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# Acute Myocardial Infarction as First Presentation among patients with Coronary Heart Disease

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# Introduction

- Acute Coronary Syndrome (ACS) has always been one of the major leading causes of death worldwide <sup>1-3</sup>
- Patients with previous AMI had a higher risk of cardiovascular death than patients who have no previous history of AMI <sup>4</sup>

1. T. Christus, et al. Heart Views. 2011

2. Madsen M, et al. Eur J Cardiovasc Prev Rehabil. 2007

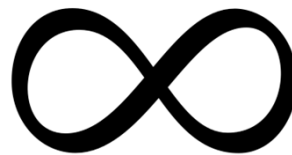
3. Chan MY, et al. Am Heart J. 2011

4. Bonaca MP, et al. Circulation. 2012

# Introduction, cont.

- STEMI patients showed a **lower** cardiovascular risk factors than **NSTEMI** patients <sup>5</sup>
- Among AMI patients without prior cardiovascular disease:

**In-Hospital  
Mortality**



**1**  

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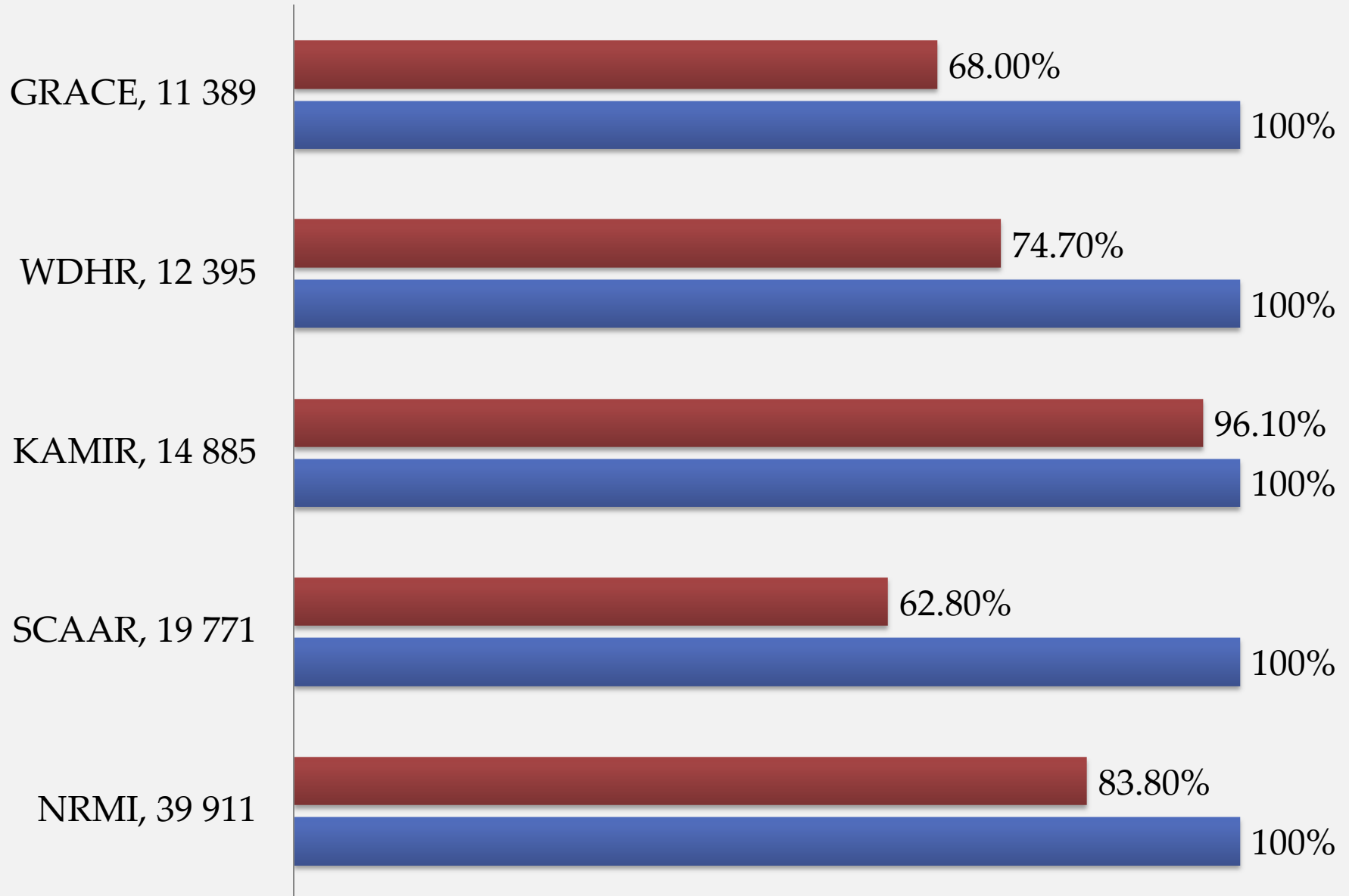
**No. of Risk  
Factors**

5. García et al. Am J Cardiol. 2011

6. Canto JG et al. JAMA. 2011

# Previous ACS Registries

■ No Prior MI (%)   ■ Total Registry



# Rationale

- Only scarce information is available regarding AMI as first presentation among CHD patients in our region
- It would be imperative upon the investigators from our region to bridge the existing gap
- GULF-RACE registry was a response to such need

# Research Objectives

- Assess prevalence of **AMI** among CHD patients
- Two main groups:
  - **AMI** with no prior ACS
  - **AMI** with history of ACS
- Compare between the two groups in term of:
  - Risk factors
  - Clinical correlates
  - Treatment profiles
  - Mortality



# Methodology

- A registry-based study “Gulf-RACE-2 “
- Prospective, multicenter study, which recruited 7 929 consecutive ACS patients from GCC countries in 65 hospitals
- Around 3 531 patients, diagnosed with AMI in this registry

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## **ACC CLINICAL DATA STANDARDS**

# American College of Cardiology Key Data Elements and Definitions for Measuring the Clinical Management and Outcomes of Patients With Acute Coronary Syndromes

A Report of the American College of Cardiology Task Force on  
Clinical Data Standards (Acute Coronary Syndromes Writing Committee)

*Endorsed by the American Association of Cardiovascular and Pulmonary Rehabilitation, American College of Emergency Physicians, American Heart Association, Cardiac Society of Australia & New Zealand, National Heart Foundation of Australia, Society for Cardiac Angiography and Interventions, and the Taiwan Society of Cardiology*

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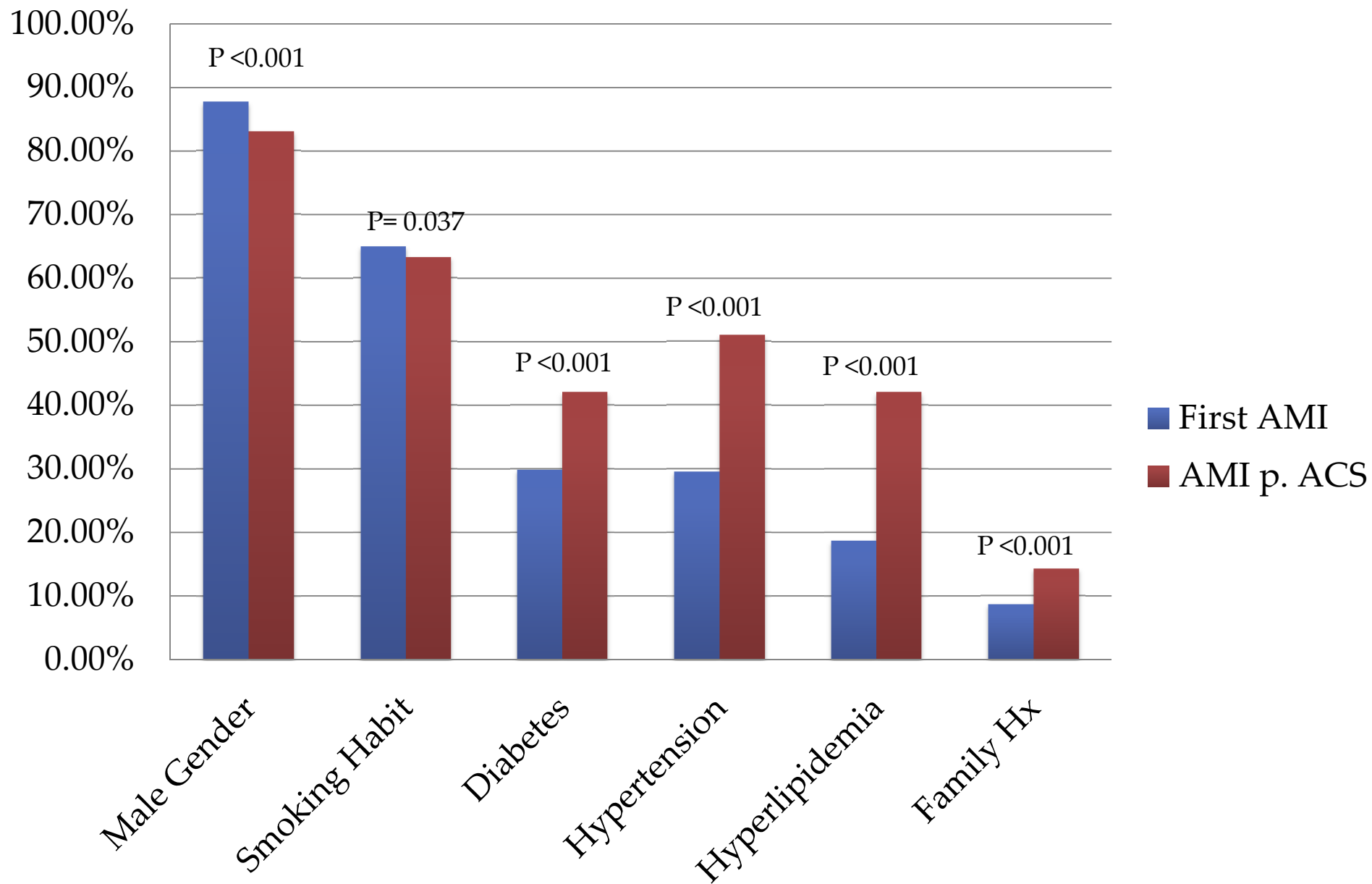
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Total "Gulf-RACE II" registry  
of **7 929** ACS patients

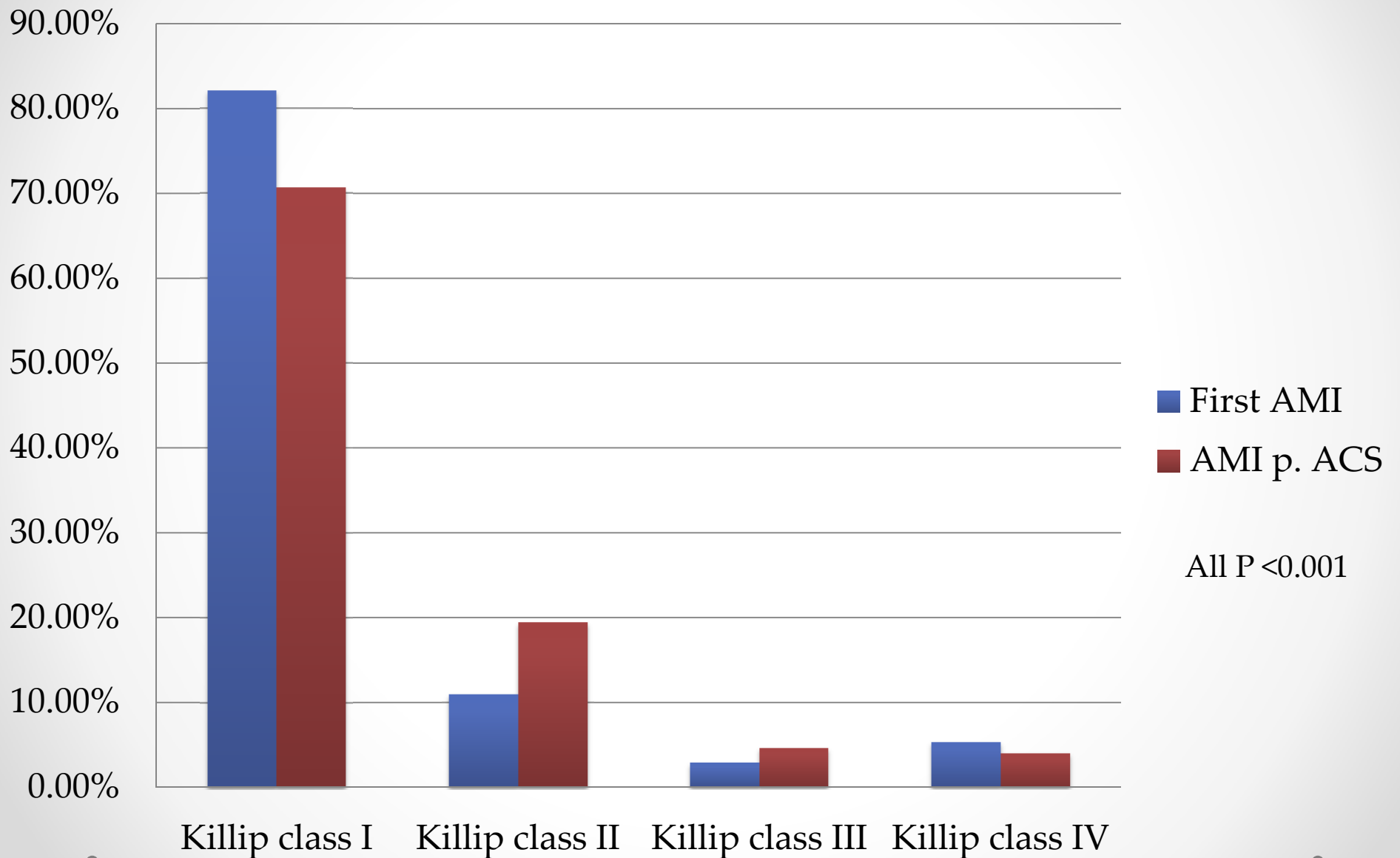
Patients with AMI presentation =  
**3 531** (44.5%) patients

Patients with **1<sup>st</sup> AMI** =  
**2 713** (76.9% of AMI patients)  
( 34.2% of total registry)

## Comparison between the two groups based on Risk Factors for ACS



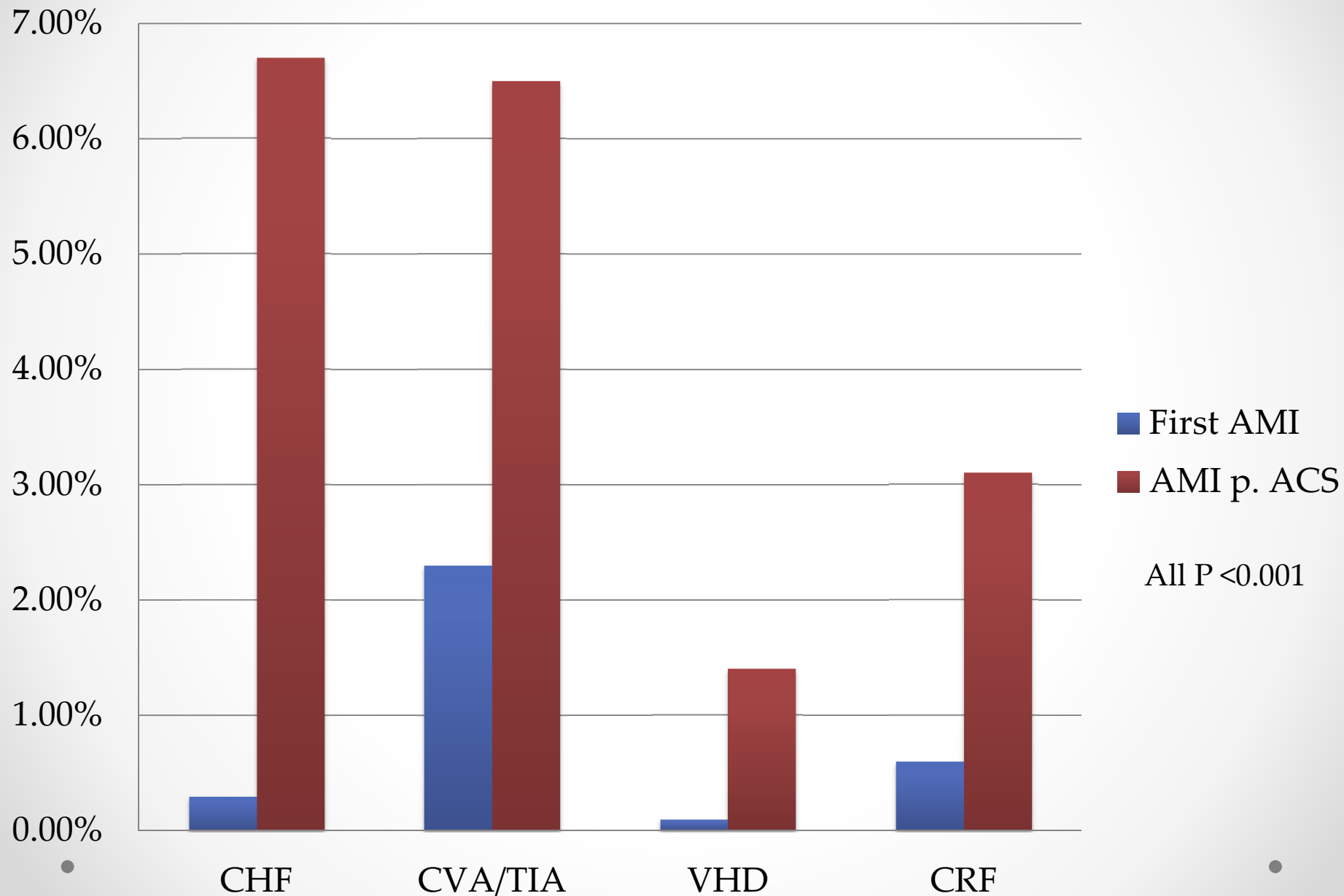
## Comparison between the two groups based on Killip Classifications



**Table 2: In-Hospital Treatments**

<b>Variable</b>	<b>Total N= 3 531</b>	<b>AMI with Prior ACS N= 818 (23.1)</b>	<b>AMI with No-prior ACS N= 2 713 (76.9)</b>	<b>P Value</b>
<b>Treatment:</b>				
Aspirin	3 480 (98.6)	798 (97.6)	2 682 (98.9)	0.007
Clopidogrel	2 915 (82.6)	648 (79.2)	2 267 (83.6)	0.003
β Blocker	2 523 (71.5)	594 (72.6)	1 929 (71.1)	0.213
ACE-I/ARB	2 689 (76.2)	642 (78.5)	2 047 (75.5)	0.040
Statin	3 376 (95.6)	761 (93.0)	2 615 (96.4)	<0.001
Thrombolytic Therapy	1 648 (53.9)	335 (47)	1 313 (56)	<0.001

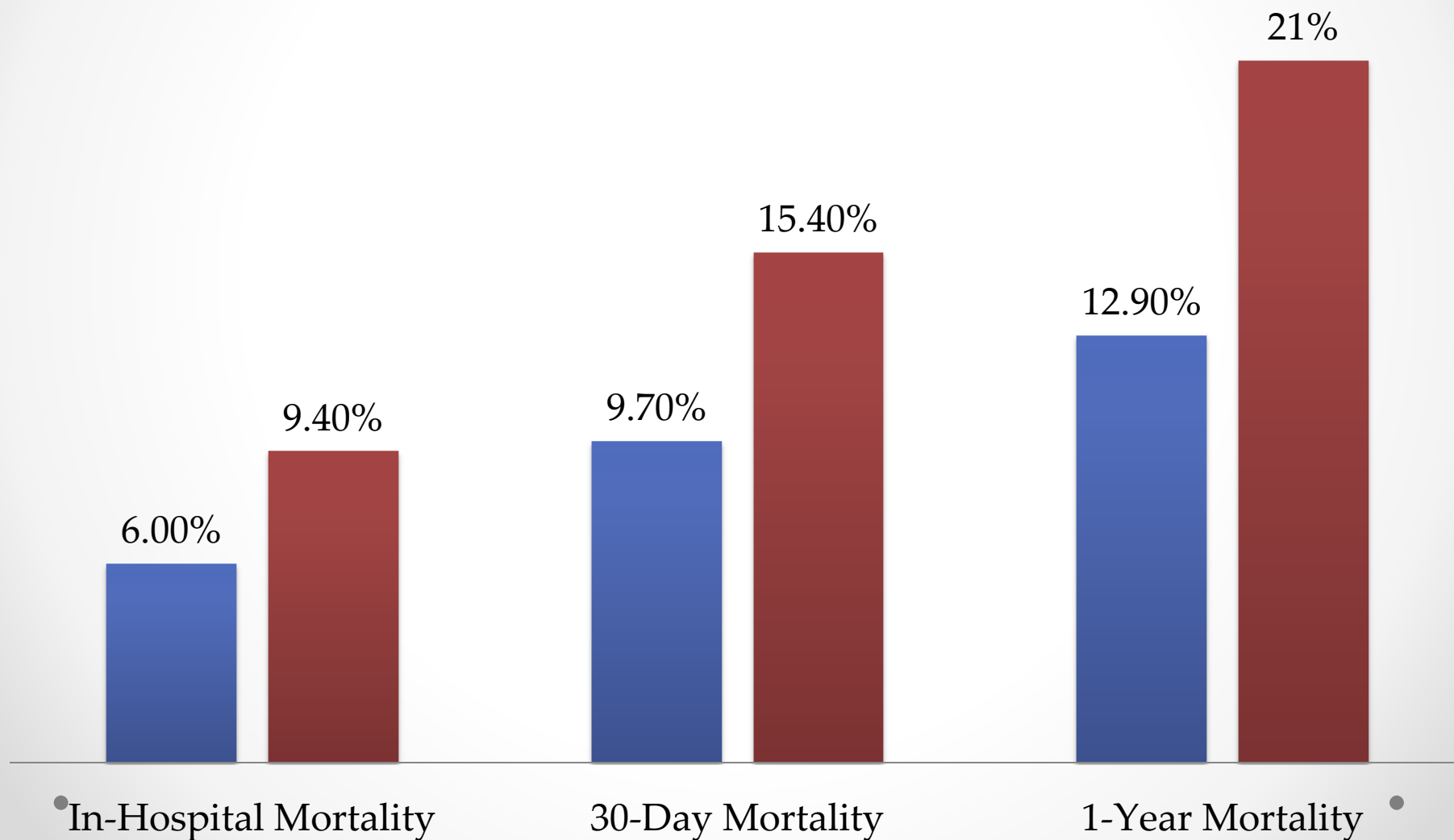
## Comparison between the two groups based on In – hospital events



## Comparison between the two groups based on Mortality

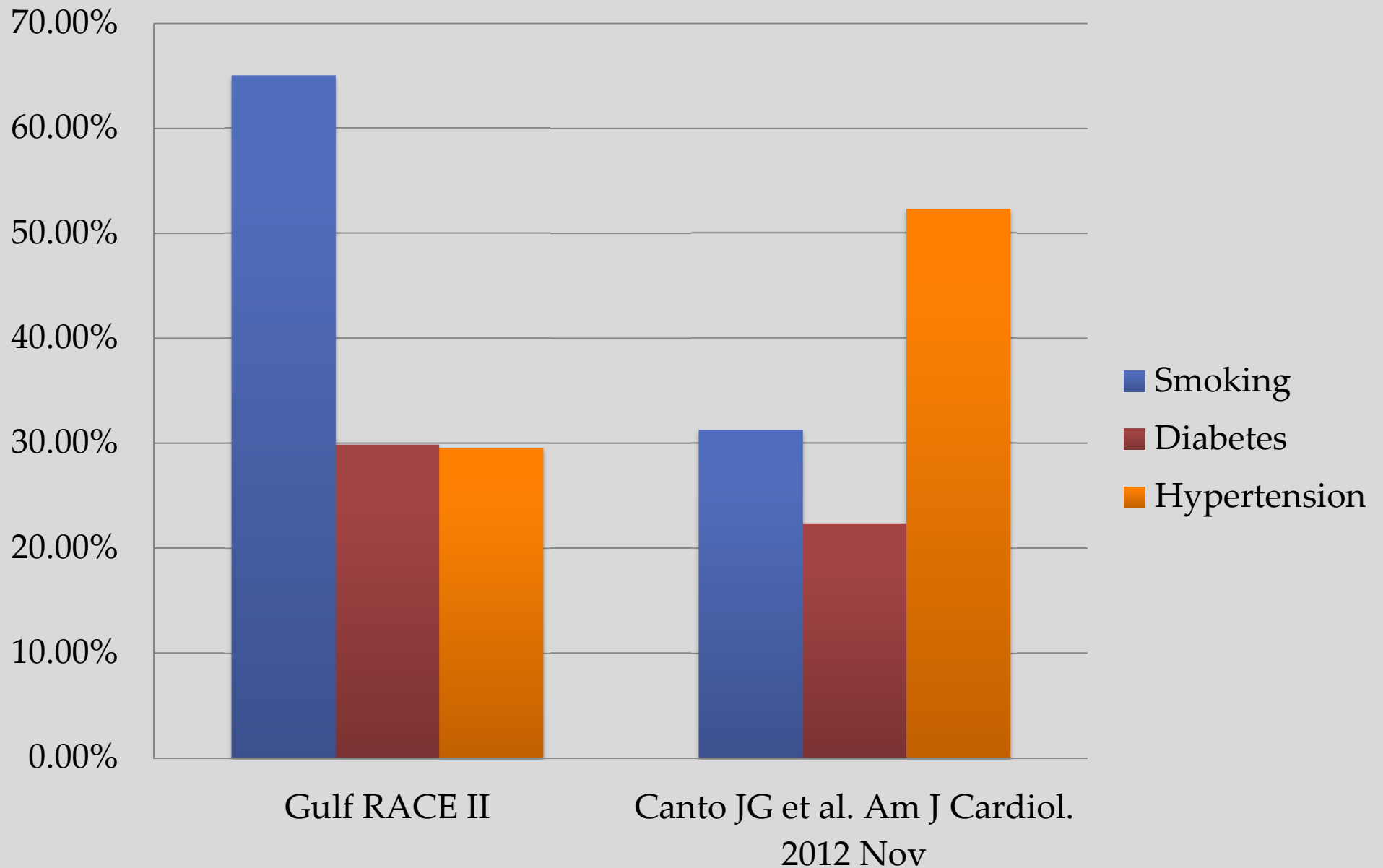
■ First AMI ■ AMI p. ACS

All P < 0.001





# Comparison between our registry and US national Registry of MI, with respect to 1<sup>st</sup> AMI



<b>Registry</b>	<b>No. of patients</b>	<b>Mean age (yr old)</b>	<b>Female (%)</b>	<b>HTN (%)</b>	<b>DM (%)</b>	<b>DYS (%)</b>	<b>Smoking (%)</b>
<b>NRMI-3,4</b>	39,911	61	27.8	49.4	17.8	39.9	43.3
<b>SCAAR</b>	19,771	66	30.0	44.2	18.0		51.4
<b>KAMIR</b>	14,885	67.1	28.4	45.7	25.8	33.4	53.2
<b>Western Denmark Heart Registry</b>	12,395	63.5	27.9	36.2	11.5	41.0	34.4
<b>GRACE</b>	11,389	66.3	33.5	57.8	23.3	43.6	56.7
<b>Gulf-RACE II Registry</b>	3,351	54.4	13.4	34.6	32.7	24.1	65
<b>HIJAMI Registry</b>	3,021	68.1	29.3	55.0	36.5	38.2	53.6

# Conclusions

- Findings of our study are consistent with recent studies
- 1<sup>st</sup> AMI among ACS patient were around 3/4 of total AMI patients in Gulf-RACE-2 registry
- 1<sup>st</sup> AMIer were younger, having lower co-morbidities and lower Killip classifications II and III
- Patients with 1<sup>st</sup> AMI were more likely to receive antiplatelet, statins or thrombolytic therapy



# Conclusions, cont.

- Almost all risk factors for CHD Major in-hospital events were more prevalent in the AMI with prior ACS patients,  $p < 0.001$
- Further studies and presentation of more results will take place in future

**Thanks' for your kind attention!!!!!!**



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