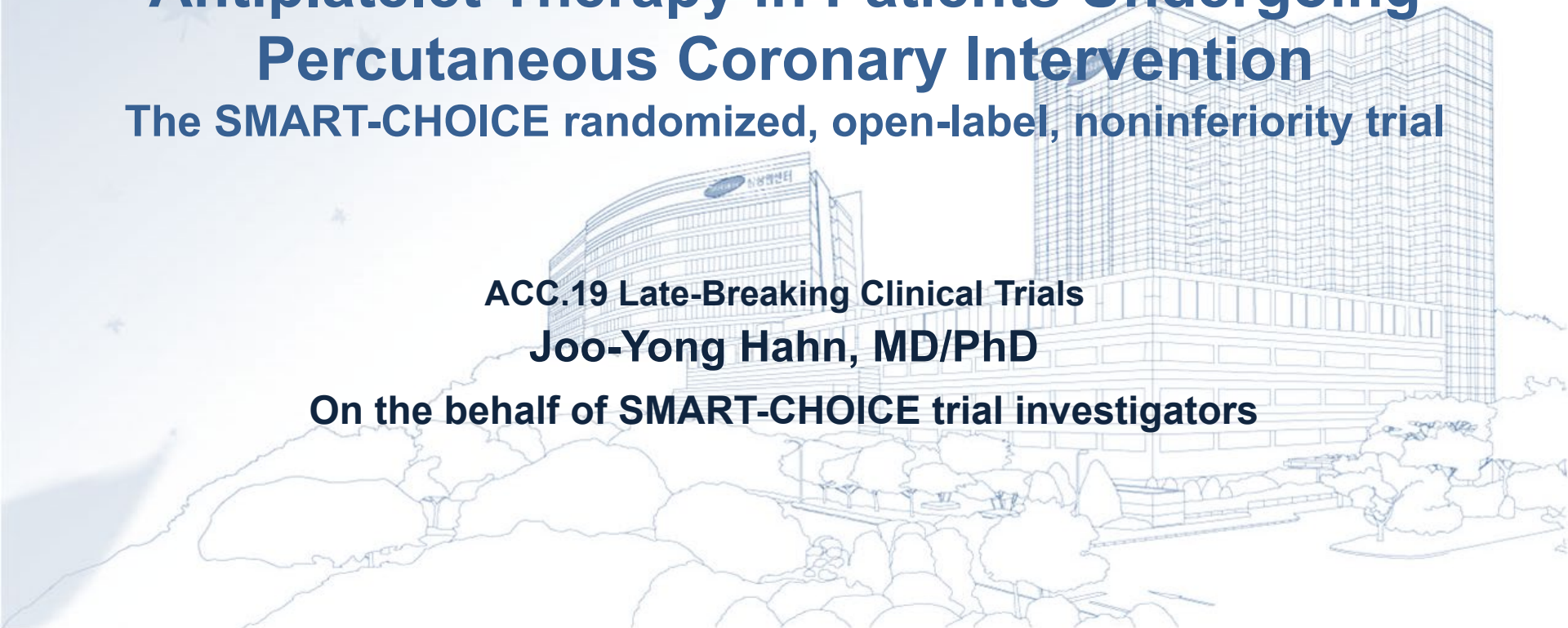
# P2Y12 Inhibitor Monotherapy versus Dual Antiplatelet Therapy in Patients Undergoing Percutaneous Coronary Intervention

## The SMART-CHOICE randomized, open-label, noninferiority trial



ACC.19 Late-Breaking Clinical Trials

**Joo-Yong Hahn, MD/PhD**

**On the behalf of SMART-CHOICE trial investigators**

# Disclosure Statement of Financial Interest

Within the past 12 months, I or my spouse/partner have had a financial interest/arrangement or affiliation with the organization(s) listed below.

- CONSULTING FEES/HONORARIA:
  - AstraZeneca, Daiichi Sankyo, and Sanofi-Aventis
- RESEARCH/RESEARCH GRANTS:
  - Abbott Korea
  - Biotronik
  - Boston Scientific Korea
  - Medtronic Korea

# Primary objective of study

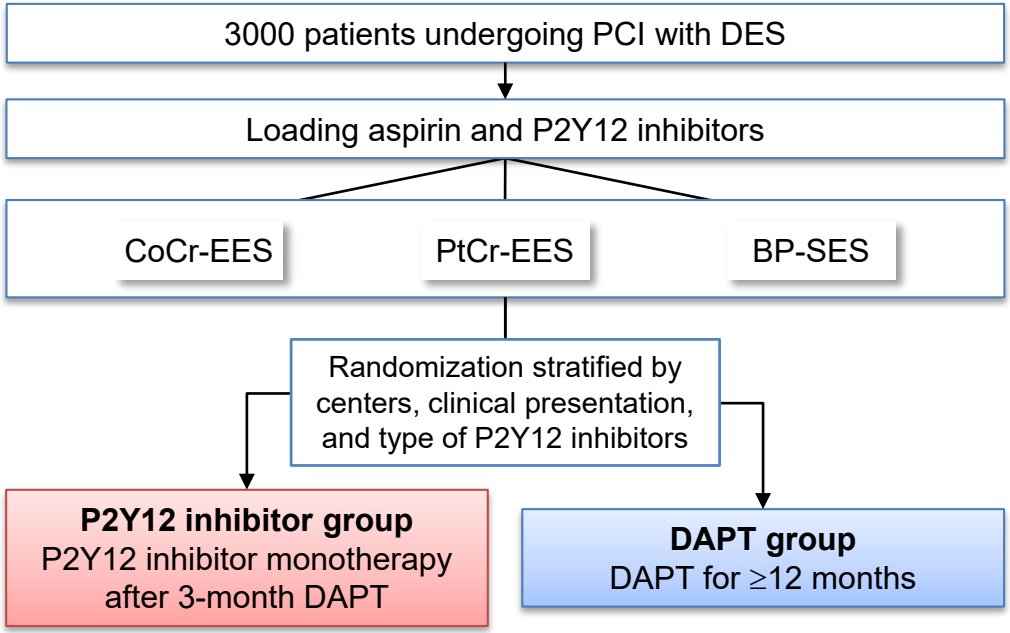
To compare P2Y12 inhibitor monotherapy after 3-month DAPT with 12-month DAPT in a broad spectrum of patients receiving current generation drug-eluting stents (DES).

**Working hypothesis**

P2Y12 inhibitor monotherapy after 3-month DAPT would be noninferior to 12-month DAPT at 12 months after the index procedure.

# Study design

A prospective, multicenter, randomized, open-label, noninferiority trial

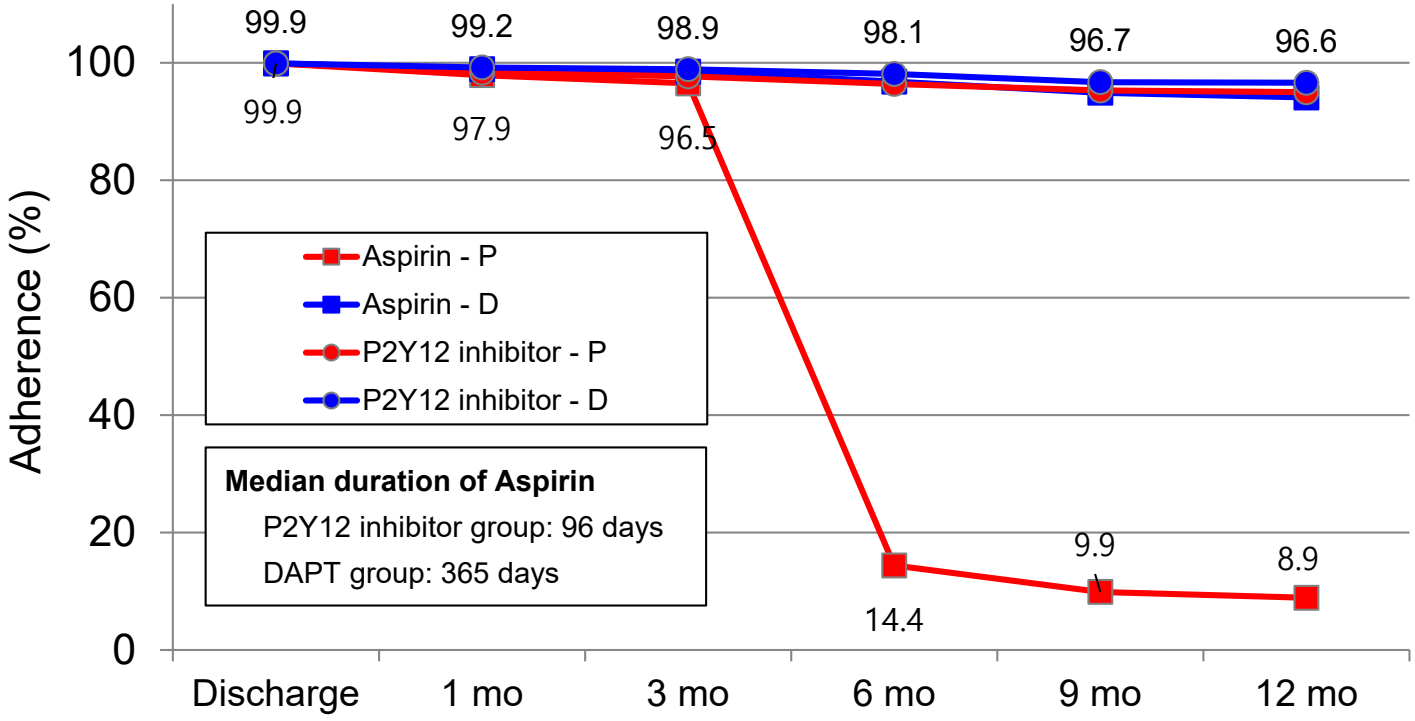



- CoCr-EES: cobalt-chromium everolimus eluting stent (Xience series)
- PtCr-EES: platinum-chromium everolimus-eluting stent (Promus series and Synergy)
- BP-SES: bioresorbable polymer- sirolimus-eluting stent (Orsiro)

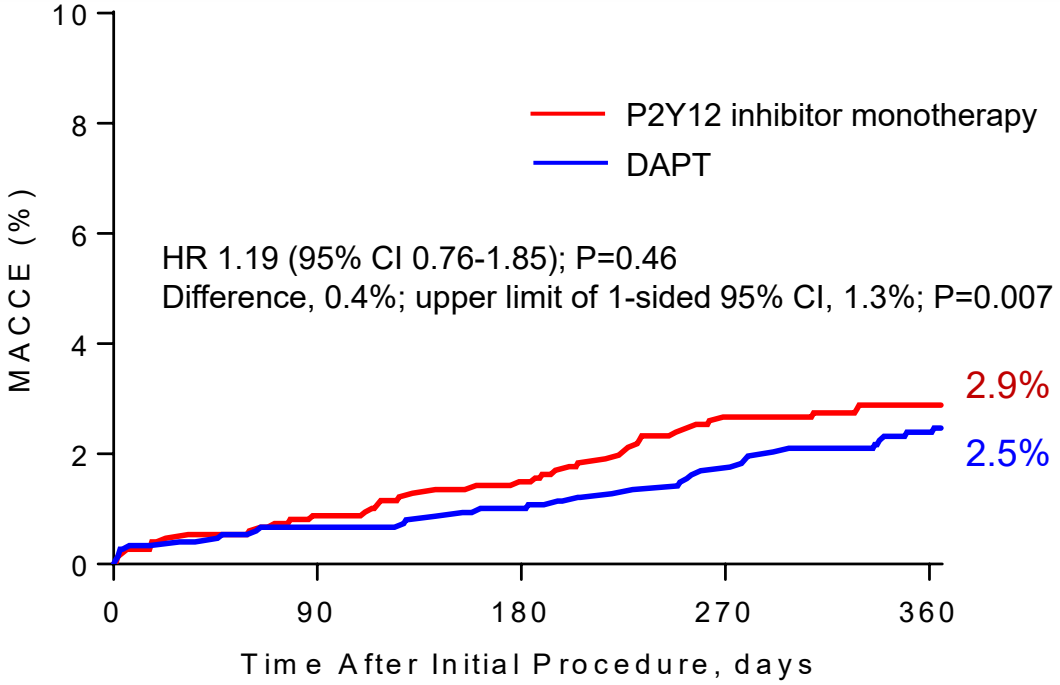
Primary endpoint: 12-month MACCE

ClinicalTrials.gov NCT02079194

# Adherence of antiplatelet therapy



# Primary end point (MACCE)




| No. at risk | | | | | |
|---|---|---|---|---|---|
| DAPT | 1498 | 1471 | 1454 | 1436 | 1220 |
| P2Y12 inhibitor | 1495 | 1456 | 1430 | 1402 | 1202 |

* MACCE = A composite of all-cause death, myocardial infarction, or stroke

# Clinical outcomes at 12 months

| Outcome | P2Y12 inhibitor monotherapy (n=1495) | Dual antiplatelet therapy (n=1498) | HR (95% CI) | P Value |
|---|---|---|---|---|
| MACCE | 42 (2.9%) | 36 (2.5%) | 1.19 (0.76-1.85) | 0.46 |
| Death | 21 (1.4%) | 18 (1.2%) | 1.18 (0.63-2.21) | 0.61 |
| Myocardial infarction | 11 (0.8%) | 17 (1.2%) | 0.66 (0.31-1.40) | 0.28 |
| Cerebrovascular accident | 11 (0.8%) | 5 (0.3%) | 2.23 (0.78-6.43) | 0.14 |
| Death or myocardial infarction | 31 (2.1%) | 32 (2.2%) | 0.98 (0.60-1.61) | 0.94 |
| Cardiac death | 11 (0.8%) | 13 (0.9%) | 0.86 (0.38-1.91) | 0.70 |
| Cardiac death or myocardial infarction | 22 (1.5%) | 27 (1.9%) | 0.83 (0.47-1.45) | 0.50 |
| Stent thrombosis | 3 (0.2%) | 2 (0.1%) | 1.51 (0.25-9.02) | 0.65 |
| Bleeding BARC type 2-5 | 28 (2.0%) | 49 (3.4%) | 0.58 (0.36-0.92) | 0.02 |
| Major bleeding | 12 (0.8%) | 14 (1.0%) | 0.87 (0.40-1.88) | 0.72 |
| Net adverse clinical and cerebral events | 65 (4.5%) | 81 (5.6%) | 0.81 (0.58-1.12) | 0.20 |

Major bleeding was defined as BARC type 3-5 bleeding.
Net adverse clinical and cerebral events were defined as MACCE plus BARC type 2-5 bleeding.

# Conclusions

- In this prospective randomized trial, P2Y12 inhibitor monotherapy after 3-month DAPT was noninferior to 12-month DAPT for the primary end point of MACCE at 12 months after the index procedure.
- The 3-month landmark analysis and per-protocol analysis showed consistent results.
- Moreover, P2Y12 inhibitor monotherapy reduced the risk of bleeding compared with prolonged DAPT.
- P2Y12 inhibitor monotherapy after short duration of DAPT is a novel antiplatelet strategy balancing ischemic and bleeding risk in patients undergoing PCI.

# One-Month Dual Antiplatelet Therapy Followed by Clopidogrel Monotherapy versus Standard 12-Month Dual Antiplatelet Therapy with Clopidogrel After Drug-Eluting Stent Implantation:


***Hirotoshi Watanabe***

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on behalf of STOPDAPT-2 investigators

STOPDAPT-2

# Background

- Mandatory 1-month DAPT had been the standard care after BMS implantation.
- DAPT duration was prolonged after introduction of DES without firm scientific evidence.
- New generation DES has substantially reduced stent thrombosis.
- Prolonged DAPT is inevitably associated with increase in bleeding.
- Bleeding is associated with subsequent mortality risk at least comparable to that of MI.

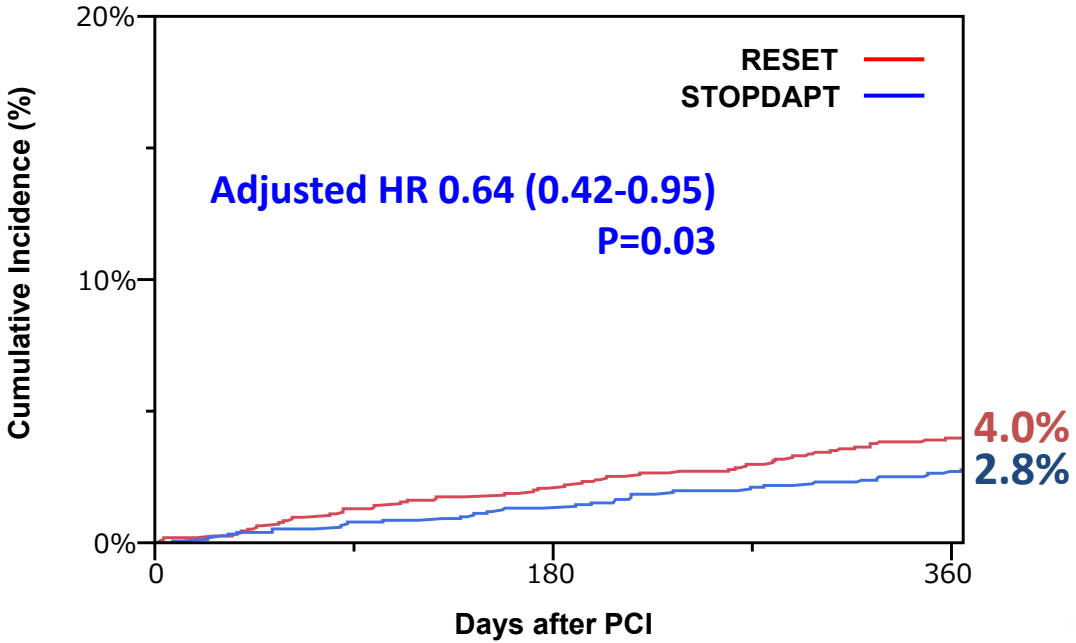
- Therefore, very short mandatory DAPT duration after DES might be an attractive option, if not associated with increase in ischemic events disproportionate to the reduction in bleeding events.

# STOPDAPT

## Prospective multicenter open-label single arm trial evaluating 3-month DAPT after CoCr-EES implantation

***Primary Endpoint***

***Cardiovascular death, MI, Stroke, Definite ST, and Bleeding***



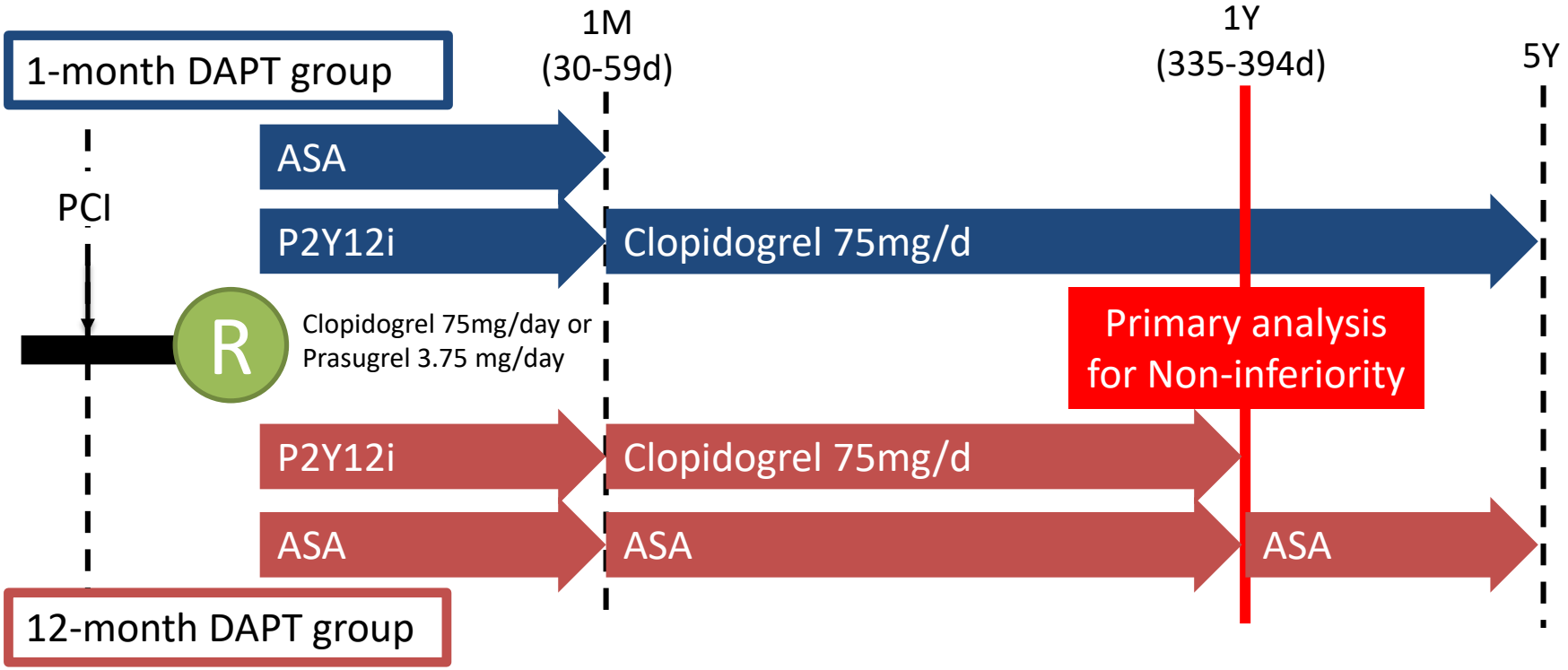

Cardiovasc Interv Ther 2016; 31: 196–209.

# Objective

The objective of the STOPDAPT-2 trial is to explore the safety and efficacy of the experimental regimen of 1-month DAPT followed by clopidogrel monotherapy as compared with the standard 12-month DAPT with aspirin and clopidogrel after implantation of cobalt-chromium everolimus-eluting stents (CoCr-EES).

# STOPDAPT-2:

**Prospective multicenter open-label randomized trial comparing 1-month versus 12-month DAPT after CoCr-EES implantation with limited exclusion criteria.**



STOPDAPT-2

# Baseline Clinical Characteristics

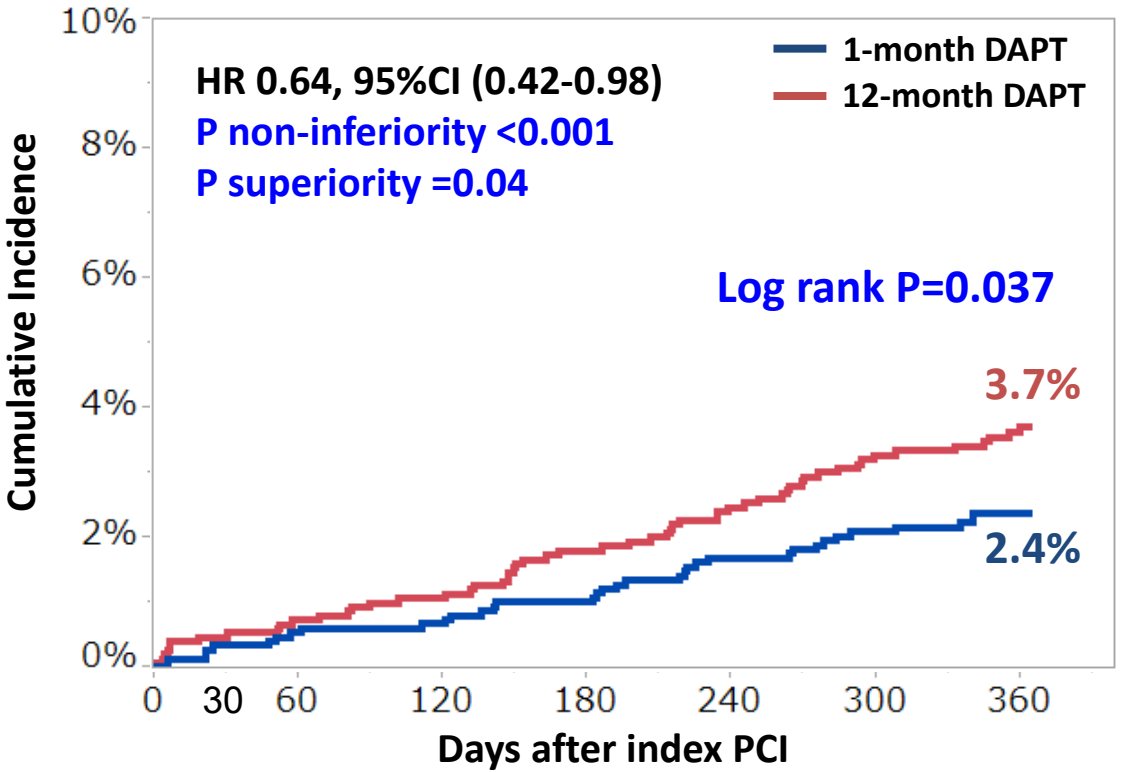
| | 1-month DAPT N=1500 | 12-month DAPT N=1509 |
|---|---|---|
| Age, years | 68.1±10.9 | 69.1±10.4 |
| Men | 79% | 77% |
| ACS | 38% | 39% |
| STEMI | 19% | 18% |
| Stable CAD | 62% | 61% |
| Diabetes | 39% | 38% |
| Severe CKD (eGFR<30ml/min/$m^2$) | 6% | 6% |
| Prior MI | 14% | 13% |
| Prior PCI | 34% | 35% |
| CREDO-Kyoto thrombotic risk score | | |
| High; Intermediate; Low | 8%; 21%; 71% | 8%; 24%; 68% |
| CREDO-Kyoto bleeding risk score | | |
| High; Intermediate; Low | 7%; 27%; 66% | 7%; 27%; 66% |

# Procedural Characteristics and Medications

| | 1-month DAPT N=1500 | 12-month DAPT N=1509 |
|---|---|---|
| Transradial approach | 82% | 84% |
| N of target lesions | 1.12 ± 0.35 | 1.14 ± 0.39 |
| Minimal stent diameter, mm | 2.98 ± 0.49 | 2.96 ± 0.48 |
| Total stent length, mm | 30.3 ± 16.7 | 30.5 ± 16.8 |
| SYNTAX Score | 8 (5-14) | 9 (6-15) |
| Target of LMCA | 3% | 3% |
| CTO | 4% | 4% |
| IVUS or OCT | 97% | 98% |
| ASA | 99.8% | 100% |
| Clopidogrel | 60% | 63% |
| Prasugrel (3.75mg/day) | 40% | 37% |
| Statin | 88% | 87% |
| PPI | 79% | 79% |

# Primary Endpoint: Net clinical benefit

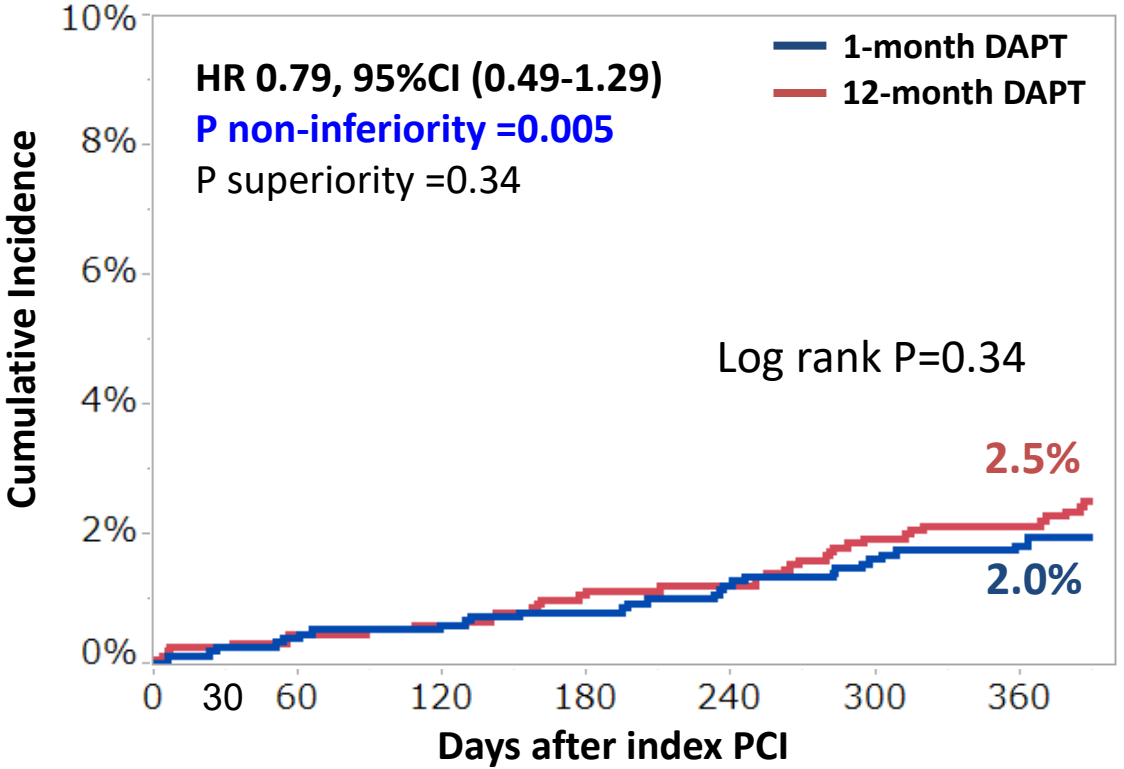
## CV death/MI/ST/Stroke/TIMI major/minor bleeding




| No. at risk | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 12-month DAPT | 1509 | 1501 | 1486 | 1481 | 1469 | 1458 | 1442 | 1159 |
| 1-month DAPT | 1500 | 1494 | 1479 | 1475 | 1468 | 1453 | 1441 | 1151 |

# Major secondary ischemic endpoint

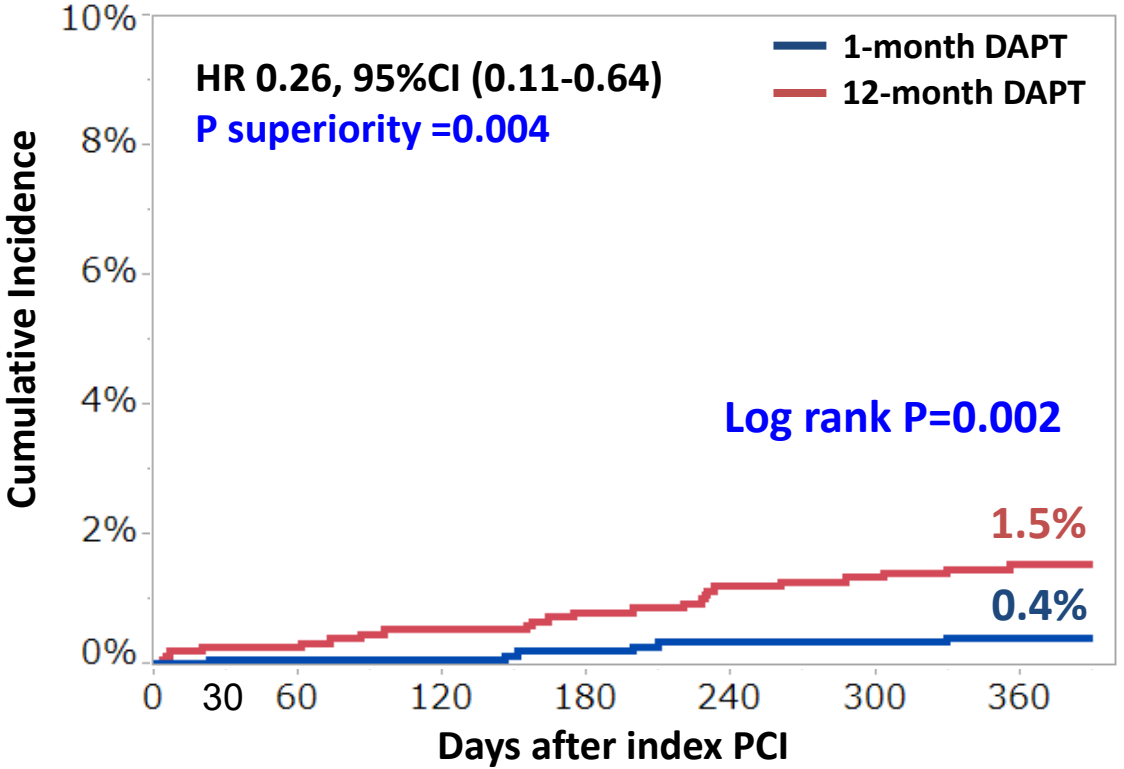
## CV death/MI/ST/Stroke




| No. at risk | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 12-month DAPT | 1509 | 1504 | 1490 | 1488 | 1479 | 1473 | 1458 | 1172 |
| 1-month DAPT | 1500 | 1495 | 1480 | 1476 | 1471 | 1458 | 1446 | 1157 |

# Major secondary bleeding endpoint

## TIMI major/minor bleeding




| No. at risk | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 12-month DAPT | 1509 | 1504 | 1491 | 1487 | 1480 | 1471 | 1462 | 1180 |
| 1-month DAPT | 1500 | 1495 | 1483 | 1481 | 1477 | 1467 | 1457 | 1166 |

# Conclusions

One-month DAPT followed by clopidogrel monotherapy provided a net clinical benefit for ischemic and bleeding events over 12-month DAPT with aspirin and clopidogrel after CoCr-EES implantation.

The benefit was driven by significant reduction in bleeding events without increase in ischemic events.