



# **Bivalirudin should be indicated for all patients with STEMI**

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Germany

# Heparin+IIb/IIIa, heparin alone or bivalirudin in STEMI: Do we have the answer?

Circulation



## Effect of Glycoprotein IIb/IIIa Receptor Blockade on Recovery of Coronary Flow and Left Ventricular Function After the Placement of Coronary-Artery Stents in Acute Myocardial Infarction

Franz-Josef Neumann, MD; Rudolf Blasini, MD; Claus Schmitt, MD; Eckhard Alt, MD; Josef Dirschniger, MD; Meinrad Gawaz, MD; Adnan Kastrati, MD; Albert Schöning, MD



## COMPARISON OF ANGIOPLASTY WITH STENTING, WITH OR WITHOUT ABCIXIMAB, IN ACUTE MYOCARDIAL INFARCTION

GREGG W. STONE, M.D., CINDY L. GRINES, M.D., DAVID A. COX, M.D., EULOGIO GARCIA, M.D., JAMES E. TCHENG, M.D., JOHN J. GRIFFIN, M.D., GIULIO GUAGLIUMI, M.D., THOMAS STUCKEY, M.D., MARK TURCO, M.D., JOHN D. CARROLL, M.D., BARRY D. RUTHERFORD, M.D., AND ALEXANDRA J. LANSKY, M.D., FOR THE CONTROLLED ABCIXIMAB AND DEVICE INVESTIGATION TO LOWER LATE ANGIOPLASTY COMPLICATIONS (CADILLAC) INVESTIGATORS\*

**Circulation**

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Abciximab in Patients With Acute ST-Segment Elevation Myocardial Infarction Undergoing Primary Percutaneous Coronary Intervention After Clopidogrel Loading: A Randomized Double-Blind Trial  
Jürgen Mehili, Adnan Kastrati, Stefanie Schulz, Stefan Fröngel, Stephan G. Nekolla, Werner Moslener, Franz Dotzer, Kurt Huber, Jürgen Pache, Josef Dirschniger, Melchior Seyfarth, Stefan Martinoff, Markus Schwinger, Albert Schöning and for the Bavarian Reperfusion Alternatives Evaluation-3 (BRAVE-3) Study Investigators



## PLATELET GLYCOPROTEIN IIb/IIIa INHIBITION WITH CORONARY STENTING FOR ACUTE MYOCARDIAL INFARCTION

GILLES MONTALESCOT, M.D., PH.D., PAUL BARRAGAN, M.D., OLIVIER WITTENBERG, M.D., PATRICK ECOLLAN, M.D., SIMON ELHADAD, M.D., PHILIPPE VILLAIN, M.D., JEAN-MARC BOULENC, M.D., MARIE-CLAUDE MORICE, M.D., LUC MAILLARD, M.D., MICHEL PANSIERI, M.D., REMI CHOUSSAT, M.D., AND PHILIPPE PINTON, M.D., FOR THE ADMIRAL INVESTIGATORS\*

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## CLINICAL RESEARCH

## Clinical Trials

### A Randomized Trial Comparing Primary Infarct Artery Stenting With or Without Abciximab in Acute Myocardial Infarction

David Antoniucci, MD,\* Alfredo Rodriguez, MD,† Albrecht Hempel, MD,‡ Renato Valenti, MD,\* Angela Migliorini, MD,\* Federico Vigo, MD,† Guido Parodi, MD,\* Carlos Fernandez-Pereira, MD,† Guia Moschi, MD,\* Antonio Bartorelli, MD,§ Giovanni Maria Santoro, MD,\* Leonardo Bolognese, MD,\* Antonio Colombo, MD||

Florence and Milan, Italy; Buenos Aires, Argentina; and Bernau, Germany

## Bivalirudin during Primary PCI in Acute Myocardial Infarction

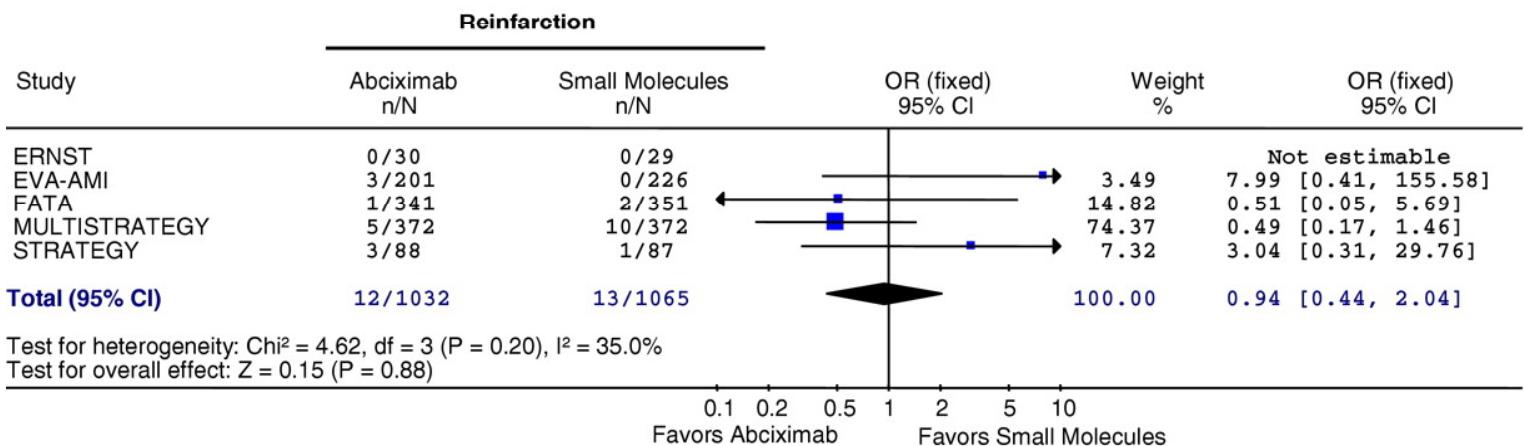
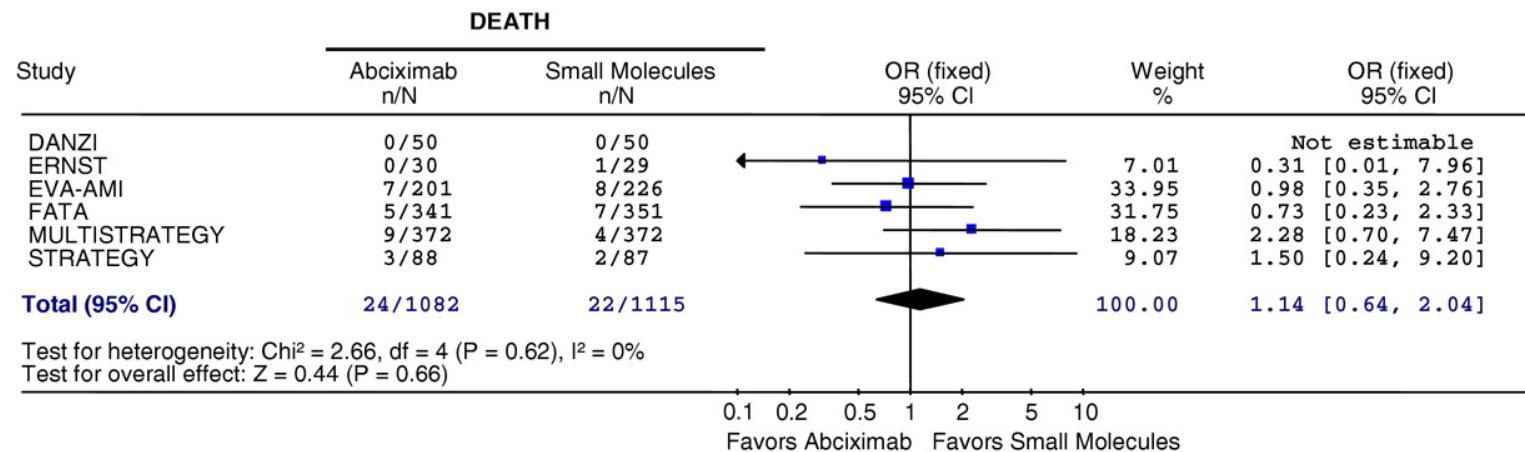
Gregg W. Stone, M.D., Bernhard Witzenbichler, M.D., Giulio Guagliumi, M.D., Jan Z. Peruga, M.D., Bruce R. Brodie, M.D., Dariusz Dudek, M.D., Ran Kornowski, M.D., Franz Hartmann, M.D., Bernard J. Gersh, M.B., Ch.B., D.Phil., Stuart J. Pocock, Ph.D., George Dangas, M.D., Ph.D., S. Chiu Wong, M.D., Ajay J. Kirtane, M.D., Helen Parise, Sc.D., and Roxana Mehran, M.D., for the HORIZONS-AMI Trial Investigators\*

# Heparin+IIb/IIIa, heparin alone or bivalirudin in STEMI: Do we have the answer?

- Why we do not need IIb/IIIa inhibitors?
- Why is bivalirudin the preferred drug?

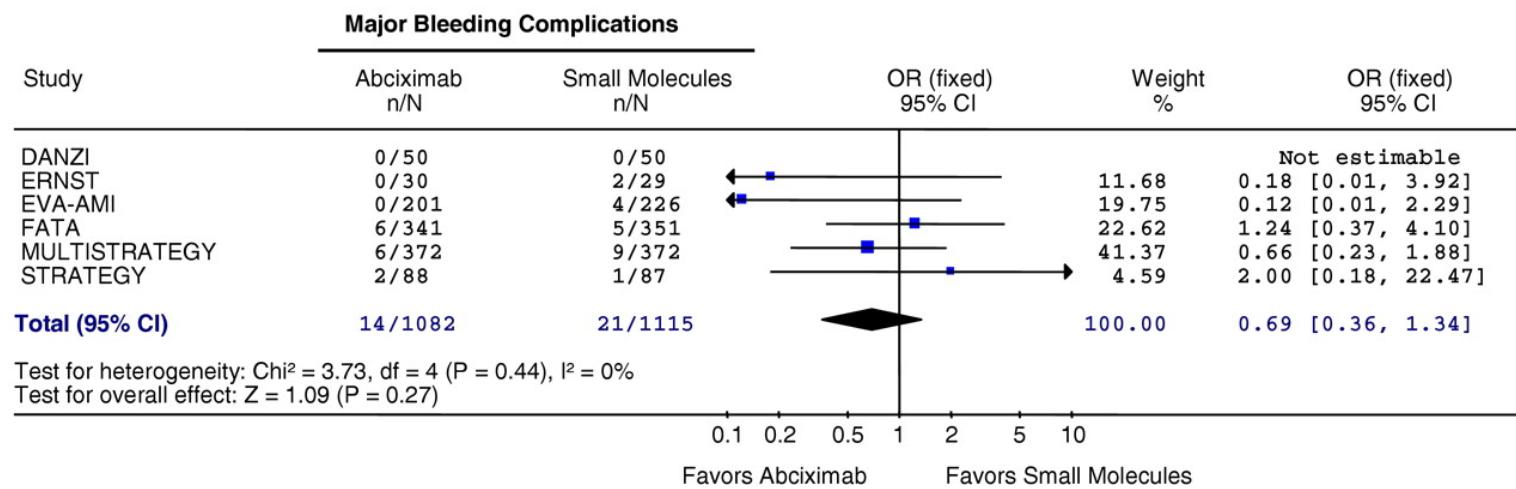
# Why we do not need IIb/IIIa inhibitors?

Effect of GPIIb/IIIa in PPCI: Drug-specific or class effect?



# Why we do not need IIb/IIIa inhibitors?

Effect of GPIIb/IIIa in PPCI: Drug-specific or class effect?

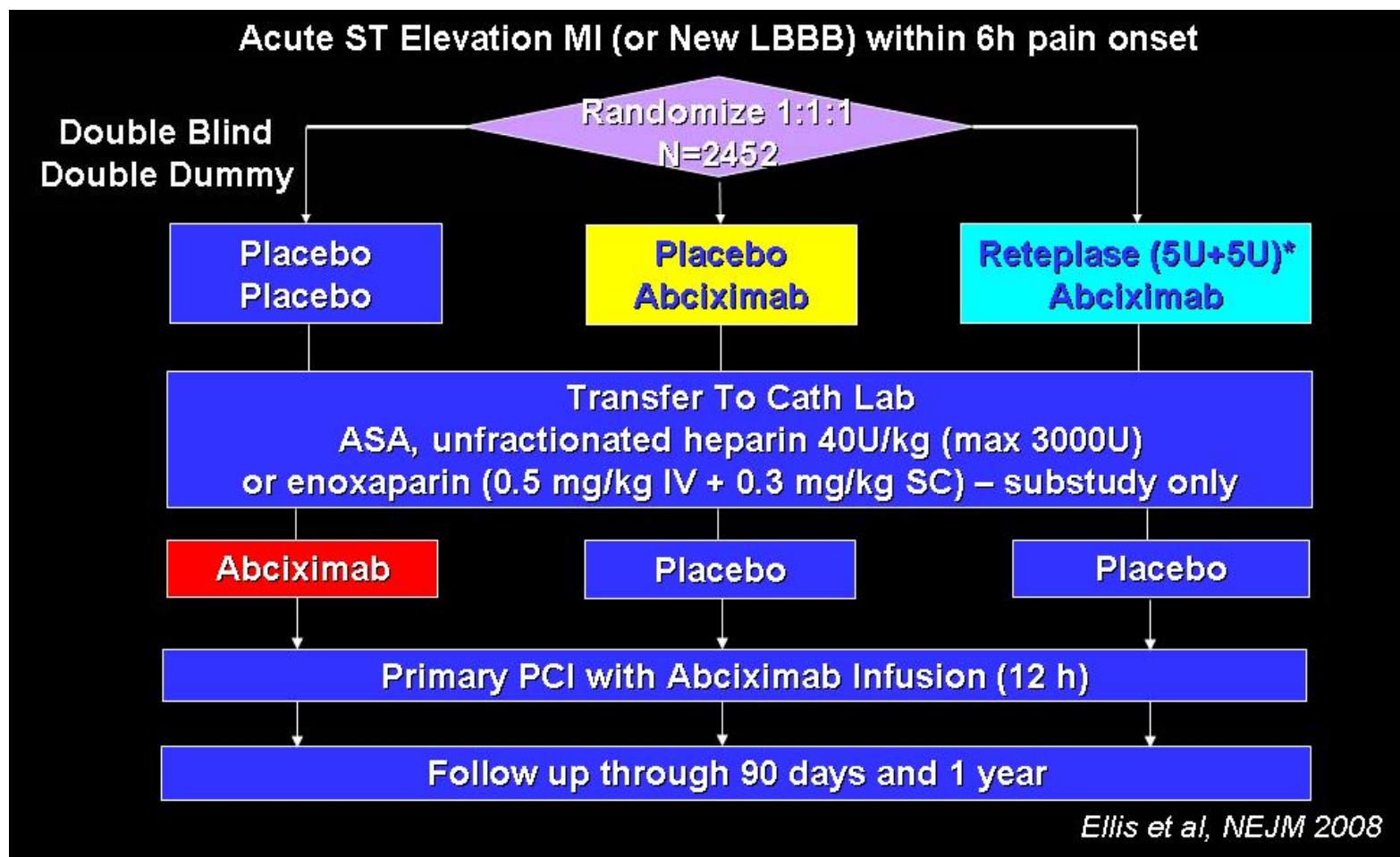


De Luca et al. JACC 2009

No significant differences in efficacy and safety are seen among different IIb/IIIa inhibitors during PCI for MI

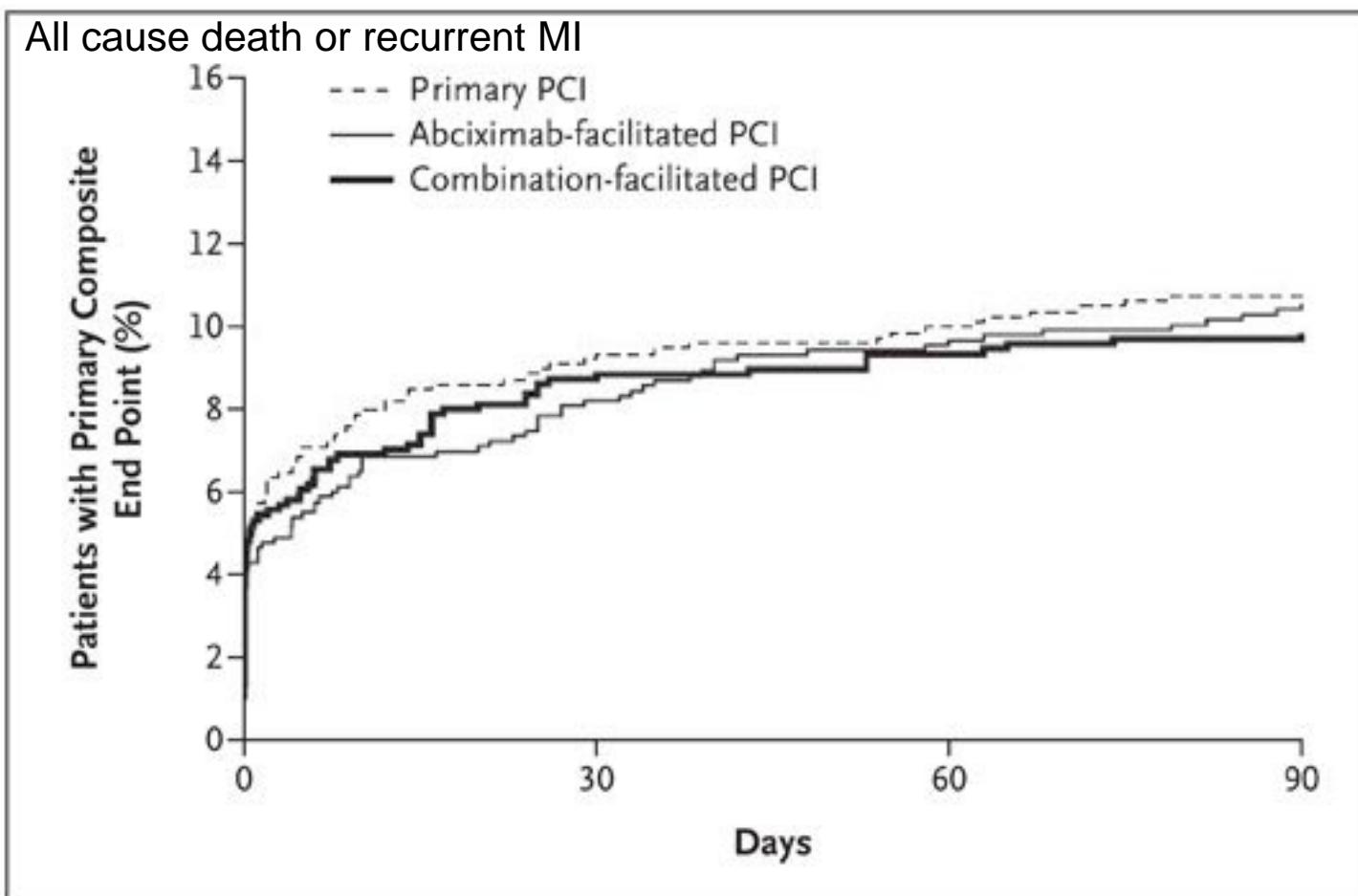
# Why we do not need IIb/IIIa inhibitors?

Upstream vs. Downstream Abciximab: FINESSE Trial



# Why we do not need IIb/IIIa inhibitors?

Upstream vs. Downstream Abciximab: FINESSE Trial

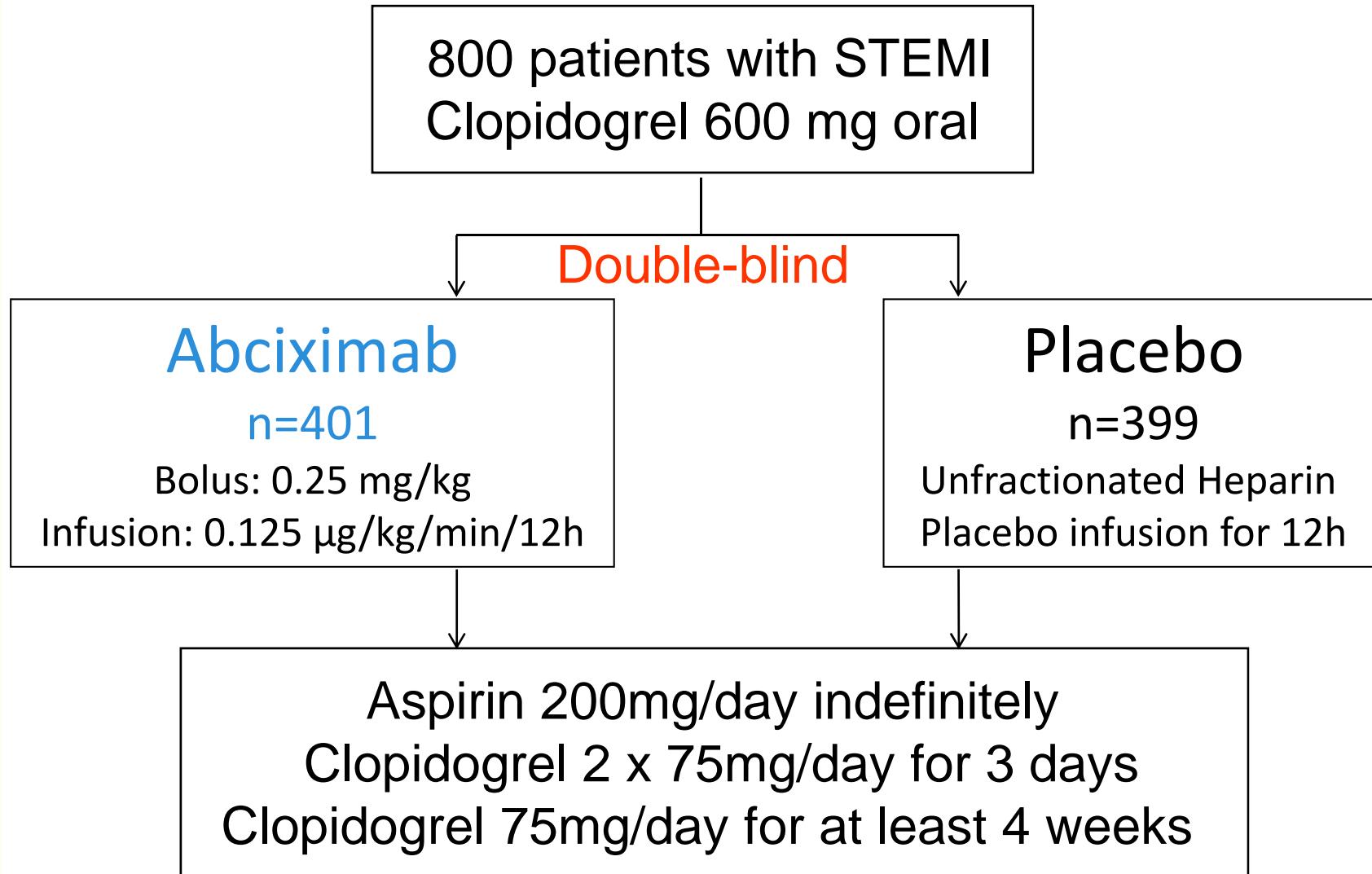


There is no reason for upstream use of  
IIb/IIIa inhibitors

*Ellis et al, NEJM 2008*

# Why we do not need IIb/IIIa inhibitors?

## BRAVE 3

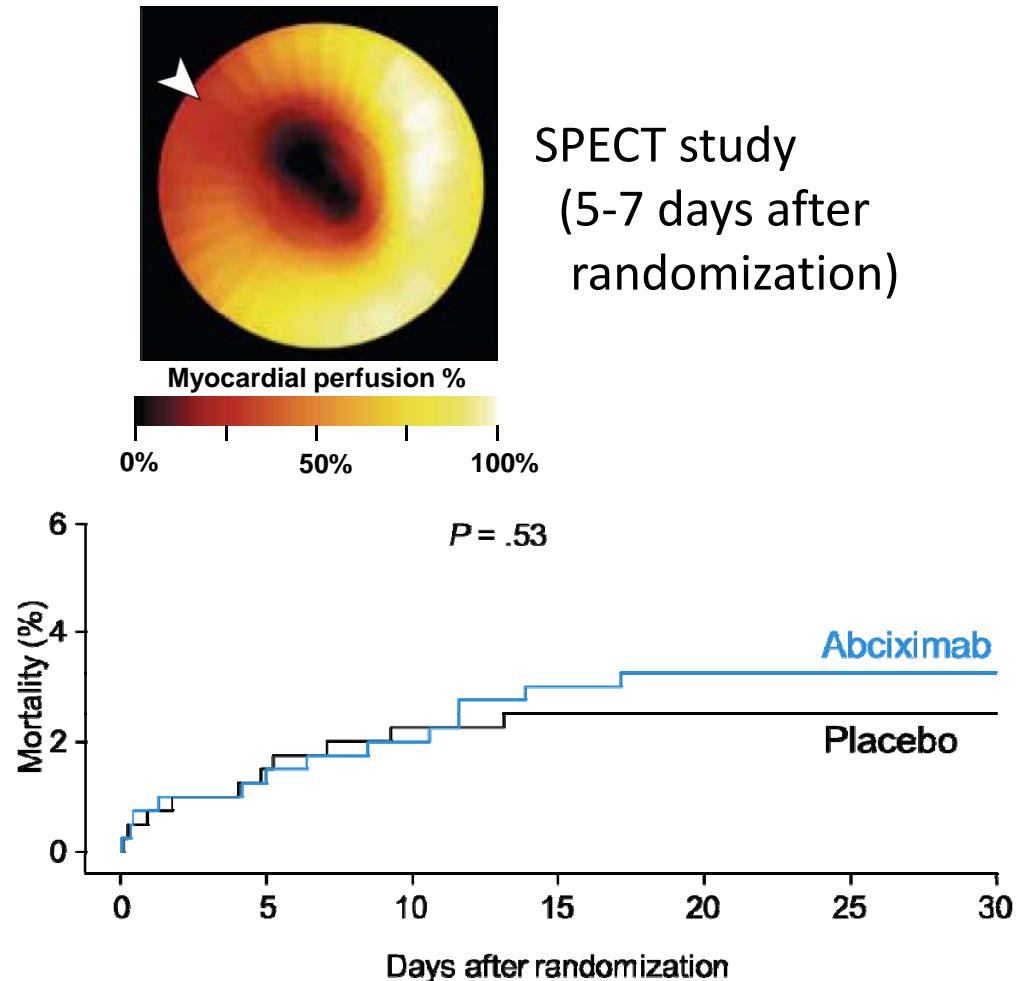
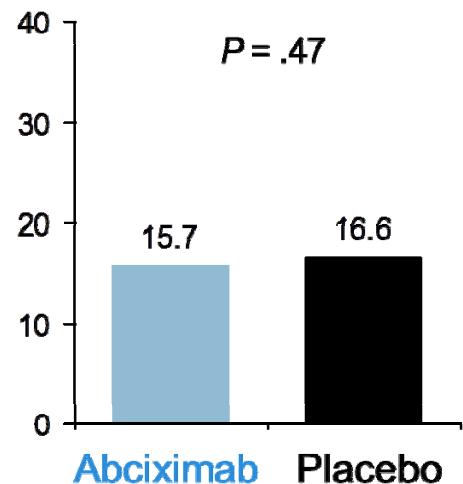


# Why we do not need IIb/IIIa inhibitors?

## BRAVE 3

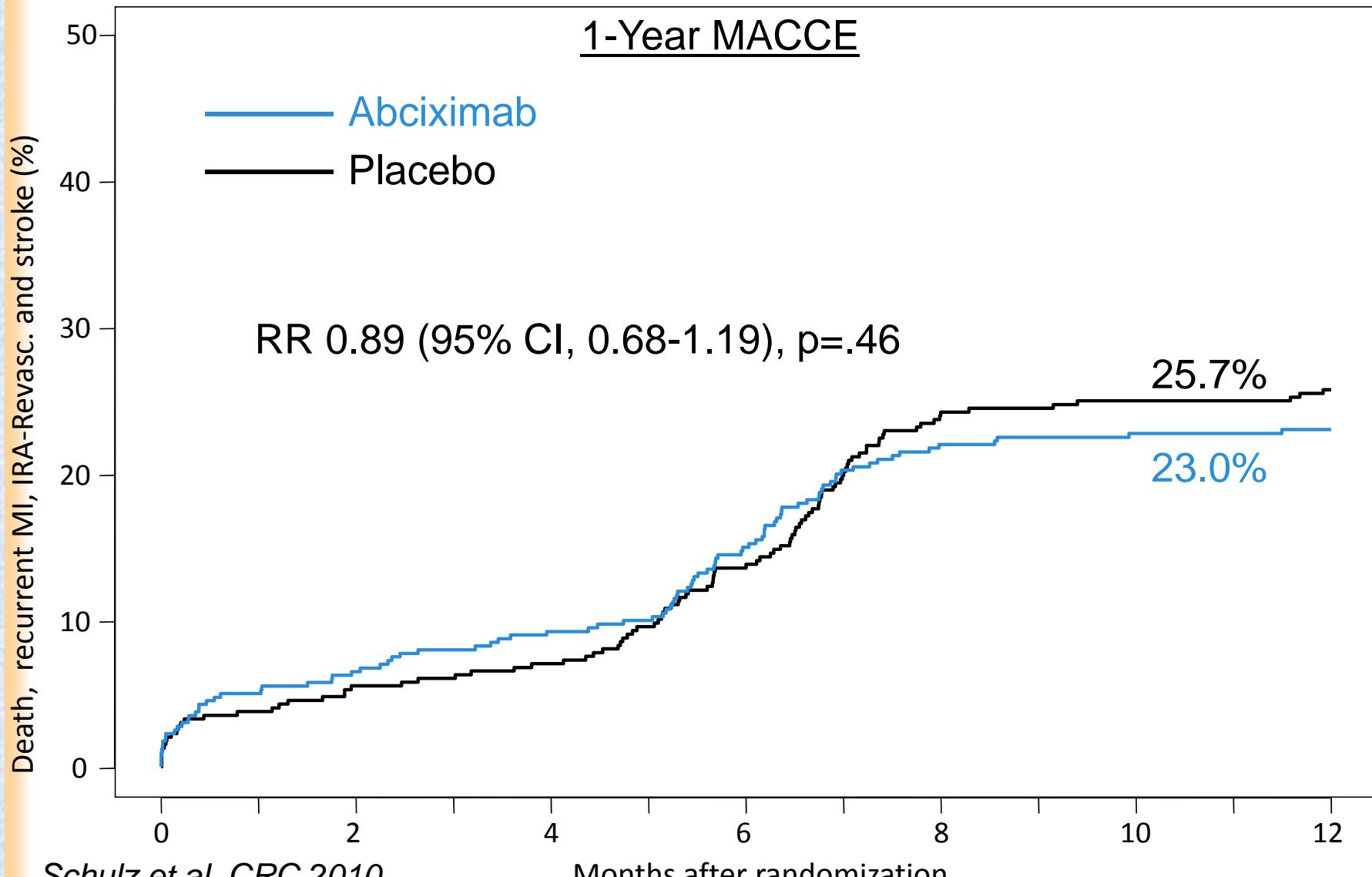
Primary endpoint:

Final infarct size  
(% of the left ventricle)



# Why we do not need IIb/IIIa inhibitors?

## BRAVE 3



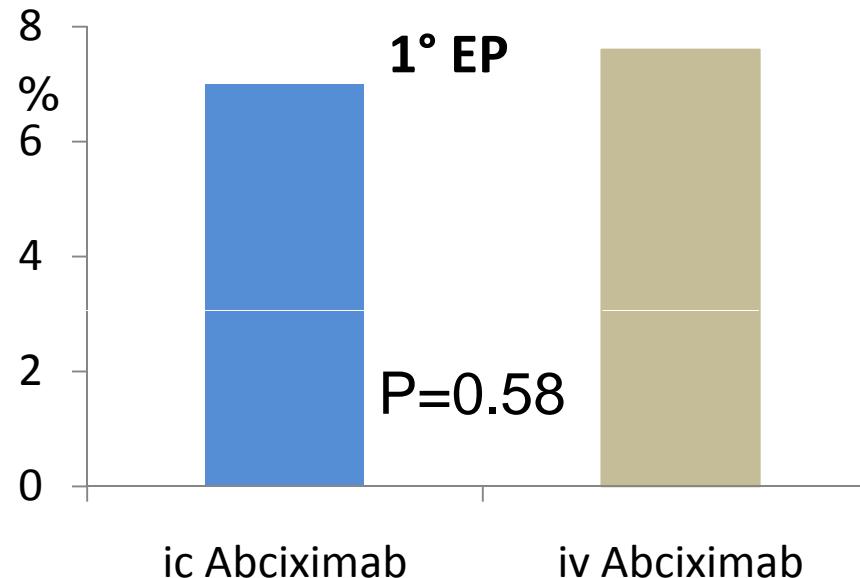
# Is intracoronary administration the solution?

AIDA STEMI Trial  
2,065 STEMI Patients

i.c. Abciximab

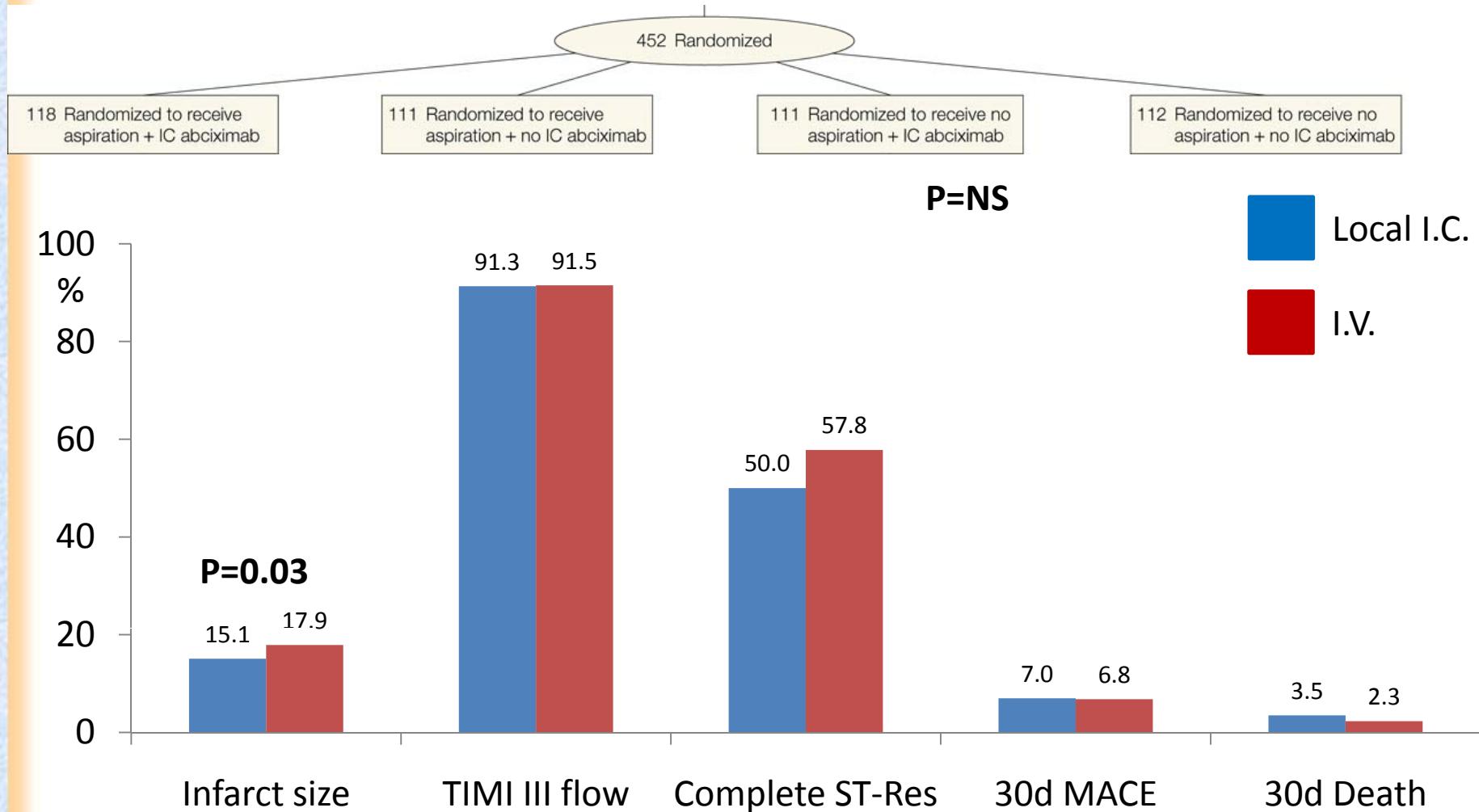
i.v. Abciximab

1° EP: 90-day death, reinfarction, new congestive heart failure



# Is local intracoronary administration the solution?

## INFUSE-AMI trial



## Need for IIb/IIIa inhibitors?

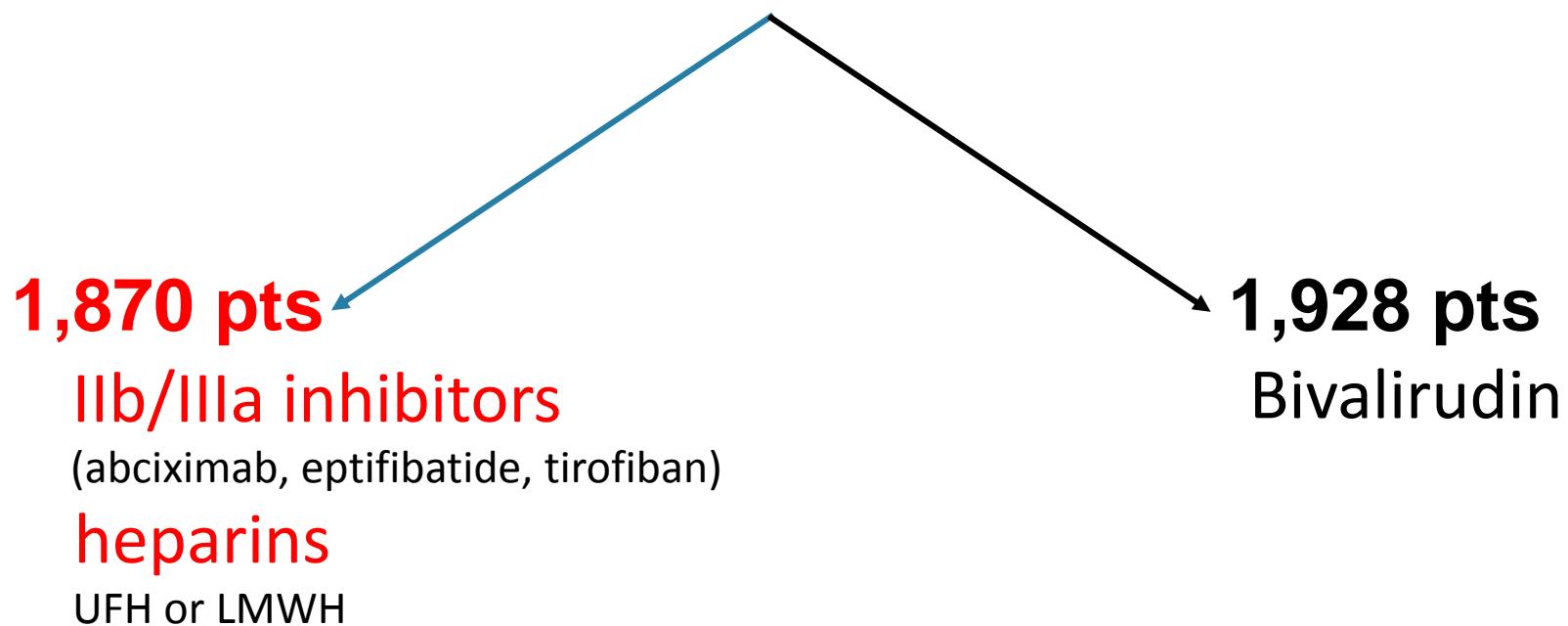
Recent evidence is not in support of the routine use of IIb/IIIa inhibitors during PCI in STEMI patients

# Why bivalirudin is the preferred drug?

## Bivalirudin in NSTEMI

3,798 Pts

(ACUITY->2,081 pts + ISAR-REACT 4->1,717 pts)

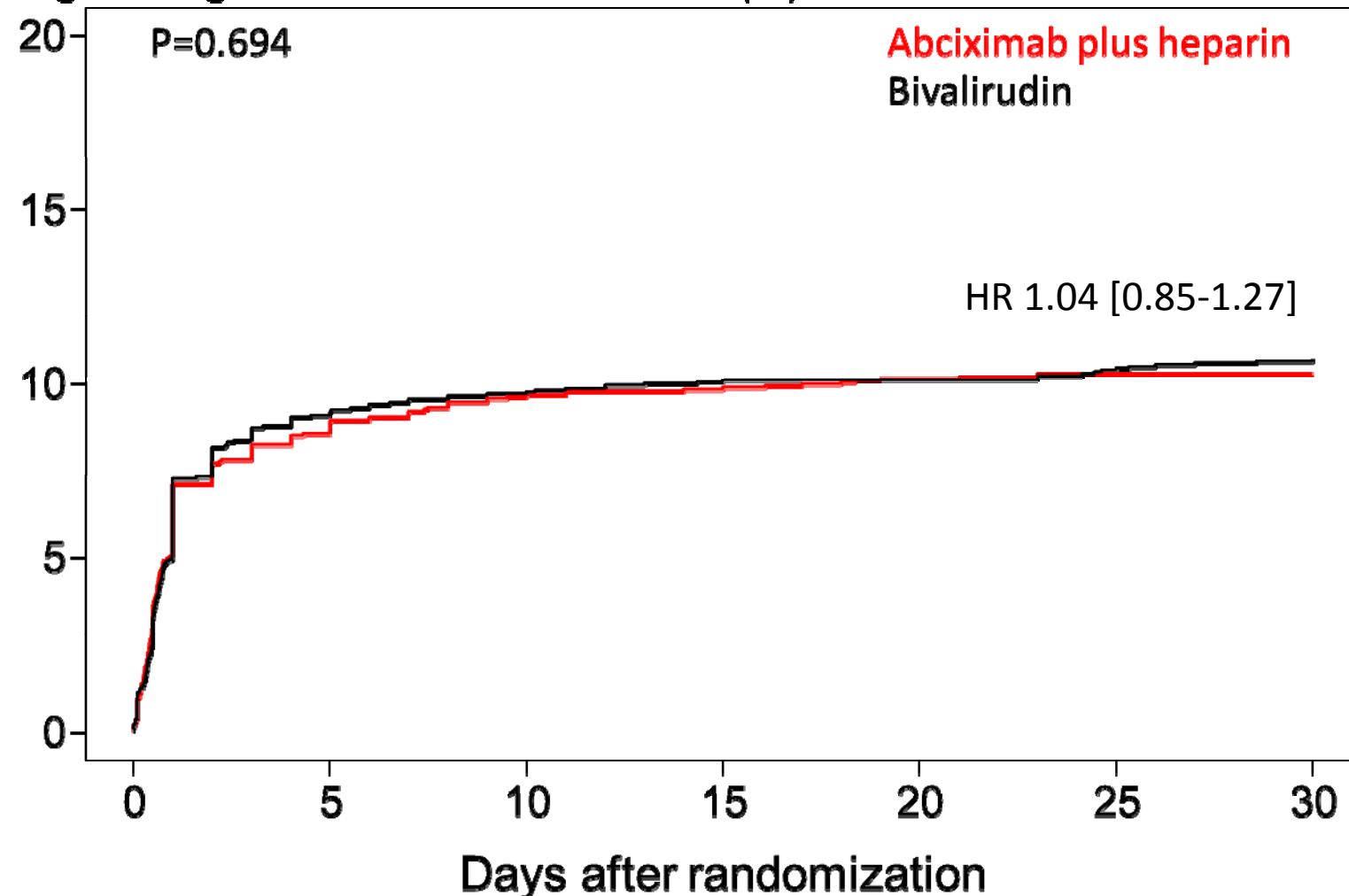


30-day results

# Why bivalirudin is the preferred drug?

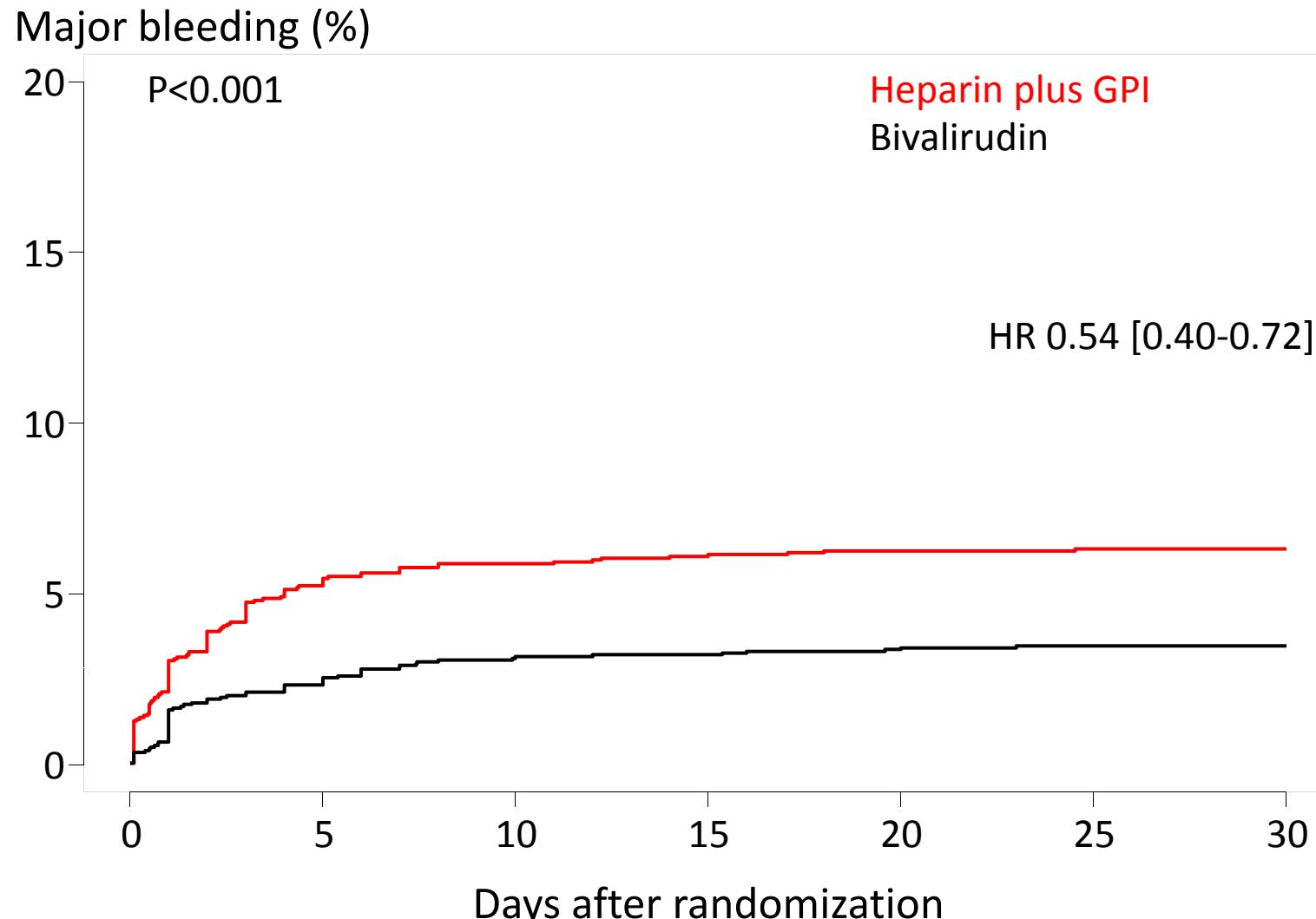
## Bivalirudin in NSTEMI

Death, myocardial infarction or  
urgent target vessel revascularization (%)



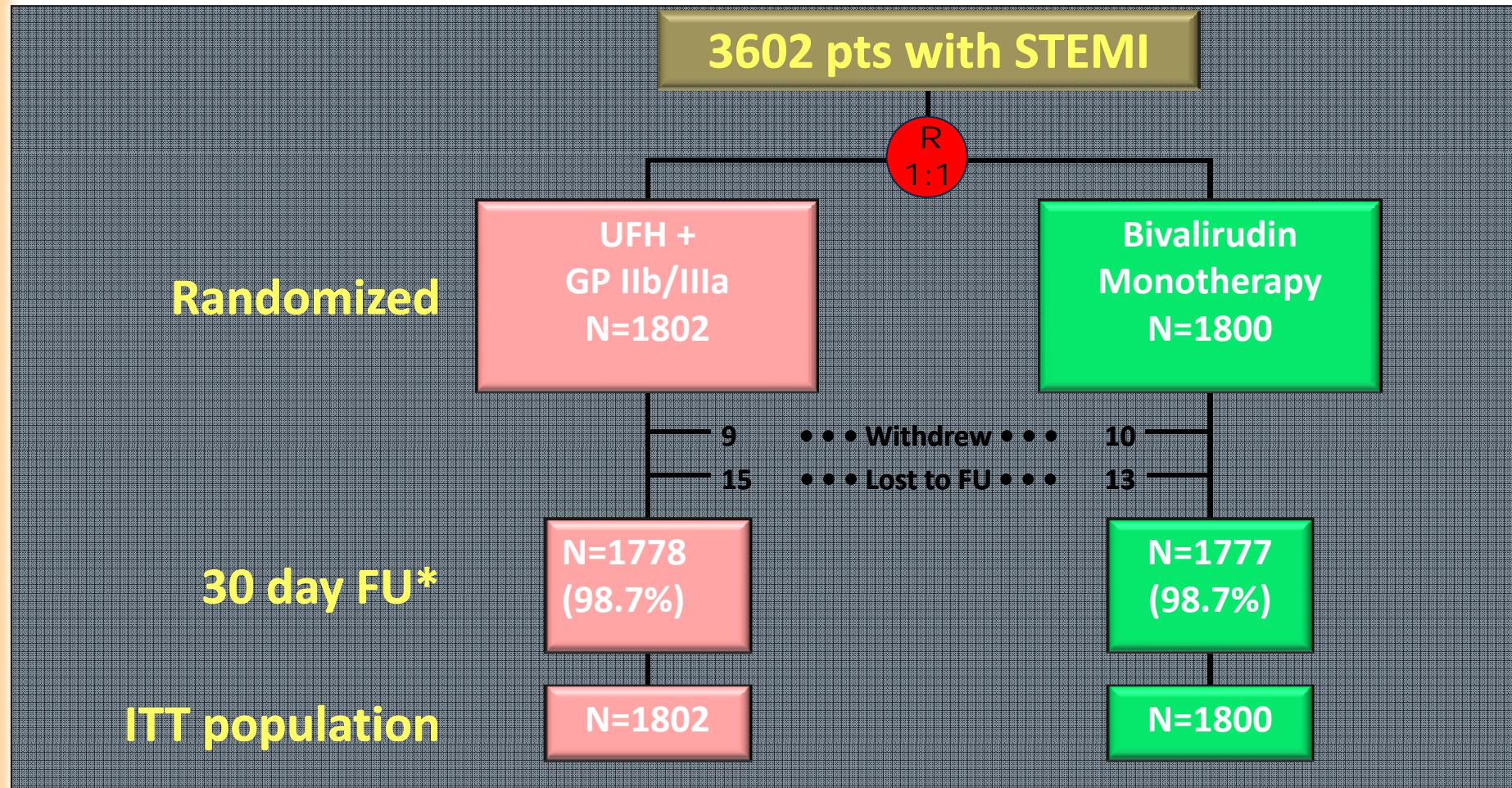
# Why bivalirudin is the preferred drug?

## Bivalirudin in NSTEMI



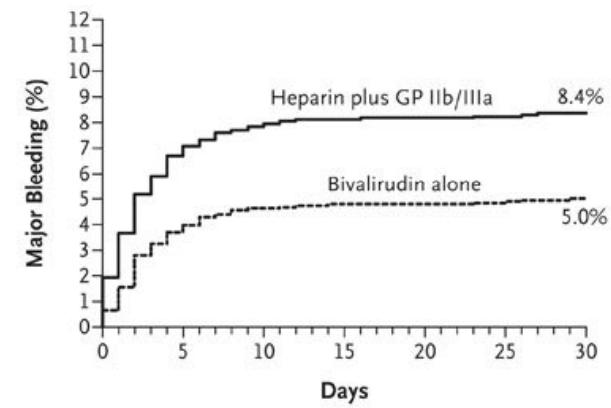
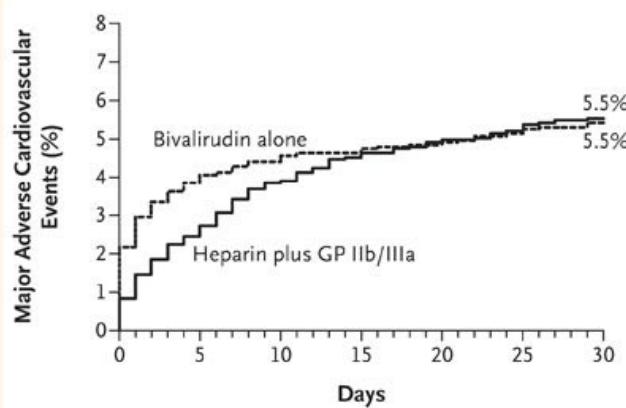
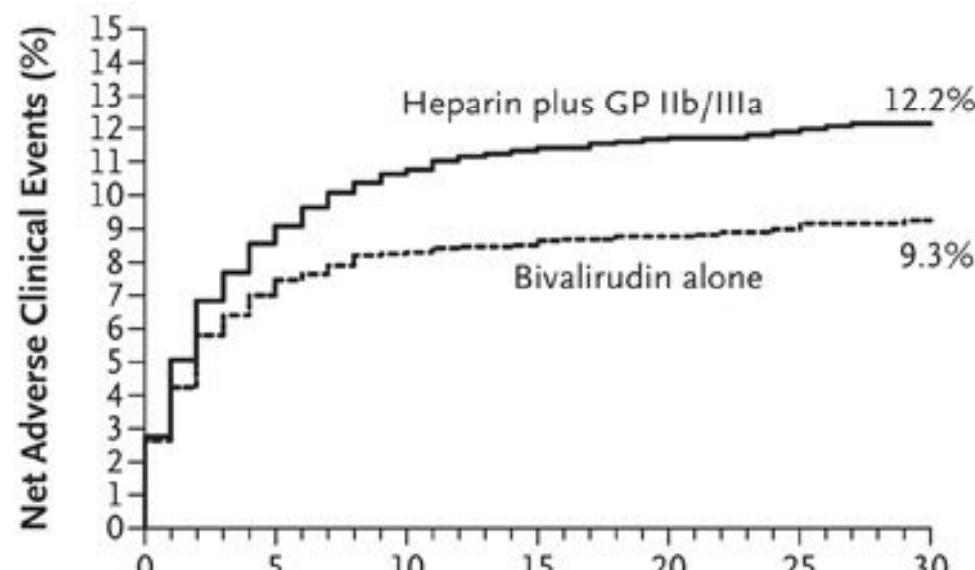
# Why bivalirudin is the preferred drug?

## Bivalirudin in STEMI



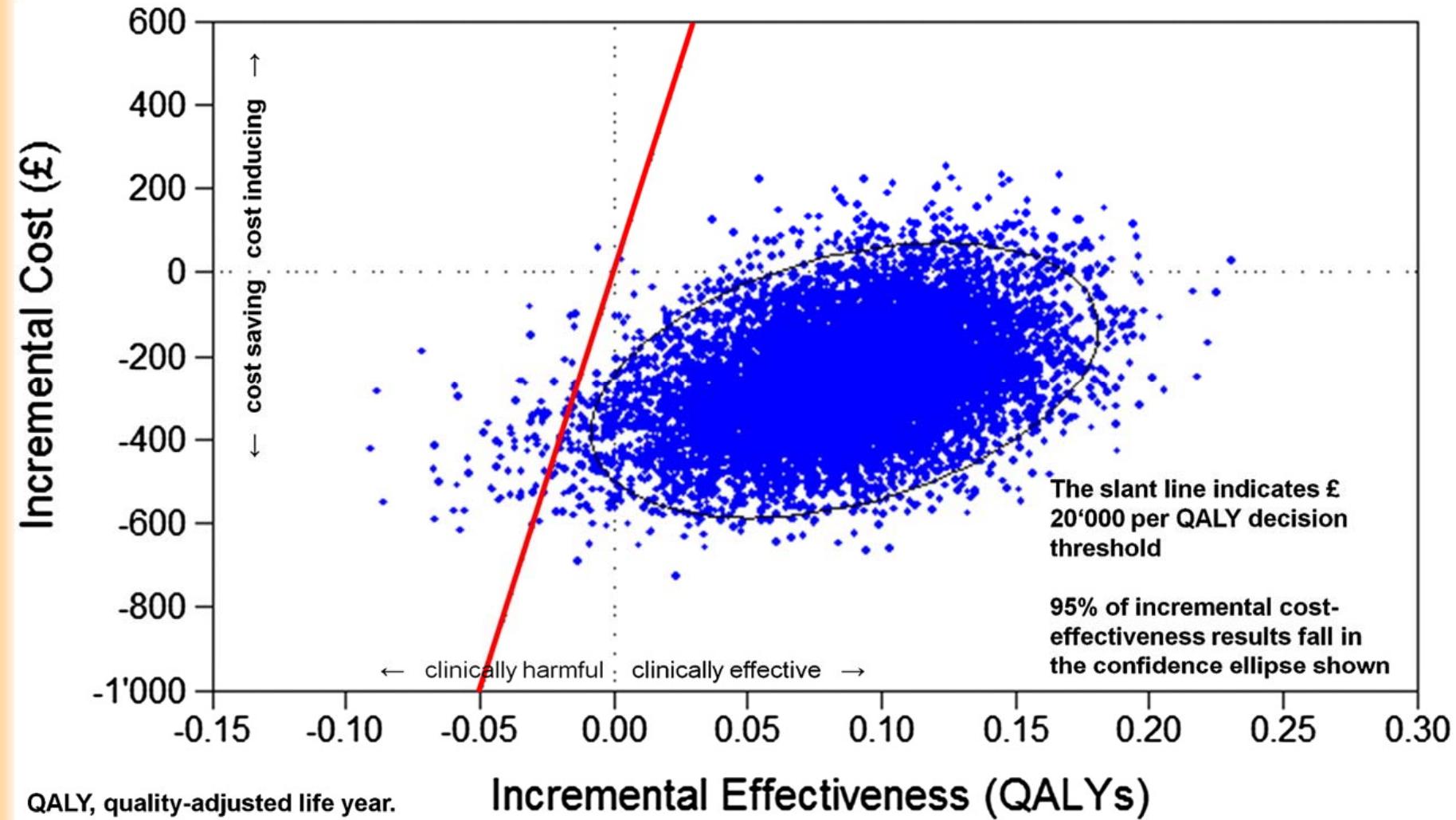
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## Bivalirudin in STEMI

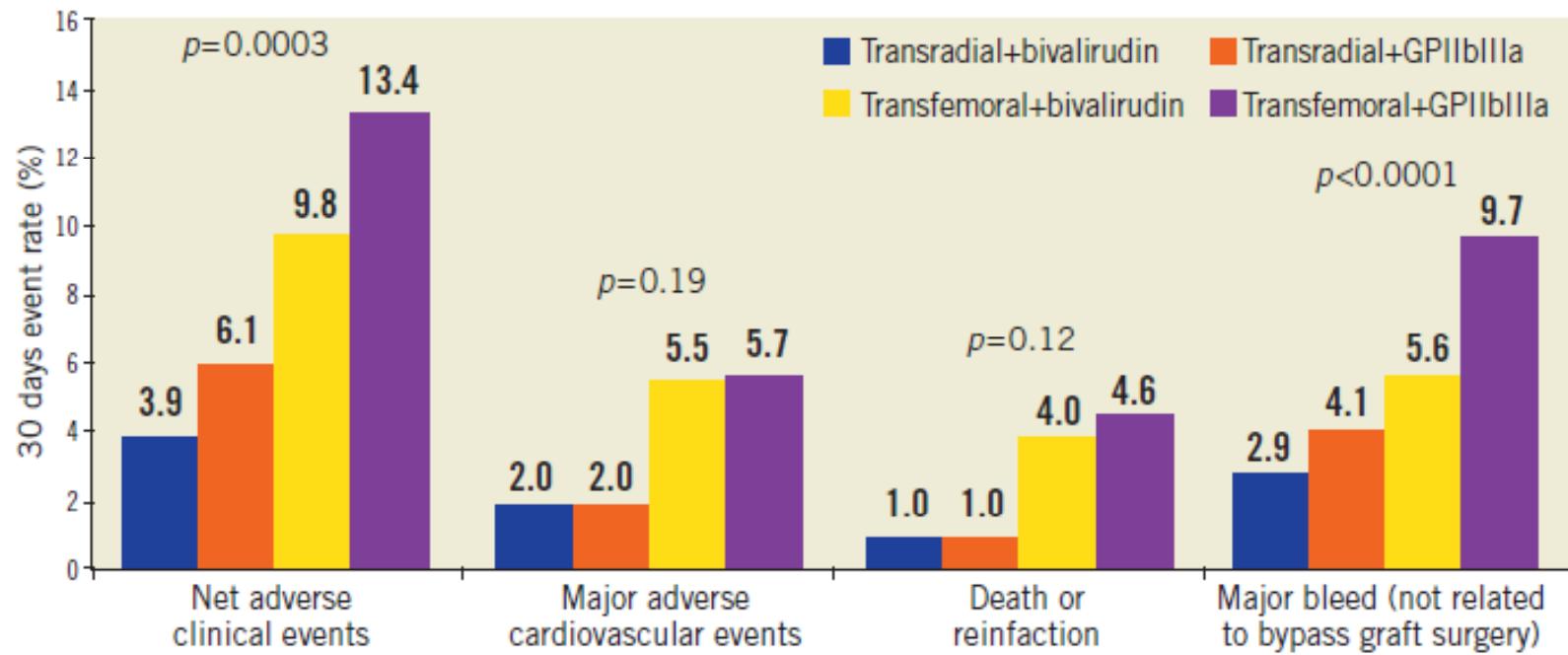


# Bivalirudin not only effective, but also cost-effective

## Bivalirudin in STEMI



# Does radial access obviate the need for bivalirudin during primary PCI?



Adjusted OR

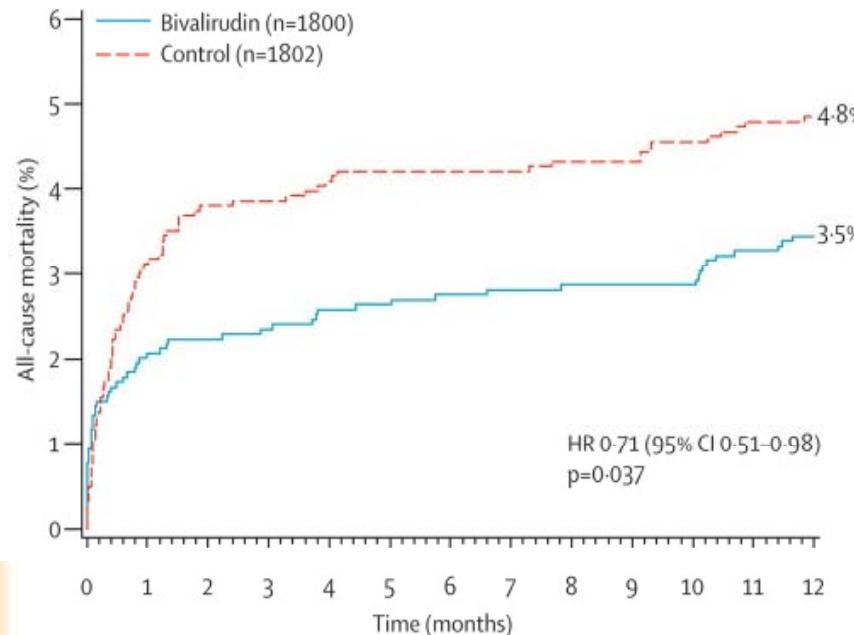
Radial	0.42 [ 0.22, 0.82]	0.51 [ 0.23, 1.16]
Bivalirudin	0.75 [ 0.60, 0.93]	0.59 [ 0.44, 0.78]

# Why bivalirudin is the preferred drug?

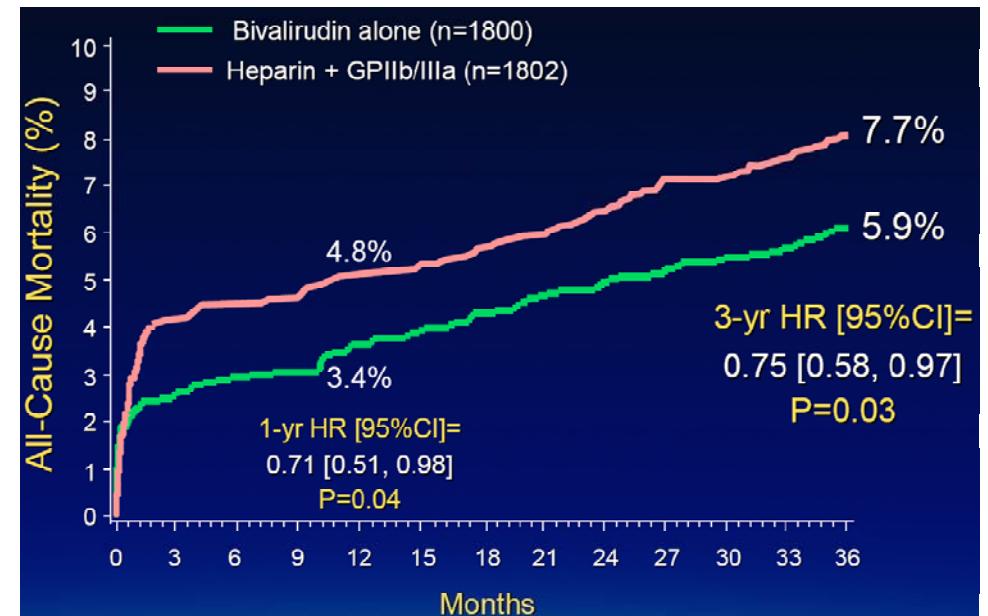
## Bivalirudin in STEMI

### All-cause Mortality

A



Mehran & Stone, Lancet 2010



Stone & Mehran, Lancet 2011



## **Bivalirudin, the preferred antithrombotic drug in primary PCI**