成大醫院
National Cheng Kung University Hospital

The efficacy and safety of ticagrelor vs. clopidogrel in AMI in Taiwan

Yi-Heng Li, MD, PhD, FESC, FACC

Professor of Medicine

National Cheng Kung University Hospital & College of Medicine

Tainan, Taiwan

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成大醫院
National Cheng Kung University Hospital

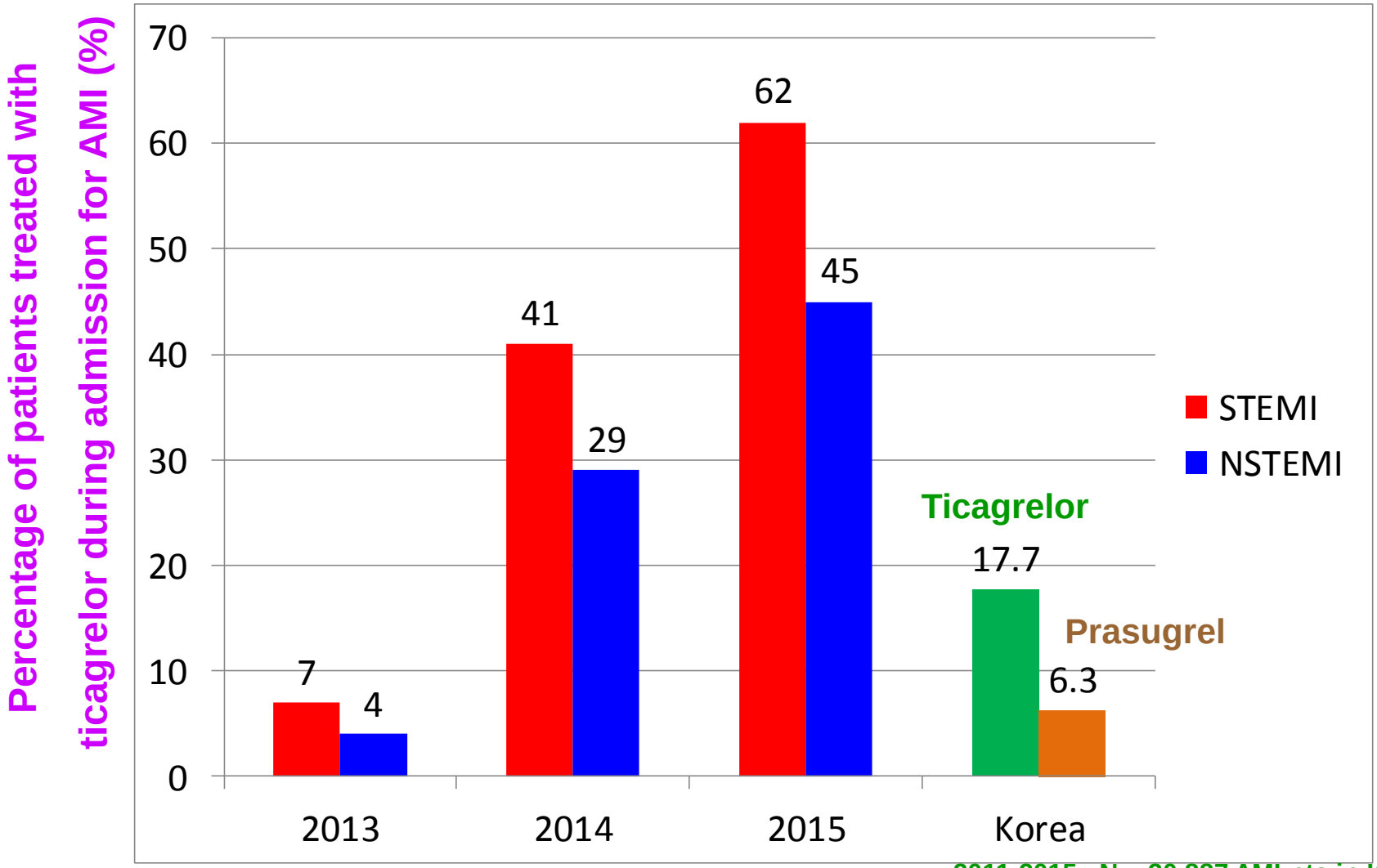
Presenter Disclosure Information

Name: Yi-Heng Li

Within the past 12 months, the presenter had a financial interest/arrangement or affiliation with the organization listed below.

Company Name:	Relationship:
Pfizer	Consultant/Speaker bureau
Sanofi-Aventis	Consultant/Speaker bureau
Astra Zeneca	Consultant/Speaker bureau
Daiichi Sankyo	Consultant/Speaker bureau
Boehringer Ingelheim	Consultant/Speaker bureau

Use of Ticagrelor for AMI in Taiwan and Korea



2011-2015; N = 30,887 AMI pts in Korea

Korean Circ J. 2018 Apr;48(4):310-321

Study from Taiwan National Health Insurance Database

- Since the implementation of National Health Insurance (NHI) in Taiwan in 1995, more than 99.5% of Taiwan's 23 million population is covered by this system.
- The NHI Research Database includes data on every inpatient and outpatient medical claims covered under the NHI program.
- Adult patients (≥18 years) who were admitted for AMI were selected. AMI admission was defined as a hospitalization with a primary discharge diagnosis code of ICD9-CM 410.x.
- A verify study was performed and demonstrated the accuracy of diagnosis of AMI in the database.

J Am Heart Assoc. 2014;3(4). pii: e001066.

J Epidemiol. 2014;24(6):500-7.

Taiwan National Health Insurance Database

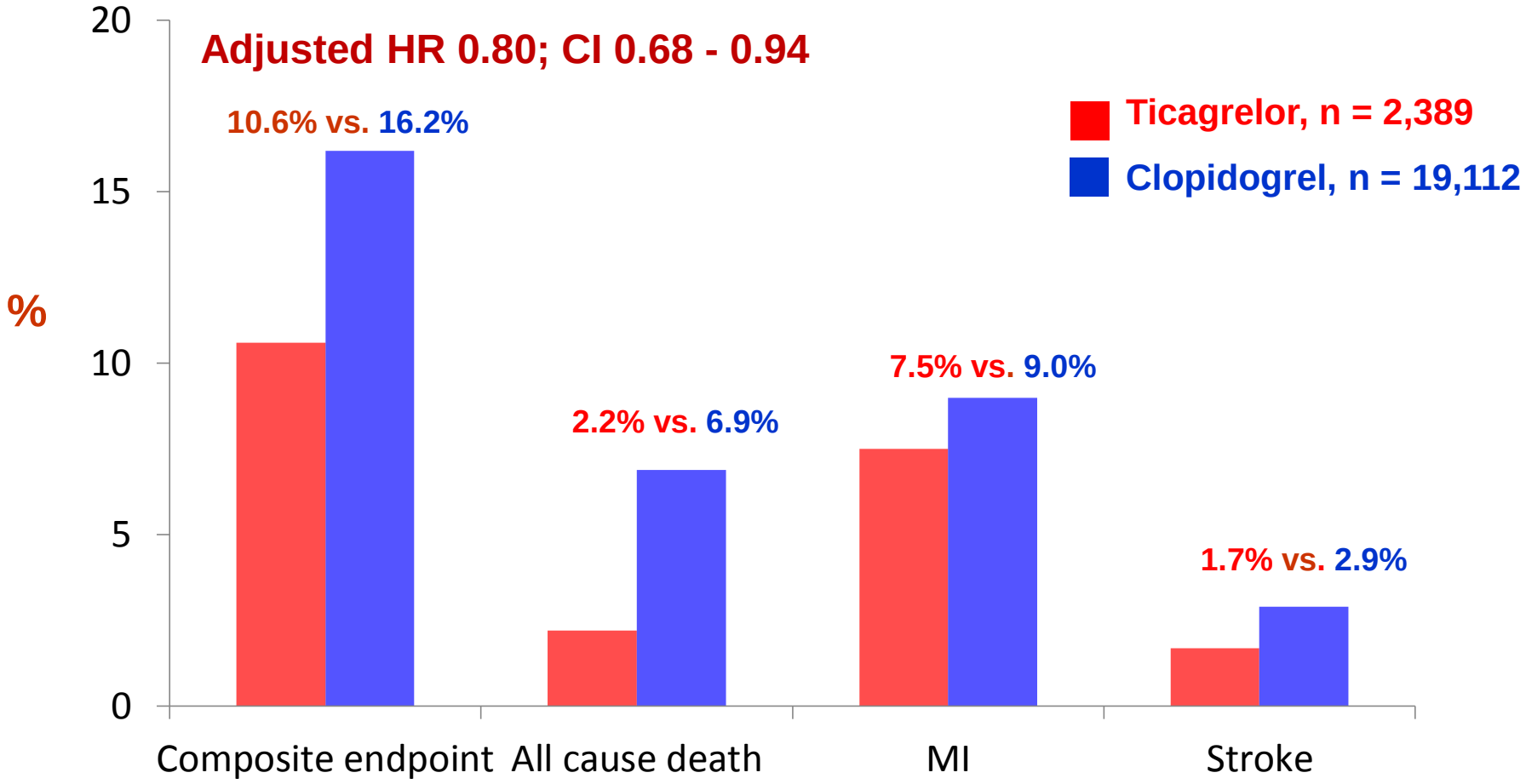
- Retrospective collection of AMI patients' data in Taiwan
- From January 1, 2012 to December 31, 2014
- All AMI patients survived 30 days after discharge with DAPT
- 18 months clinical outcome
  - Propensity score matched cohort
  - Ticagrelor (n = 2,389)
  - Clopidogrel (n = 19,112)
  - Efficacy: Composite of all cause death, MI and stroke
  - Safety: Composite of ICH and major GI bleeding need admission

2016 AHA abstract

Circ J. 2018;82:747-756.

Taiwan National Health Insurance Database

Composite of all cause death, MI or stroke

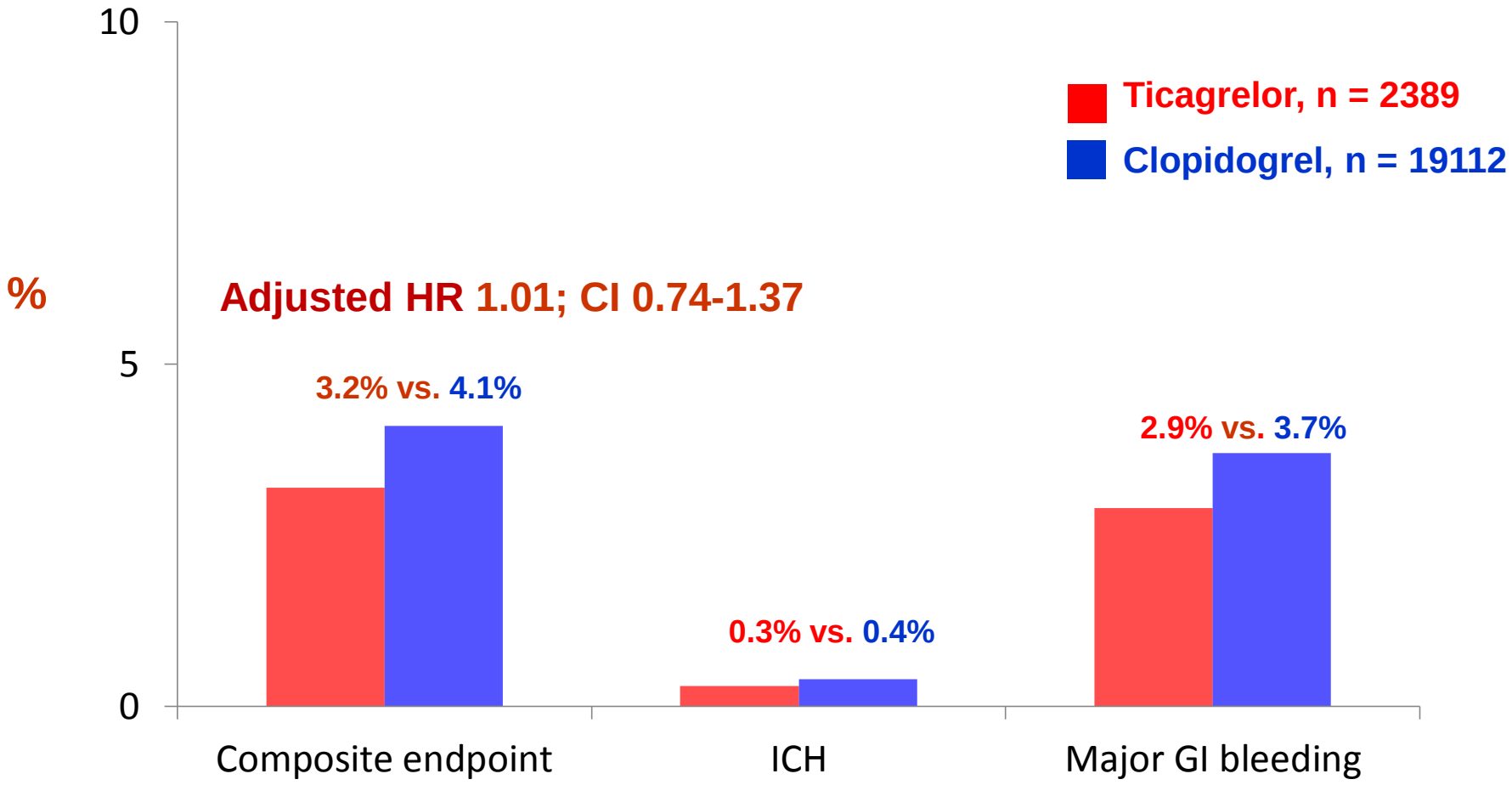


2016 AHA abstract

Circ J. 2018;82:747-756.

Taiwan National Health Insurance Database

Composite of ICH and major GI bleeding



2016 AHA abstract

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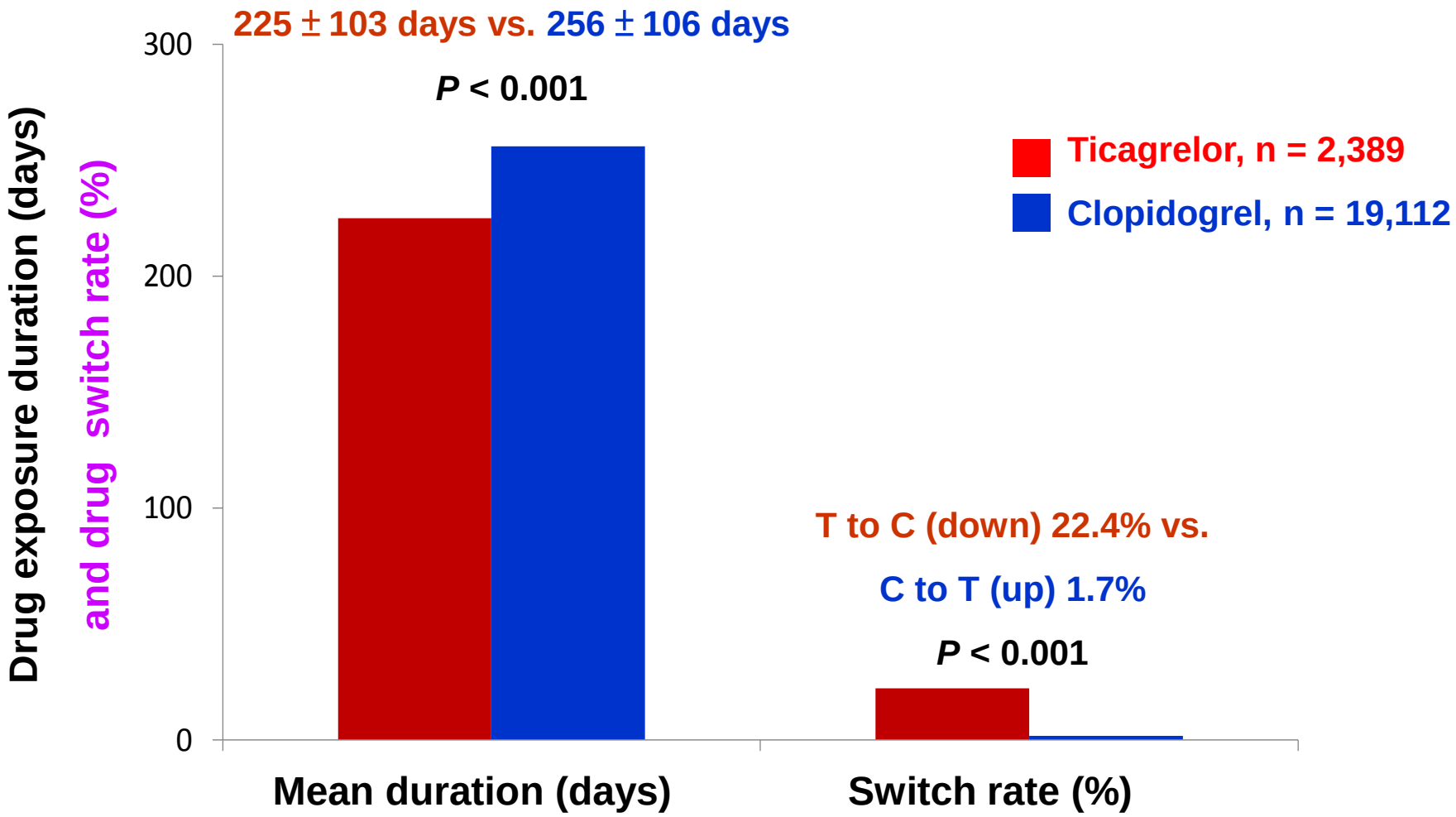
Taiwan National Health Insurance Database



2016 AHA abstract

Circ J. 2018;82:747-756.

Study limitations

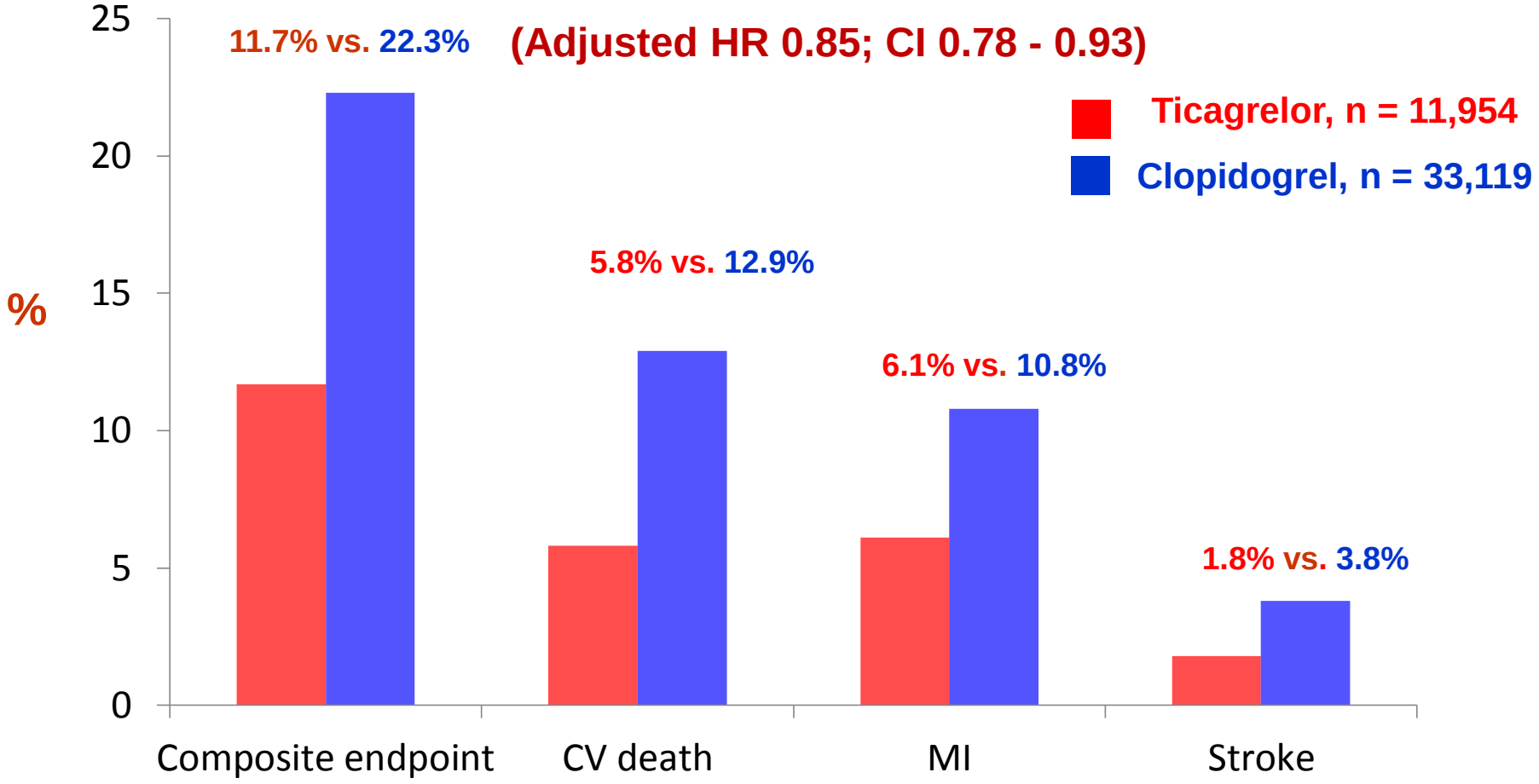
1. **Selection bias and uncontrolled confounding factors were hardly avoidable, even with propensity-score matched analysis and sensitivity analyses.**
2. **Minor bleeding complications and other adverse effects, such as dyspnea or asymptomatic heart block were not recorded in the database.**
3. **The database did not include severity of coronary artery disease and revascularization details.**

SWEDEHEART Registry

- Prospective cohort study in 45,073 ACS patients enrolled into the SWEDEHEART Registry
- From Jan 2010 to Dec 2013
- All AMI discharge with DAPT
- 24 months clinical outcome
  - Ticagrelor (n = 11,954)
  - Clopidogrel (n = 33,119)
  - Efficacy: Composite of all cause death, MI and stroke
  - Safety: Composite of all bleeding need admission

SWEDEHEART Registry

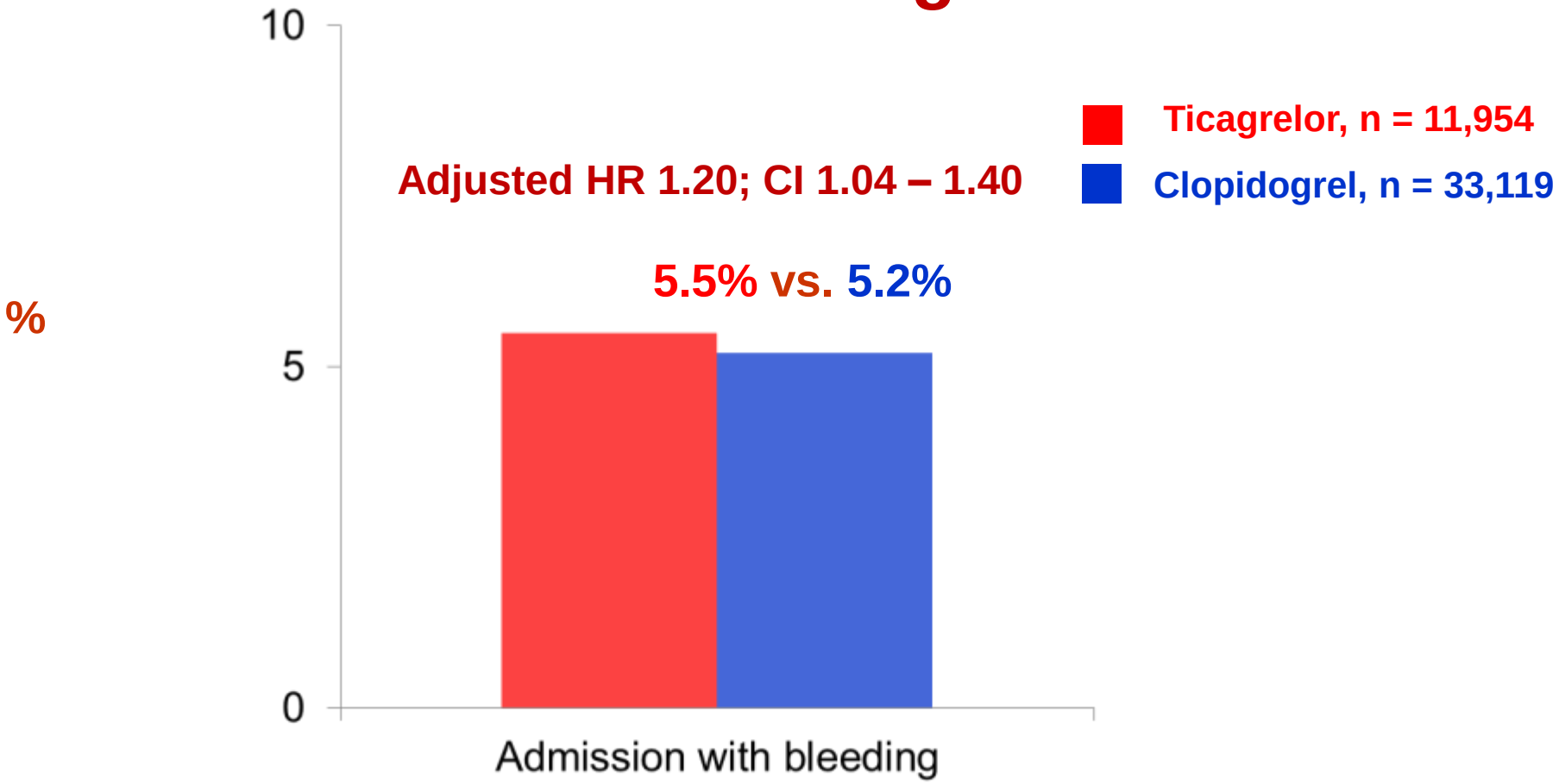
Composite of death, MI or Stroke



Eur Heart J. 2016;37:3335-3342.

SWEDEHEART Registry

Bleeding



Conclusions

- Ticagrelor provides better CV protection after AMI
- The major bleeding risk of ticagrelor is acceptable
- Our real world data reconfirmed ticagrelor effect
- The DAPT duration is not long enough in Taiwan

Efficacy Result – Primary endpoint

Composite of death, MI or stroke

SWEDEHEART	Ticagrelor	Clopidogrel
Number of Participants Analyzed (n)	11,954	33,119
MACE (%)	11.7	22.3

Adjusted HR 0.85; CI 0.78 to 0.93

Taiwan NHIR database	Ticagrelor	Clopidogrel
Number of Participants Analyzed (n)	2,389	19,112
MACE (%)	10.6	16.2

Adjusted HR 0.80; CI 0.68 to 0.94

*Composite endpoint: All cause death, MI, Stroke

Safety Result – Primary endpoint

Major bleeding need hospitalization

SWEDEHEART	Ticagrelor	Clopidogrel
Number of Participants Analyzed (n)	11,954	33,119
Major Bleeding (%)	5.5	5.2

HR 1.20; CI 1.04 to 1.40

Taiwan NHIR database	Ticagrelor	Clopidogrel
Number of Participants Analyzed (n)	2,389	19,112
Major Bleeding (%)	3.2	4.1

HR 1.01; CI 0.74 to 1.37

- SWEDEHEART: all bleeding need admission
- Taiwan NHIR database: ICH and GI bleeding need admission