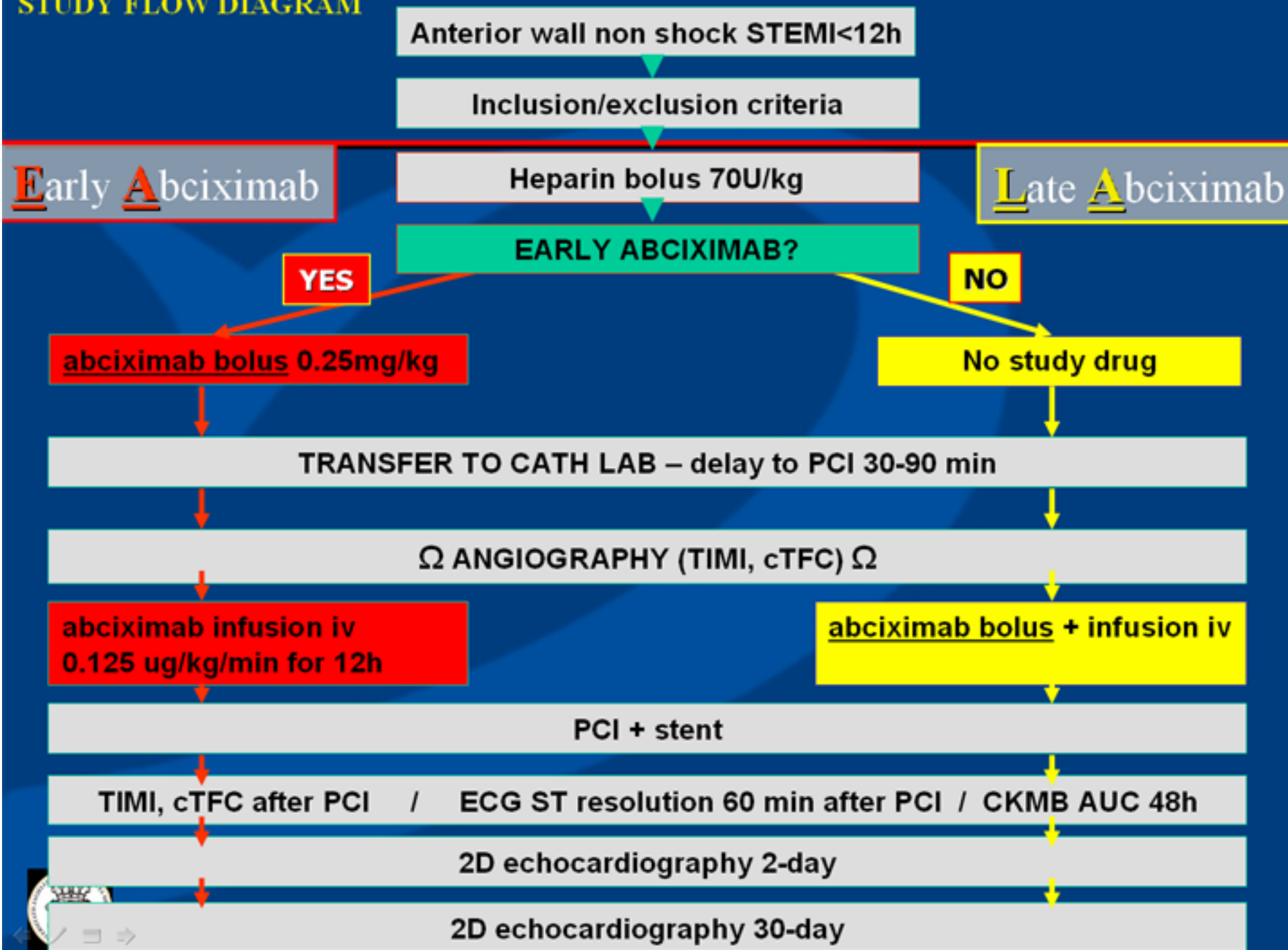
Impact of Early Abciximab Administration before Primary Percutaneous Coronary Interventions in Anterior Myocardial Infarction on Reperfusion and Left Ventricular Function.

Tomasz Rakowski, Dariusz Dudek, Jaroslaw Zalewski, Jacek Legutko, Stanislaw Bartus, Lukasz Rzeszutko, Danuta Sorysz, Krzysztof Zmudka, Jacek S. Dubiel

Jagiellonian University, Institute of Cardiology, Krakow, Poland



STUDY FLOW DIAGRAM



Early Abciximab

Late Abciximab

Anterior wall non shock STEMI < 12h

Inclusion/exclusion criteria

Heparin bolus 70U/kg

EARLY ABCIXIMAB?

YES

NO

abciximab bolus 0.25mg/kg

No study drug

TRANSFER TO CATH LAB – delay to PCI 30-90 min

Ω ANGIOGRAPHY (TIMI, cTFC) Ω

**abciximab infusion iv
0.125 ug/kg/min for 12h**

abciximab bolus + infusion iv

PCI + stent

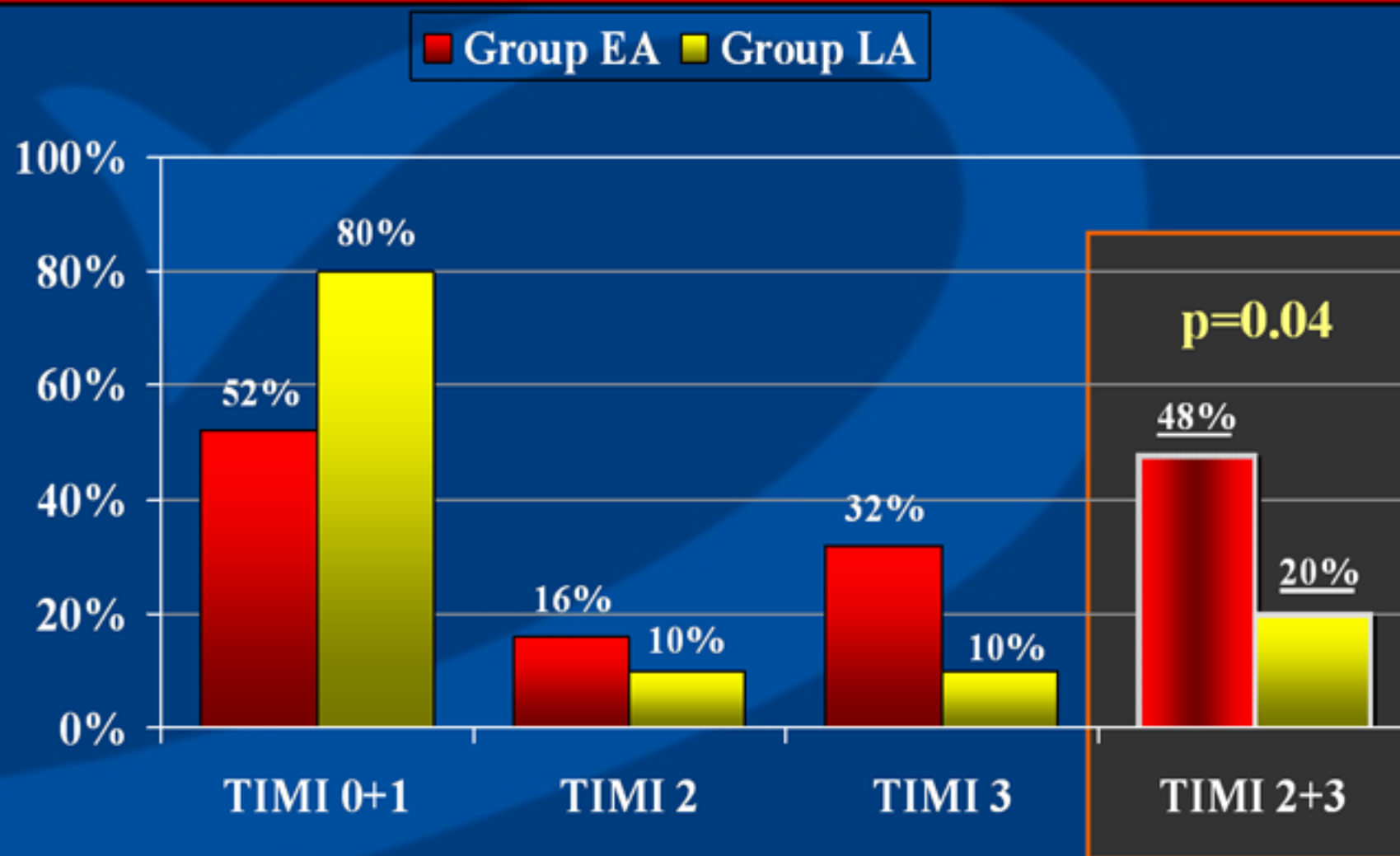
TIMI, cTFC after PCI / ECG ST resolution 60 min after PCI / CKMB AUC 48h

2D echocardiography 2-day

2D echocardiography 30-day

Angiography Results: Baseline angiography

Early vs Late abciximab

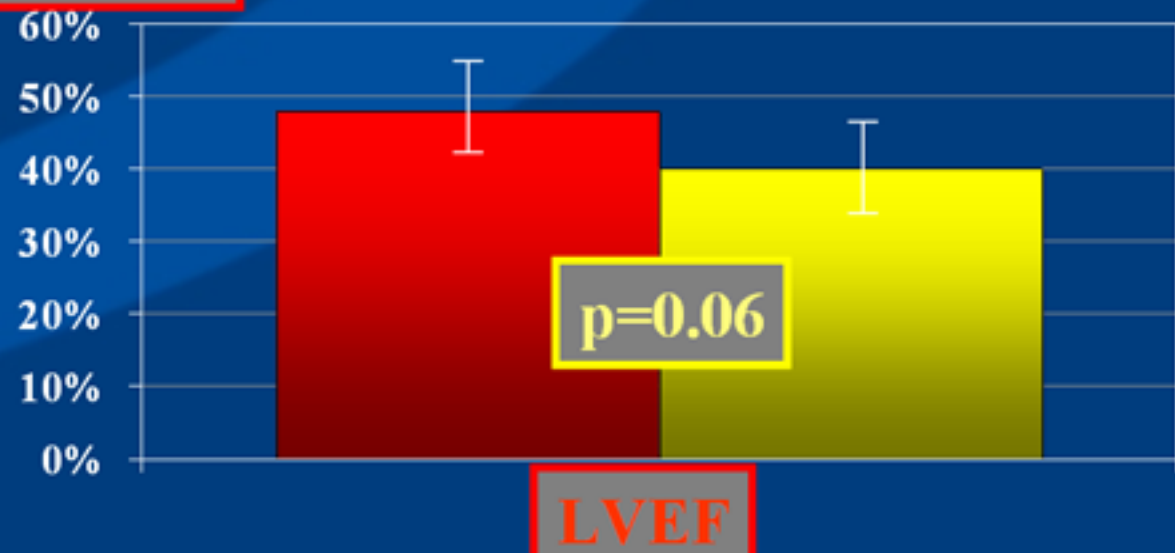
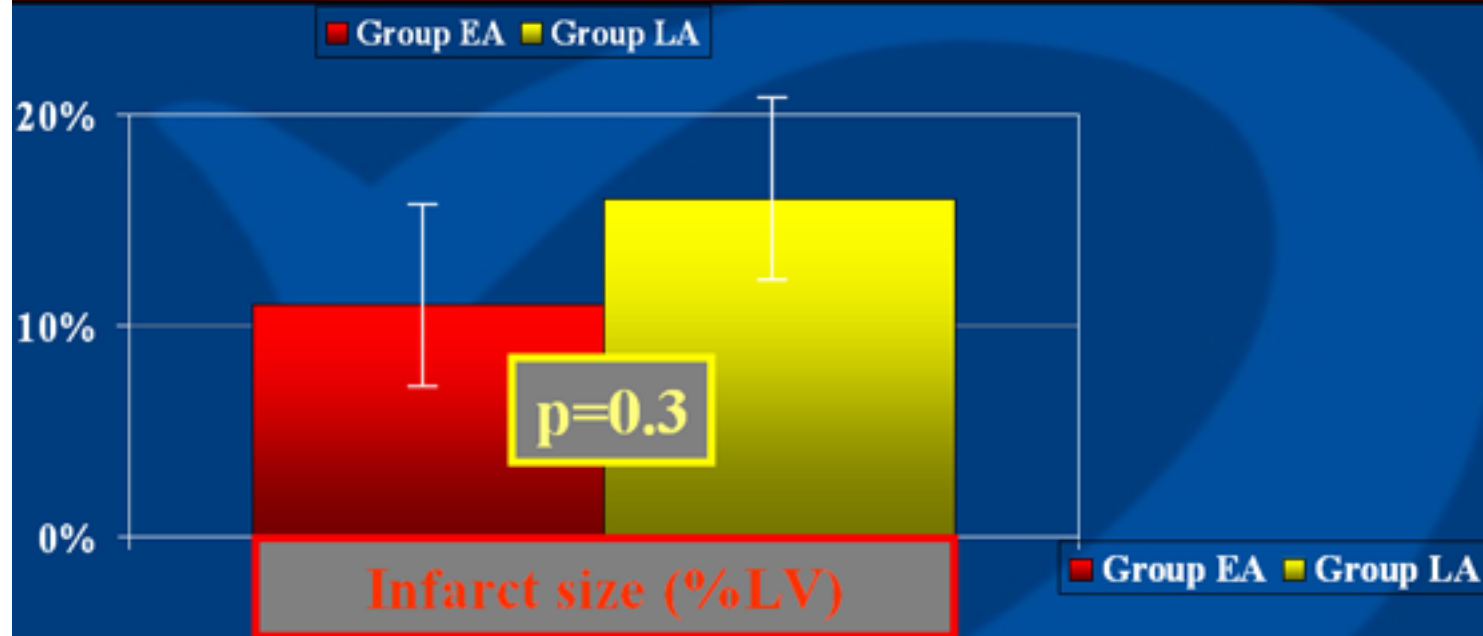


BASELINE ANGIOGRAPHY

CARDIAC MAGNETIC RESONANCE sub-study

Infarct size and LV function at 1 year

Early vs Late abciximab



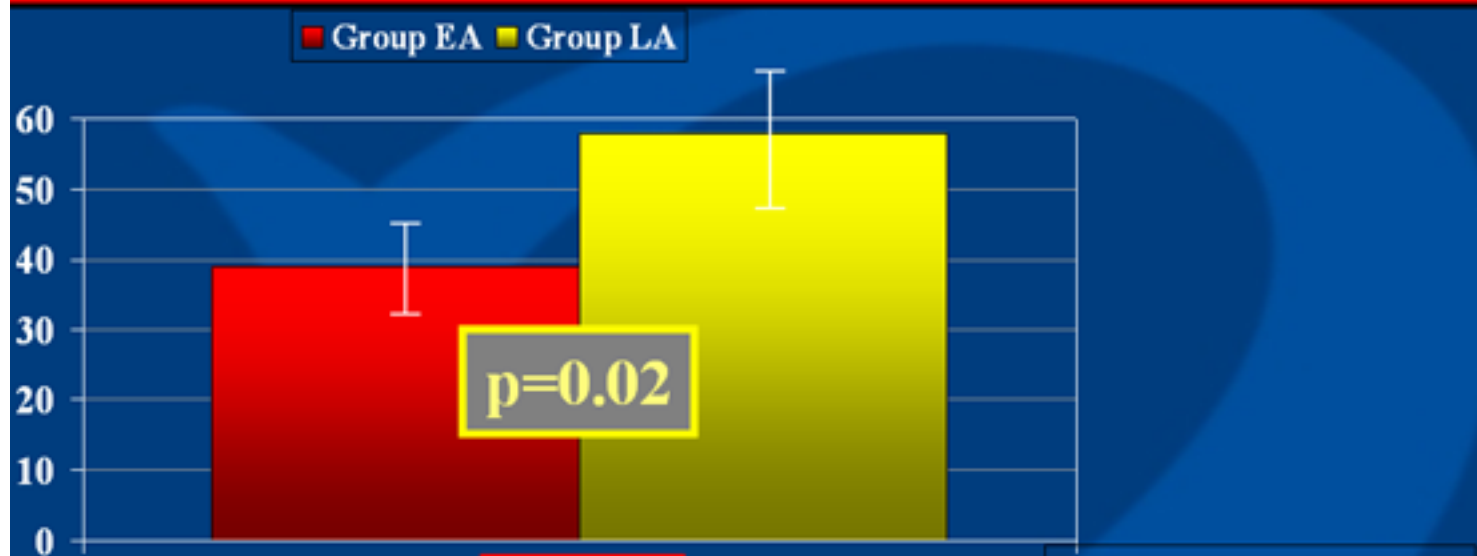
Department of Radiology
University Hospital
Krakow



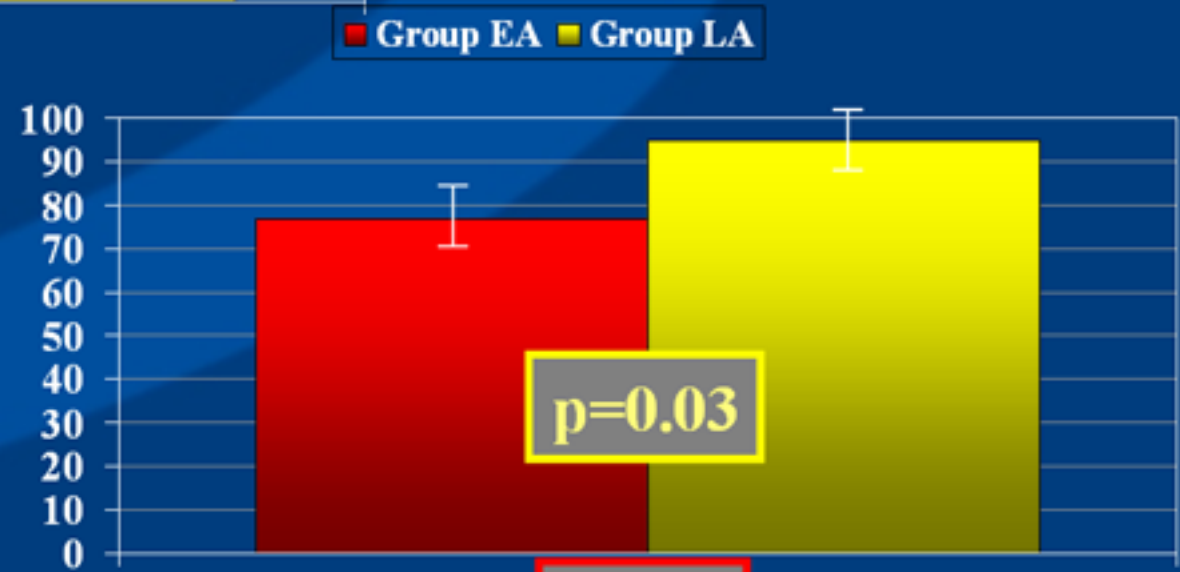
CARDIAC MAGNETIC RESONANCE sub-study

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Early vs Late abciximab



ESVI



EDVI

Department of Radiology
University Hospital
Krakow



IIb/IIIa blockers – facilitated PCI

Early abciximab administration before transfer for PPCI in patients with first anterior wall STEMI is feasible and results:

- a. in more frequent IRA recanalization before PPCI**
- b. better myocardial reperfusion after PPCI**
- c. lower degree of LV remodeling during follow up.**



IIb/IIIa blockers – facilitated PCI

- 1. In STEMI patients, pharmacologic pretreatment prior to PCI improves initial TIMI3 flow**
- 2. It is reasonable to start GPIIb/IIIa as early as possible prior to primary angioplasty**

