

# Presentation

- **DAPT for DES**
- **DAPT for ACS**
- **Residual Risk in CAD**
- **Conclusions**

# Duration of Dual Anti-platelet Therapy after DES Placement

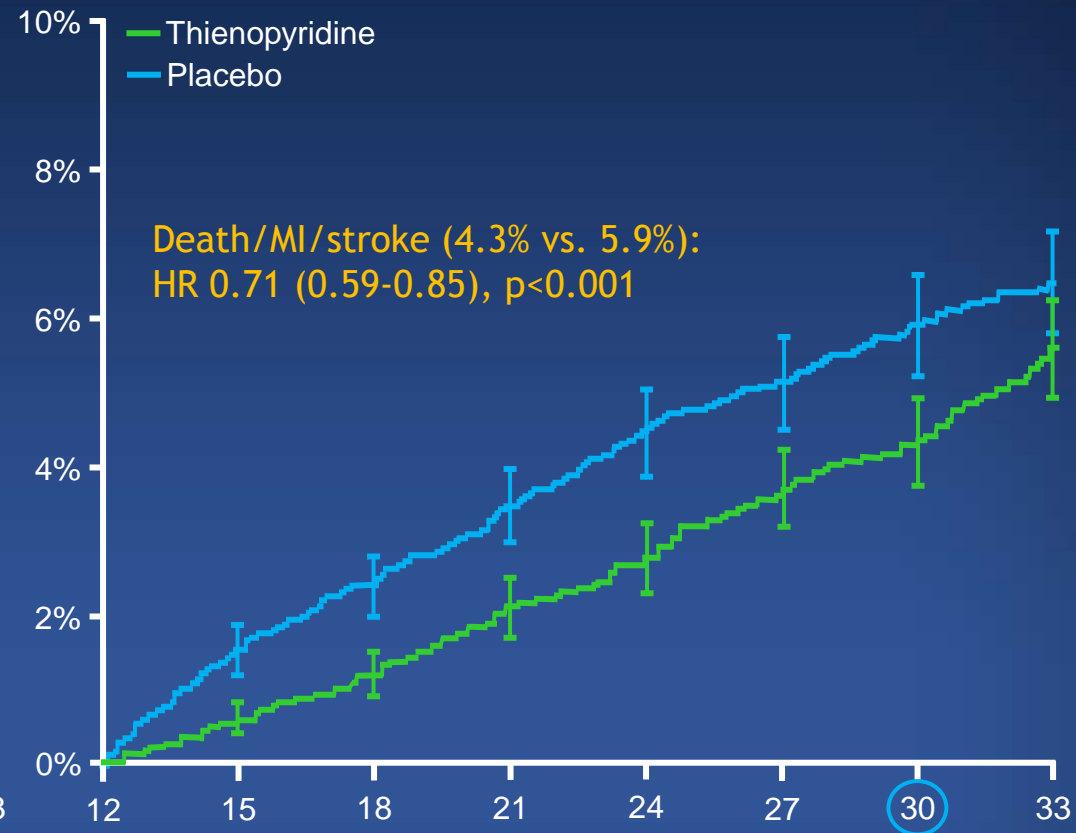
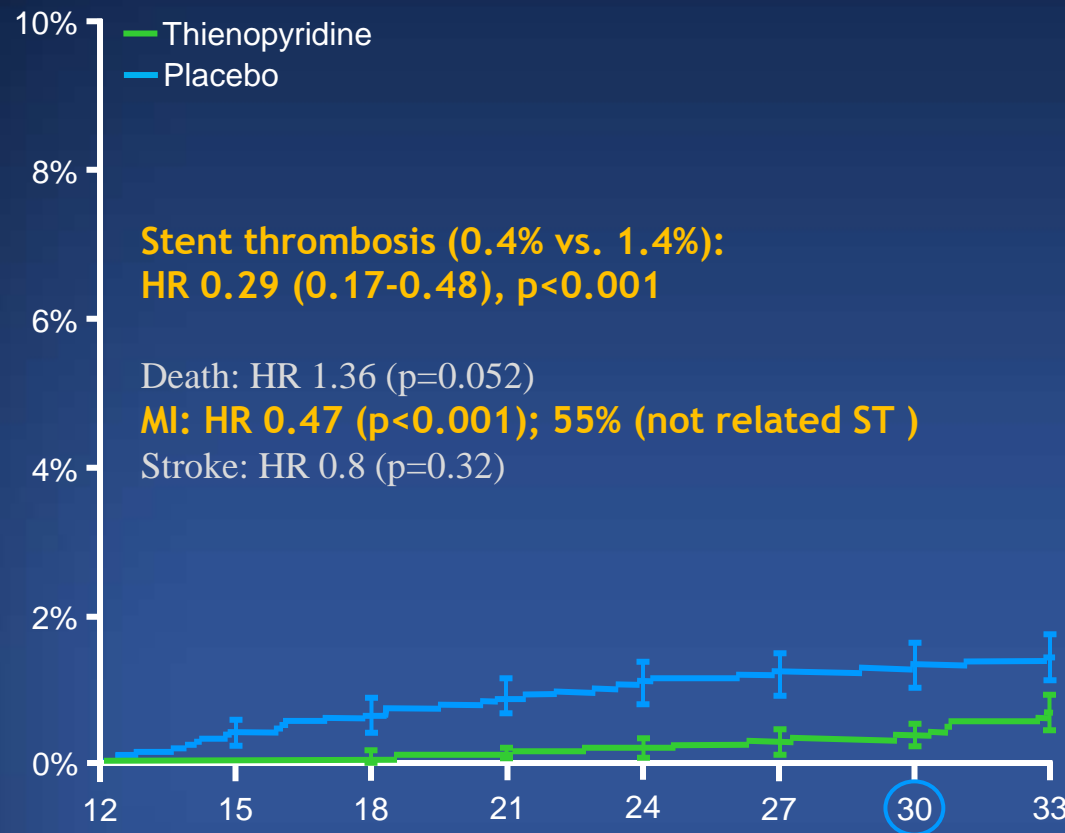
- 2011 ACCF/AHA/SCAI Guideline
  - at least 12 months after DES implantation if patients are not at high risk of bleeding
- 2014 ESC/EACTS Guideline
  - 6 months after DES implantation
  - <6 months (↑ bleeding risk), >6 (↑ ischemic risk)

# Pre-DAPT Trials

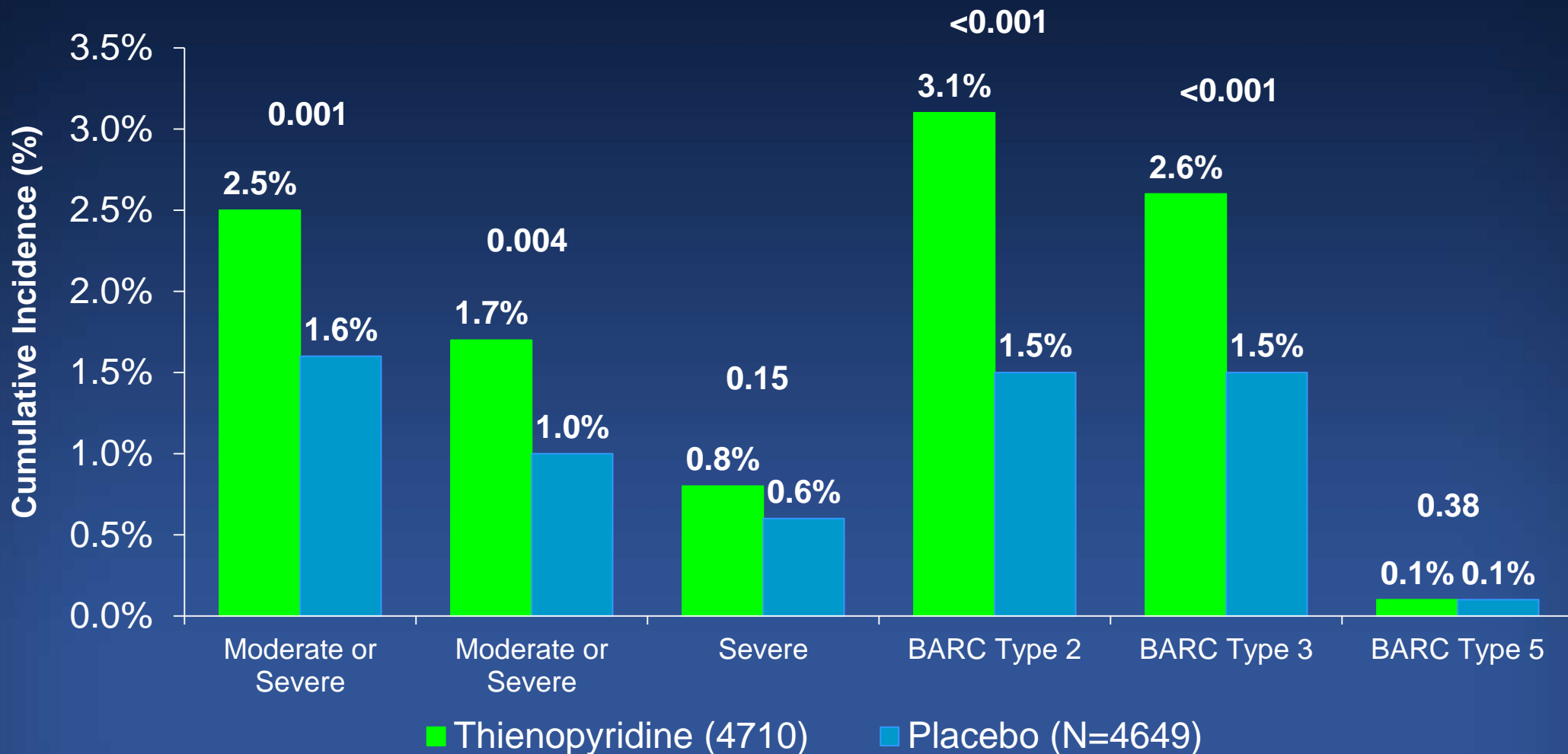
Trials	Number	Duration	Primary endpoints	HR (95% CI)	P-value
ZEST/REAL-LATE	2,701	12 vs. >12 m	Cardiac death/MI	0.61 (0.30, 1.25)	0.17
DESLATE	5,045	12 vs. >12 m	Cardiac death/MI/stroke	0.94 (0.66, 1.35)	0.75
ARTIC-interruption	1,259	12 vs. >12 m	Death/MI/stroke/ST/ urgent revascularization	1.17 (0.68, 2.03)	0.58
PRODIGY	2,013	6 vs. 24 m	Death/MI/stroke	0.98 (0.74, 1.29)	0.91
EXCELLENT	1,443	6 vs. 12 m	Cardiac death/MI/ target vessel revascularization	1.14 (0.70, 1.86)	0.60
SECURITY	1,399	6 vs. 12 m	Cardiac death/MI/stroke/ST/ BARC 3, 5 bleeding at 12 m	NA	0.469
ISAR-SAFE	4,005	6 vs. 12 m	Death/MI/ST/stroke/ TIMI major bleeding	NA	$P_{\text{noninferiority}}$ <0.001
RESET	2,117	3 vs. 12 m	Cardiac death/MI/ST	NA	0.84
OPTIMIZE	3,119	3 vs. 12 m	Death/MI/stroke/major bleeding	1.03 (0.77, 1.38)	0.84

# DAPT Trial: Primary Endpoints

A total of 9961 patients were randomly assigned to continue thienopyridine treatment or to receive placebo.



# DAPT Trial: Moderate or Severe Bleeding



# A Plethora of Meta-analysis

*Too many meta,  
different answer*

No difference in death

## Extended duration dual antiplatelet therapy and mortality: a systematic review and meta-analysis

*Sammy Elmariah, Laura Mauri, Gheorghe Doros, Benjamin Z Galper, Kelly E O'Neill, Philippe Gabriel Steg, Dean J Kereiakes, Robert W Yeh*

More death, more bleeding

## Mortality in patients treated with extended duration dual antiplatelet therapy after drug-eluting stent implantation: a pairwise and Bayesian network meta-analysis of randomised trials

*Tullio Palmerini, Umberto Benedetto, Letizia Bacchi-Reggiani, Diego Della Riva, Giuseppe Biondi-Zoccai, Fausto Feres, Alexandre Abizaid, Myeong-Ki Hong, Byeong-Keuk Kim, Yangsoo Jang, Hyo-Soo Kim, Kyung Woo Park, Philippe Genereux, Deepak L Bhatt, Carlotta Orlandi, Stefano De Servi, Mario Petrou, Claudio Rapezzi, Gregg W Stone*

## Short- Versus Long-Term Dual Antiplatelet Therapy After Drug-Eluting Stent Implantation

An Individual Patient Data Pairwise and Network Meta-Analysis

*Tullio Palmerini, MD,\* Diego Sangiorgi, MStar,\* Marco Valgimigli, MD, PhD,† Giuseppe Biondi-Zoccai, MD,‡§ Fausto Feres, MD,|| Alexandre Abizaid, MD,|| Ricardo A. Costa, MD,|| Myeong-Ki Hong, MD, PhD,¶ Byeong-Keuk Kim, MD, PhD,¶ Yangsoo Jang, MD, PhD,¶ Hyo-Soo Kim, MD, PhD,¶ Kyung Woo Park, MD,¶ Andrea Mariani, MD,\* Diego Della Riva, MD,\* Philippe Genereux, MD,\*\* Martin B. Leon, MD,\*\* Deepak L. Bhatt, MD,†† Umberto Benedetto, MD, PhD,‡‡ Claudio Rapezzi, MD,\* Gregg W. Stone, MD\*\**

# On My Watch

## **DAPT Use in CAD**

- **Stable CAD after DES Placement**
  - High risk of bleeding: Old DAPT for 6 months
  - Stable without bleeding: Old DAPT indefinitely
- **ACS without Contraindications**
  - AMI with RFs: New DAPT (A+T) indefinitely
  - Other ACS Patients with DES Placement:  
New DAPT for 12 months  
→ DAPT indefinitely (ACS in DAPT trial: ~40%)

# Presentation

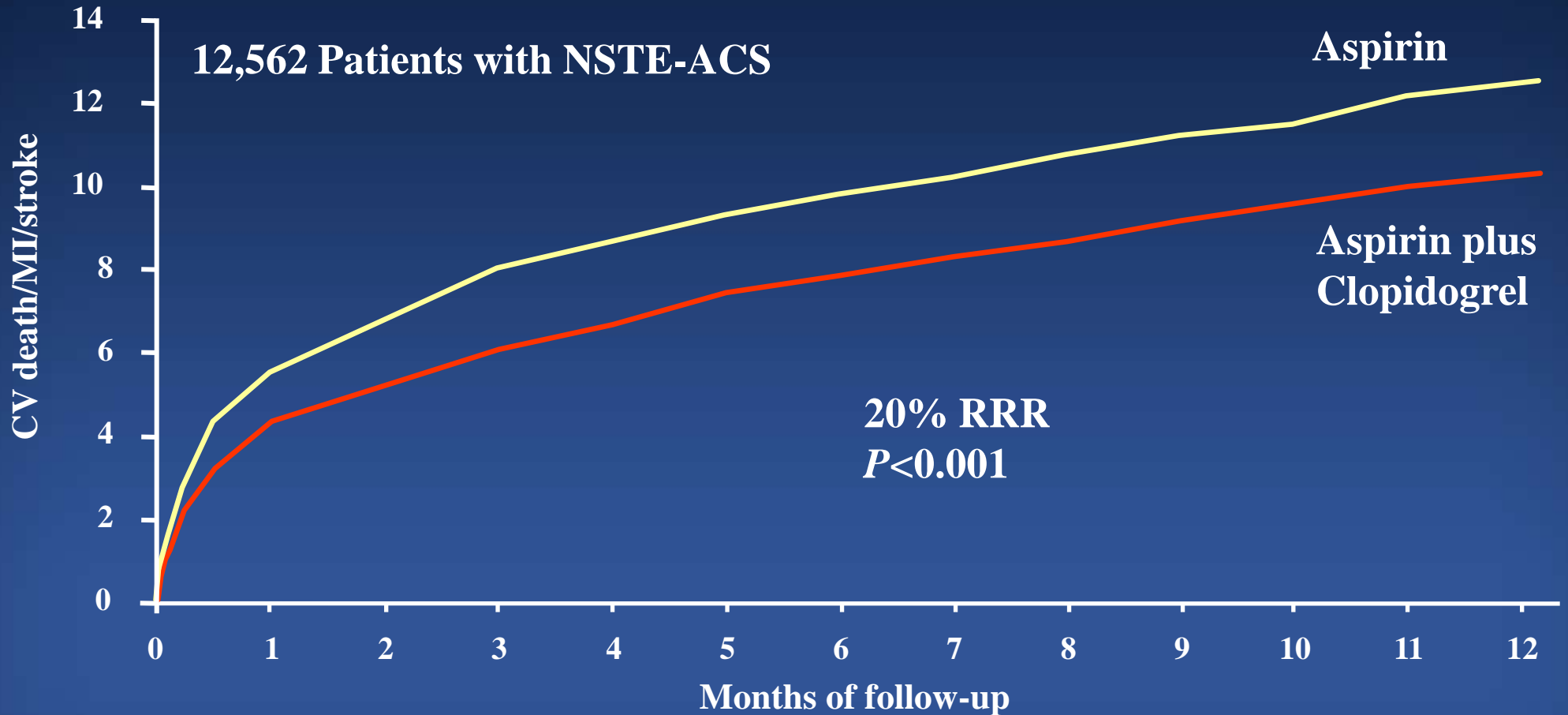
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# Duration of Dual Anti-platelet Therapy in Patients With ACS

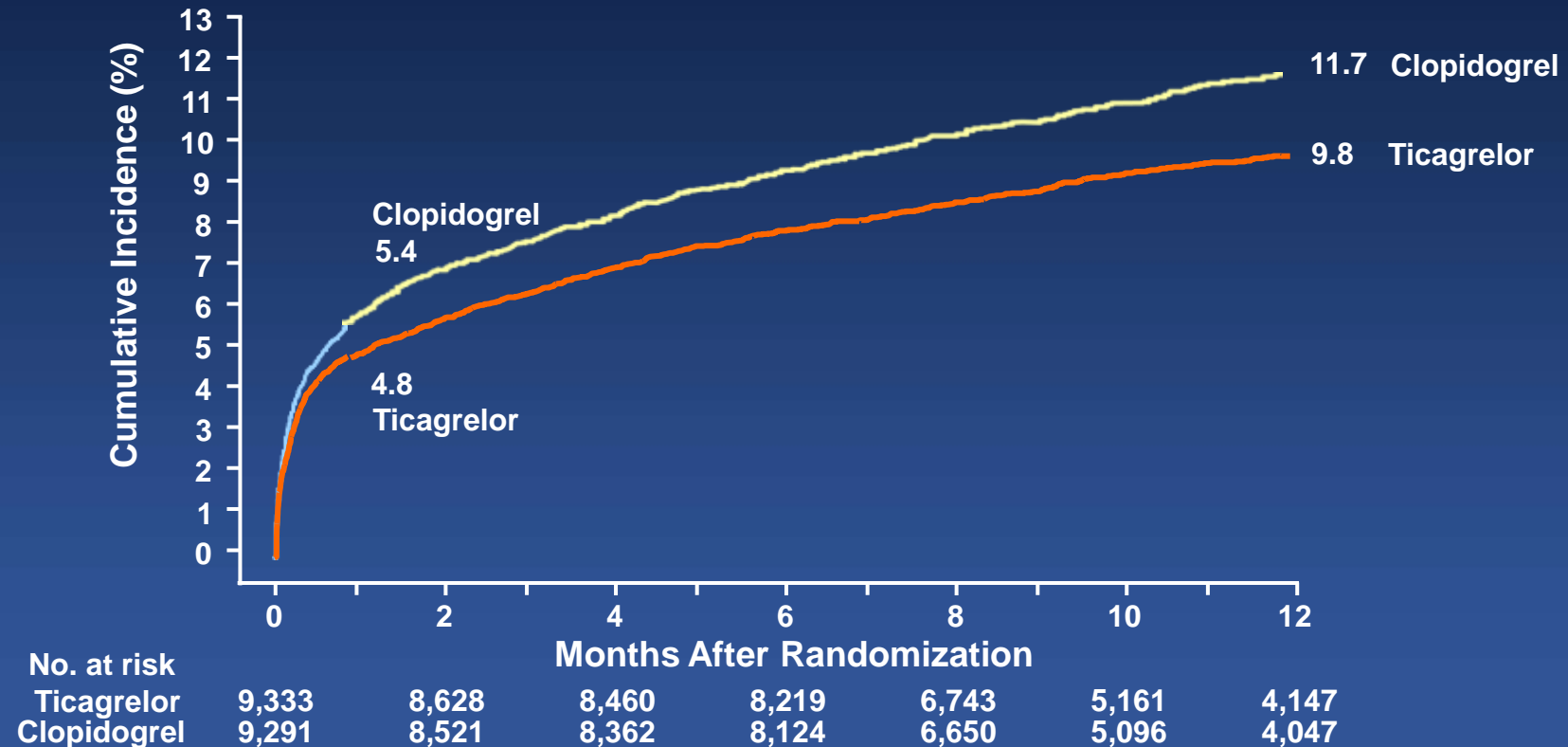
- **2014 AHA/ACC Guidelines**
  - up to **12 months** in all patients after ACS without contraindications (New DAPT preferred, IIa)
- **2014 ESC/EACTS Guidelines**
  - **12 months** in all patients after ACS unless contraindicated (New DAPT preferred, IB)

# CURE Trial: CV Death, MI, Stroke



Newer is better!

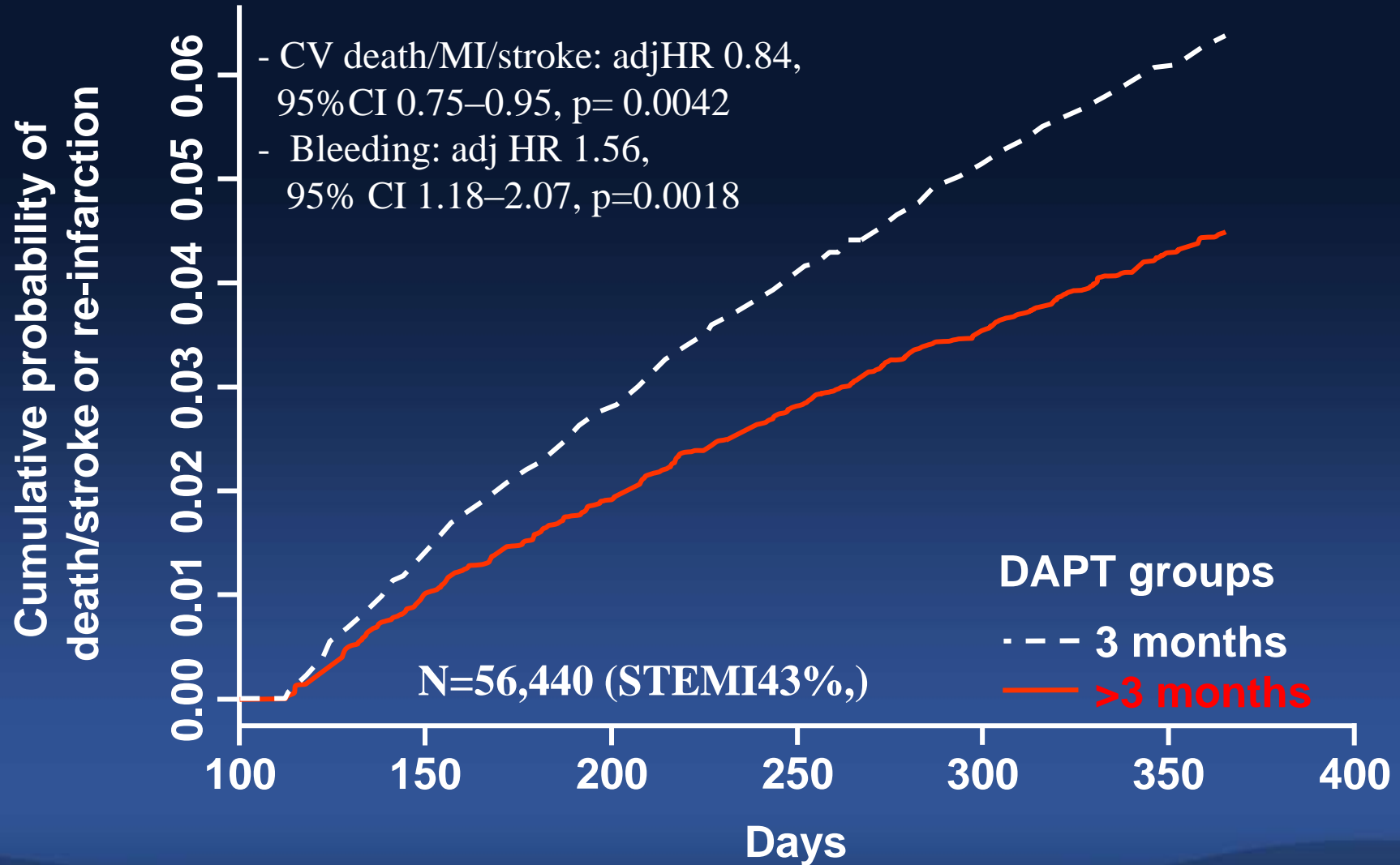
# PLATO Trial: CV Death, MI, Stroke



Both groups included aspirin.

\*NNT at one year.

# DAPT in ACS: SWEDEHEART Registry

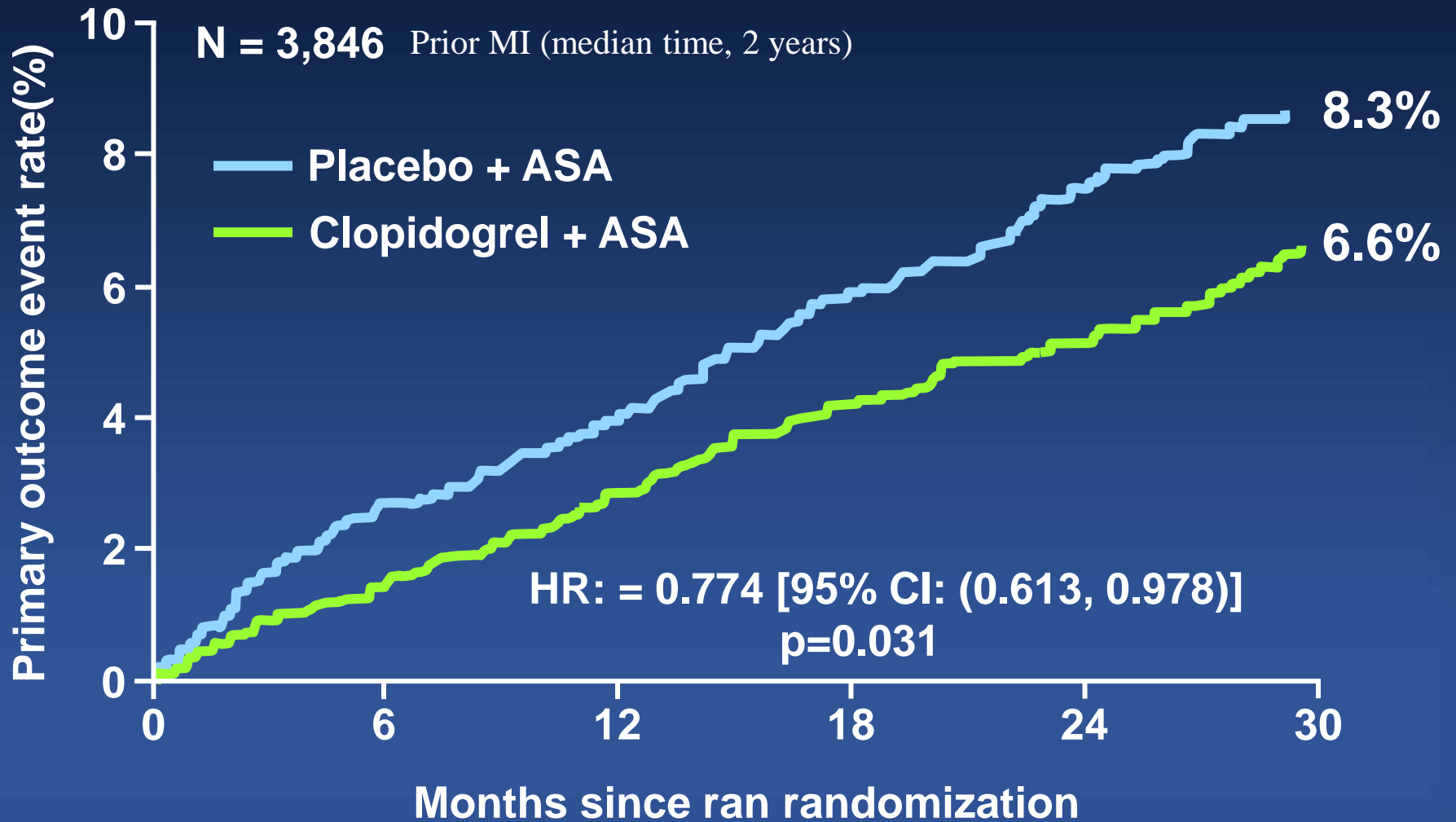


Much Heat, Green Light!

**Beyond 12M?**

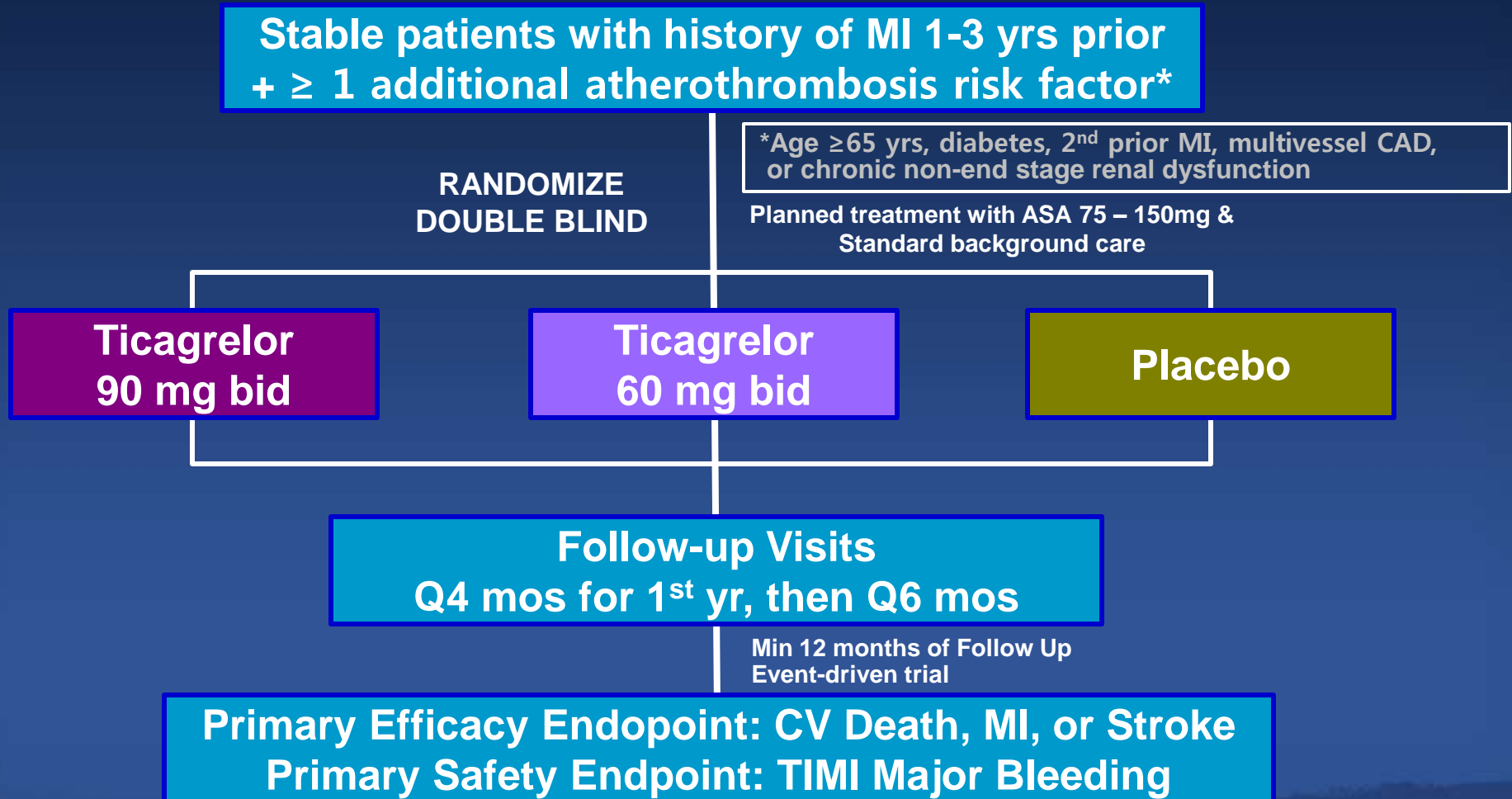
Further dramas  
Continued ...

# Beyond 12M: CHARISMA Post-MI (post hoc)

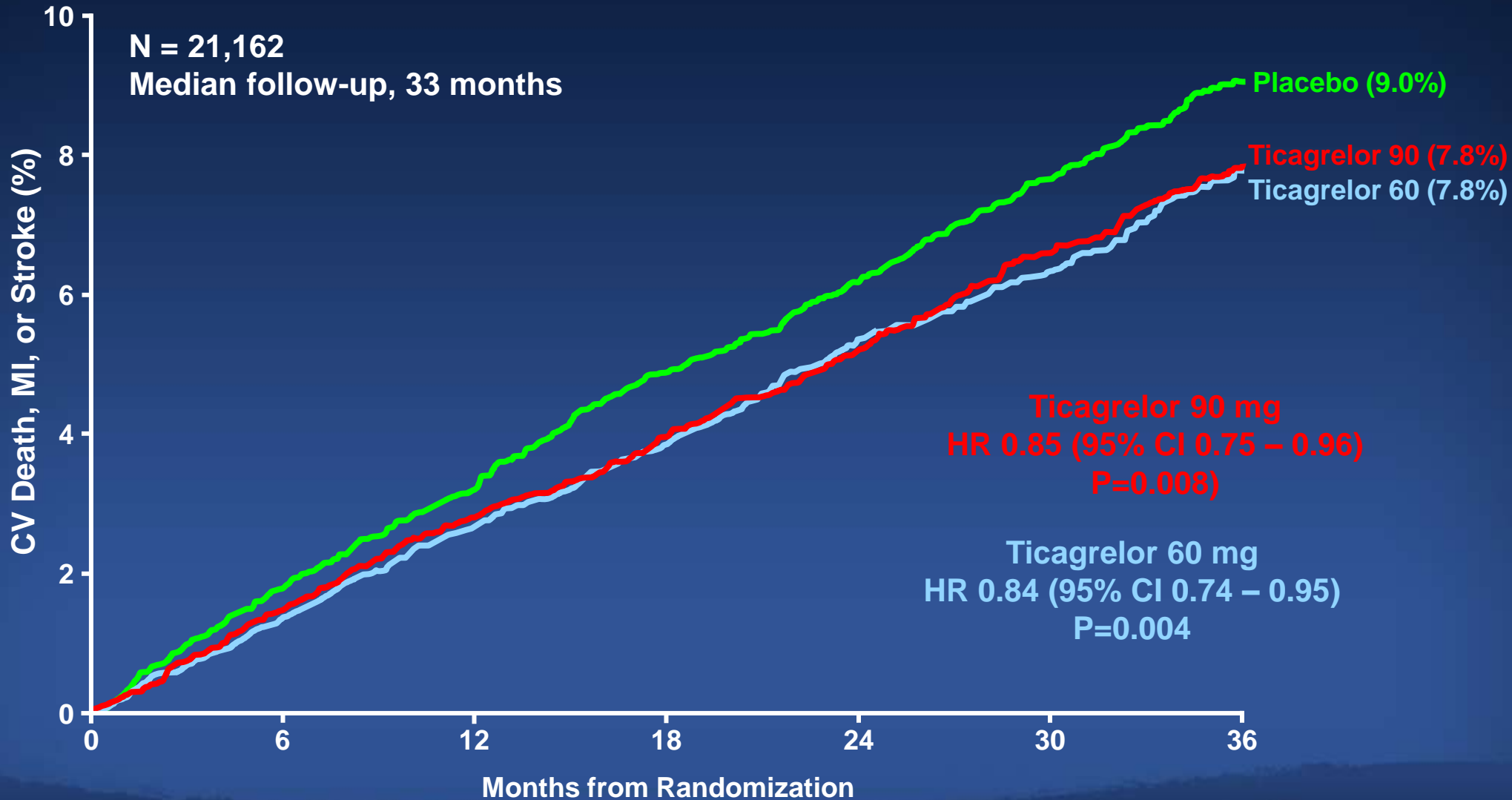


# PEGASUS Trial: Study Design

Randomized 10/2010 – 5/2013: 31 countries; 1161 sites; 21,162 patients

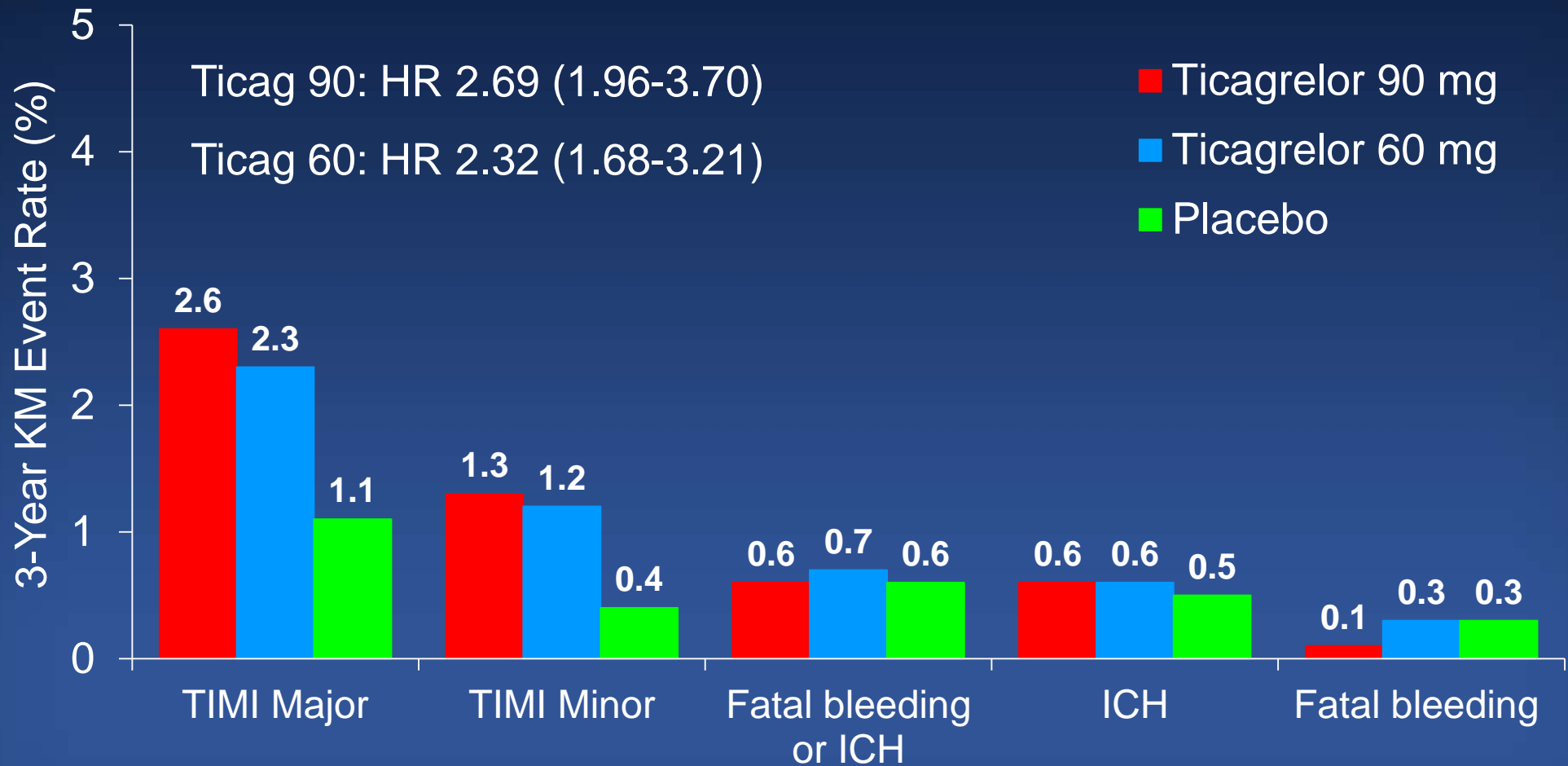


# PEGASUS Trial: Primary Endpoint





# PEGASUS Trial: Bleeding Complications



# Net Clinical Benefit

Characteristic	Ticagrelor 90 mg bid versus placebo			Ticagrelor 60 mg bid versus placebo		
	RRR	HR (95%CI)	P value	RRR	HR (95%CI)	P value
Net clinical benefit: CV death, MI, stroke, or TIMI major bleeding	0%	1.00 (0.90-1.22)	0.9563	5%	0.95 (0.85-1.06)	0.3412
<b>Irreversible harm: CV death, MI, stroke, ICH and fatal bleeding</b>	12%	0.88 (0.78-0.99)	0.0372	14%	0.86 (0.77-0.97)	0.0160
<b>Non-CV death: 145 (2.1%), 117 (1.7%), 115 (1.6%); p=NS</b>						
<b>Cancer death: 77 (1.1%), 64 (0.92%), 53 (0.76%); p=NS</b>						

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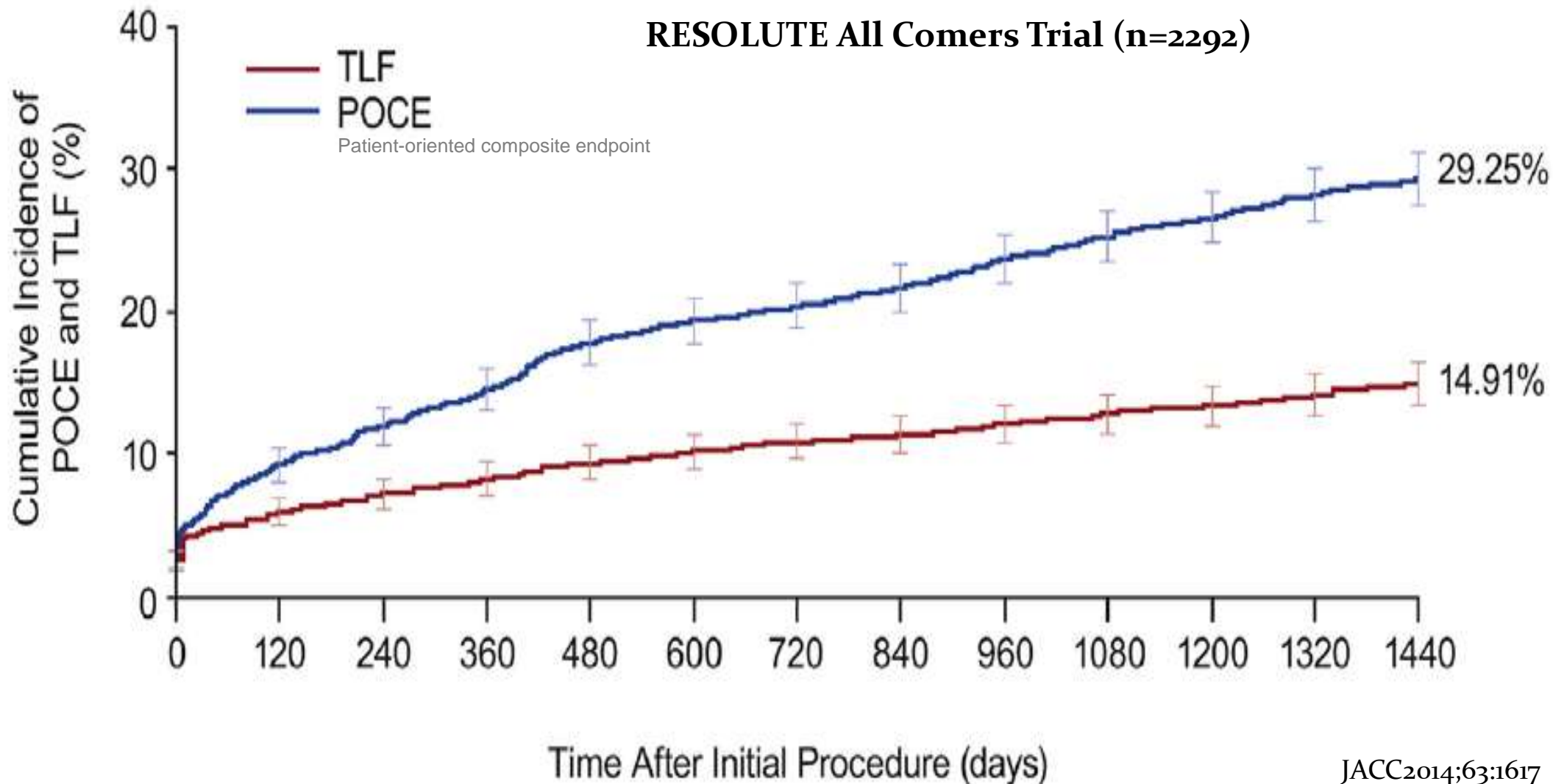
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# PCI/CABG

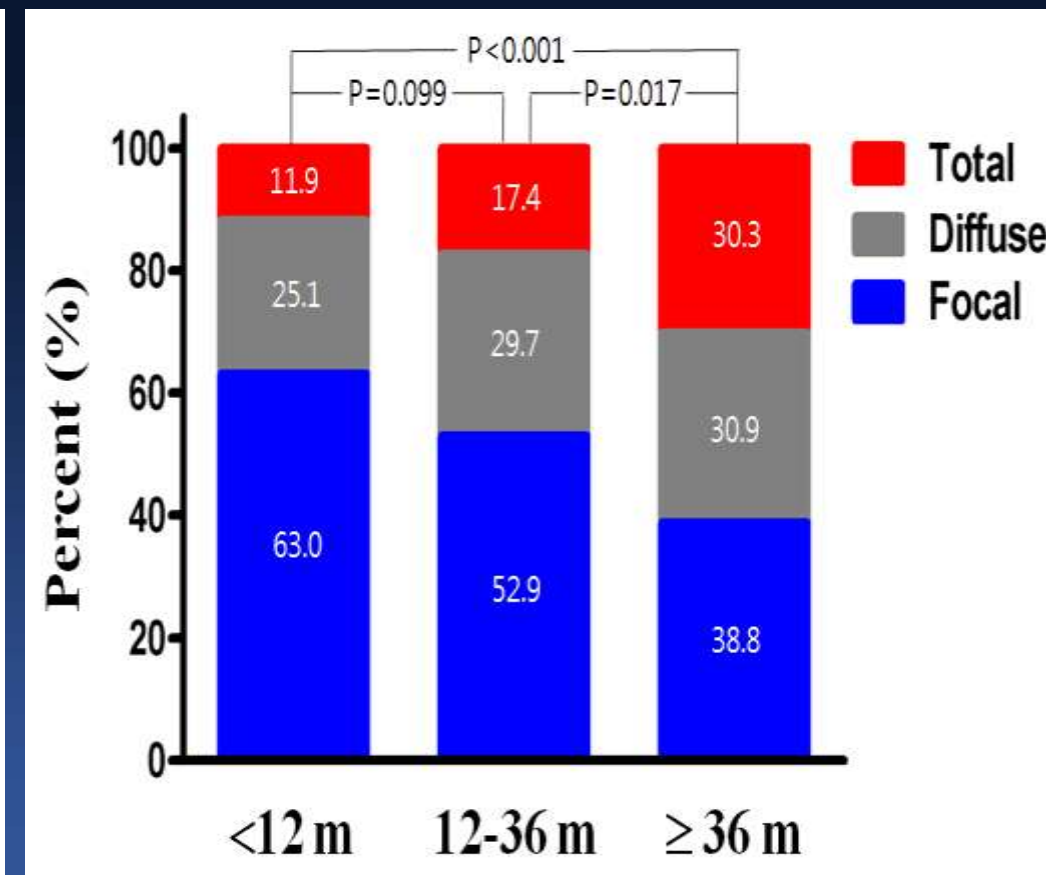
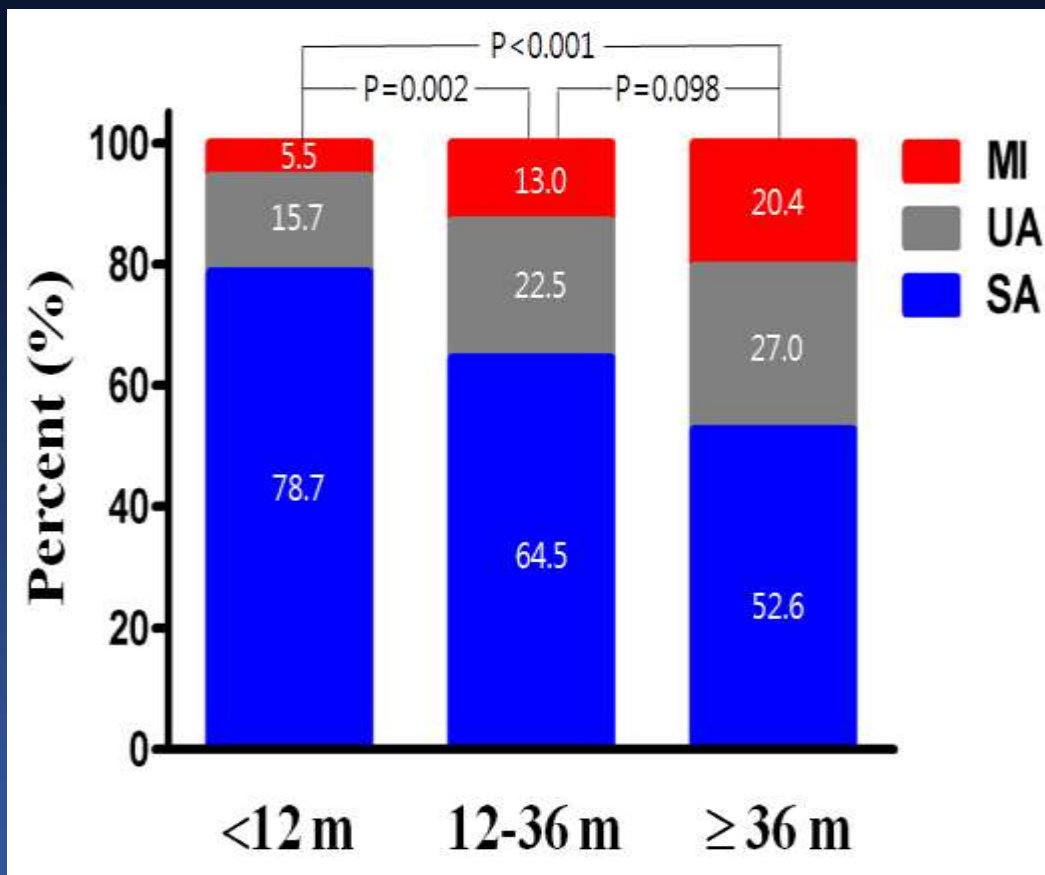
# I Fixed You?

Not a cure  
but a control!



# Temporal Patterns of DES Failure and Relationship With Clinical Outcomes

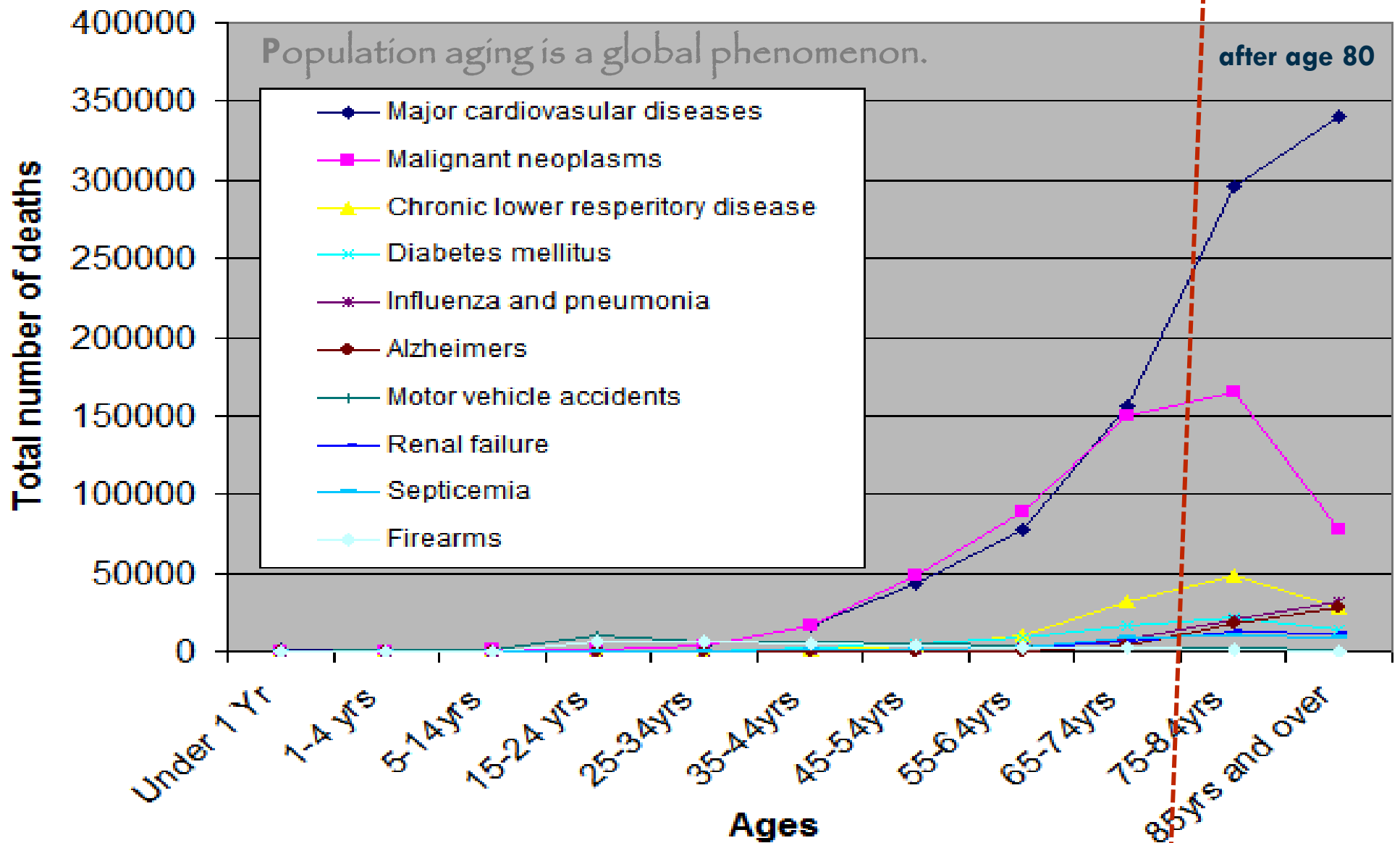
633 patients with first DES failure (stent thrombosis, restenosis)



Clinical presentation

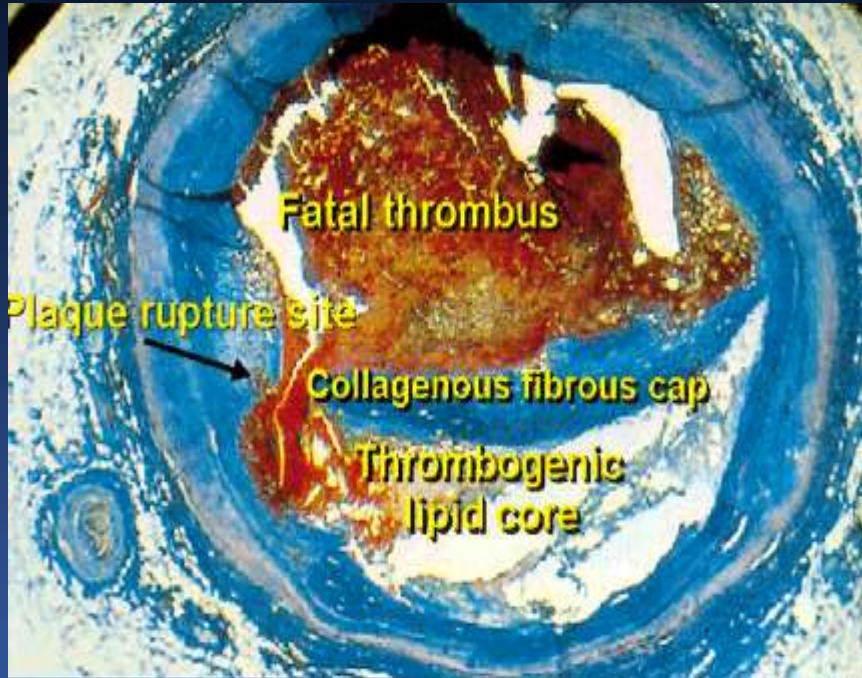
Patterns of DES failure

# Leading Cause of Death in the USA



# Two Great Drugs

**Statins** and **Anti-platelet Agents**



**atherothrombotic** disease

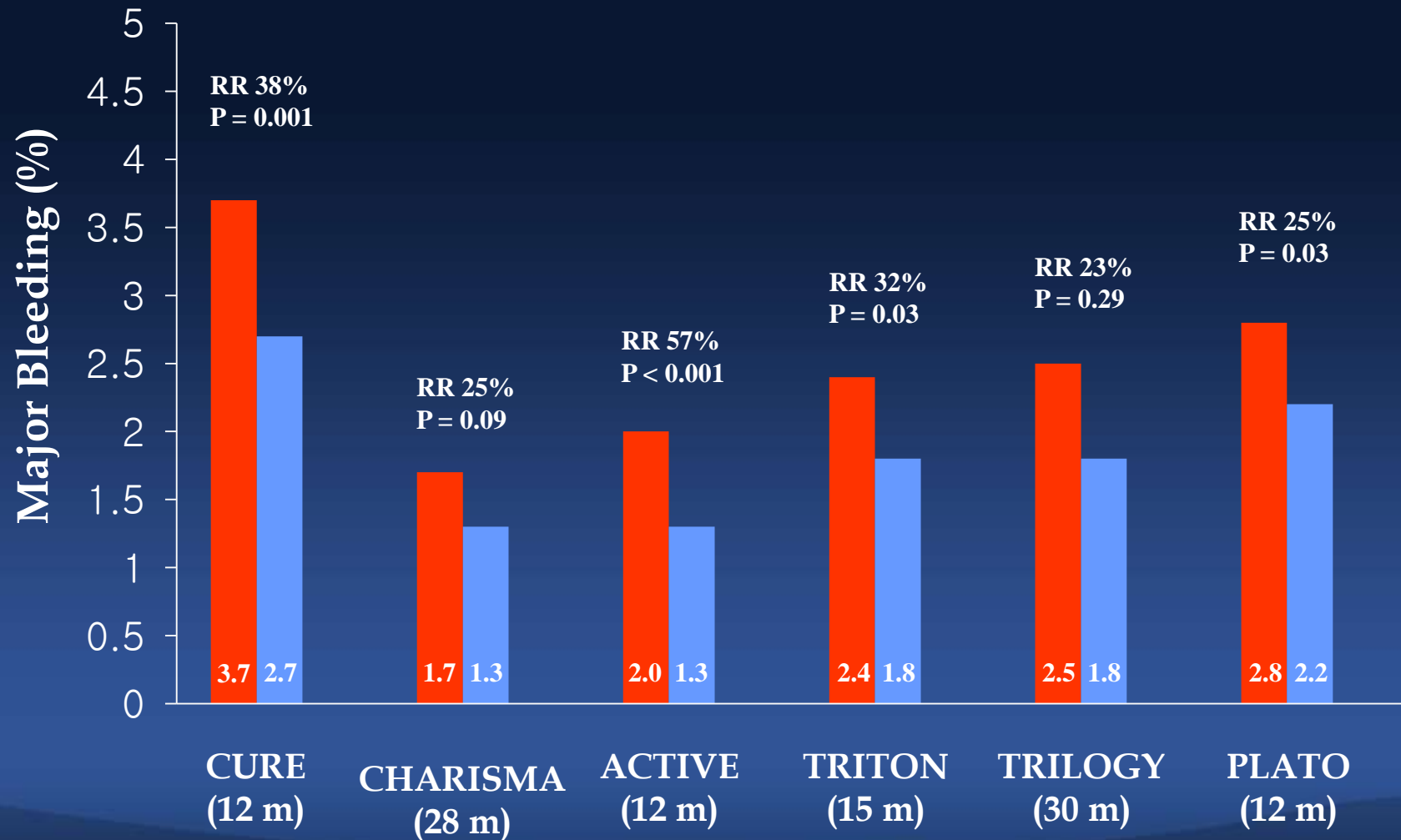
## Two “Axis of Evil”

**LDL Cholesterol:** statins

**Platelet:** aspirin/P2Y<sub>12</sub> inhibitors

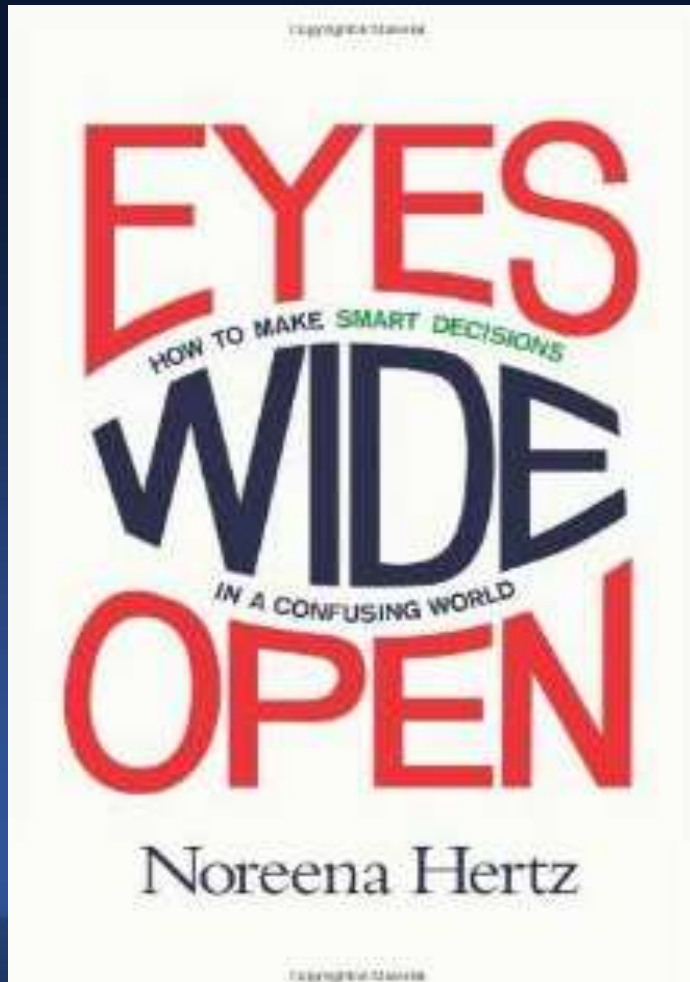


# Bleeding: ↑TIMI Major, Not Fatal or ICH



Take evidence!

# Together for Better Life



*Fresh evidence,*  
**Longer is better!**

감사합니다..