How Long is Enough for DAPT following LM Stenting

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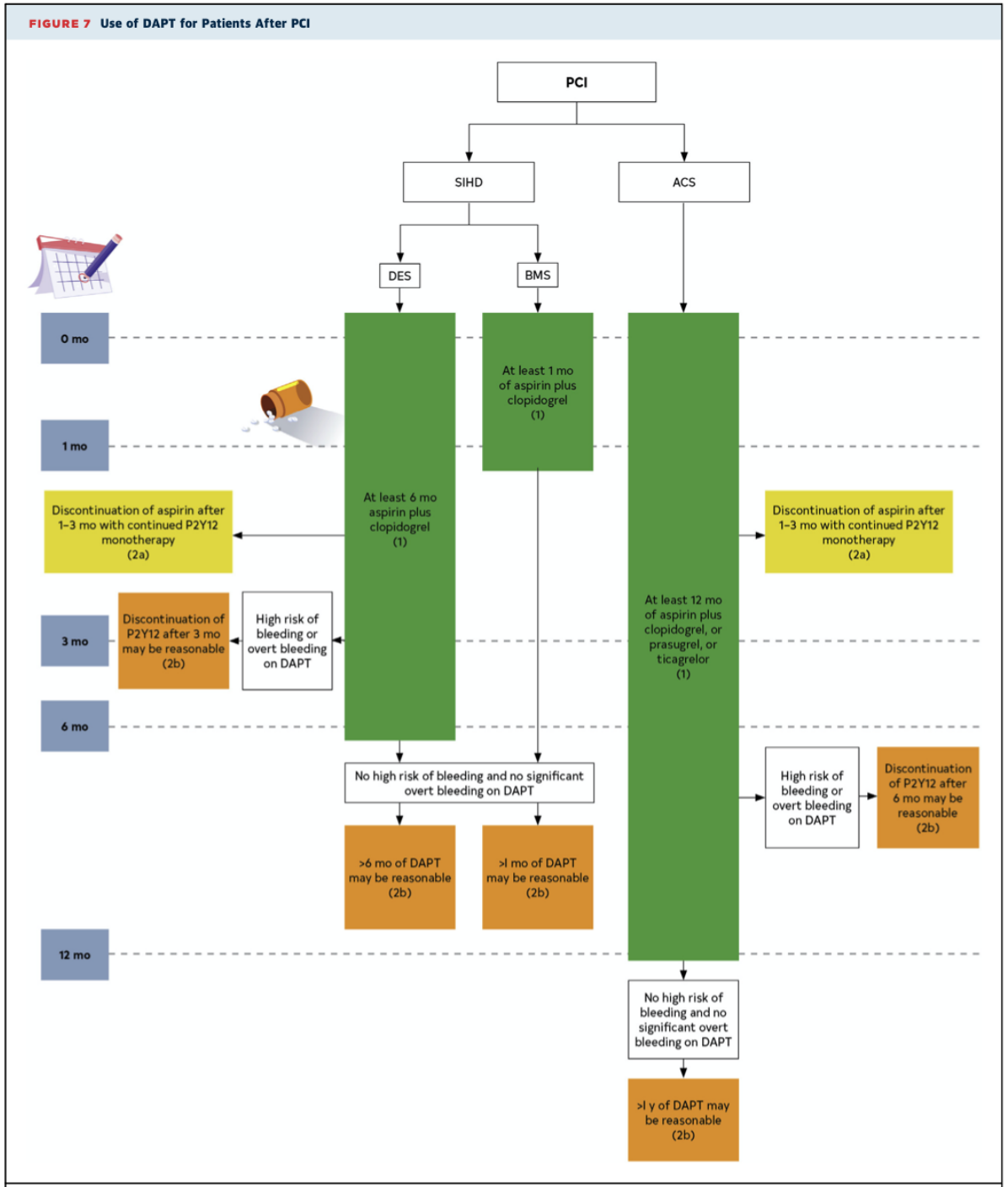
CLINICAL PRACTICE GUIDELINE: FULL TEXT

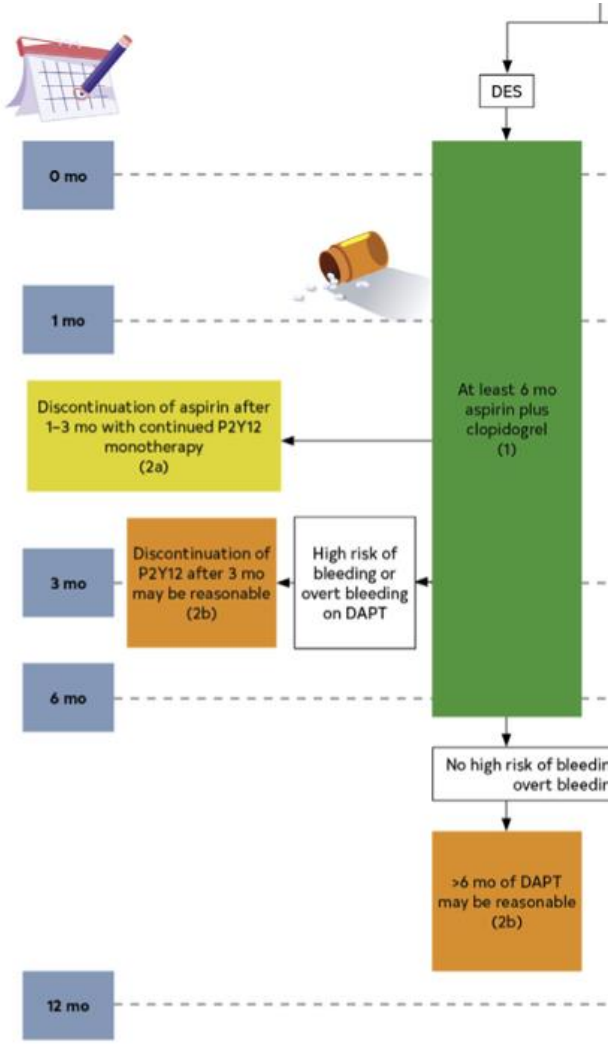
2021 ACC/AHA/SCAI Guideline for Coronary Artery Revascularization



Lawton JS, Tamis-Holland JE, Bangalore S, et al. J Am Coll Cardiol. 2022;79:e21-e129.

Duration of Anti-PLT therapy

- Clinical Presentation: ACS vs SIHD (SCAD)
- Stent types: DES vs BMS (time of endothelialization)
  - current DES vs earlier DES
- Short DAPT: monotherapy with P2Y12i (2a) or Aspirin (2b)
  - HBR (high bleeding risk) patients:ARC-HBR/Precise-DAPT score
- Prolonged (extended) DAPT (2b)
  - Lesion complexity, patient factors: DAPT score



minimum duration of 6 months of DAPT after DES, emphasized the need to individualize therapy on the basis of ischemic and bleeding risk

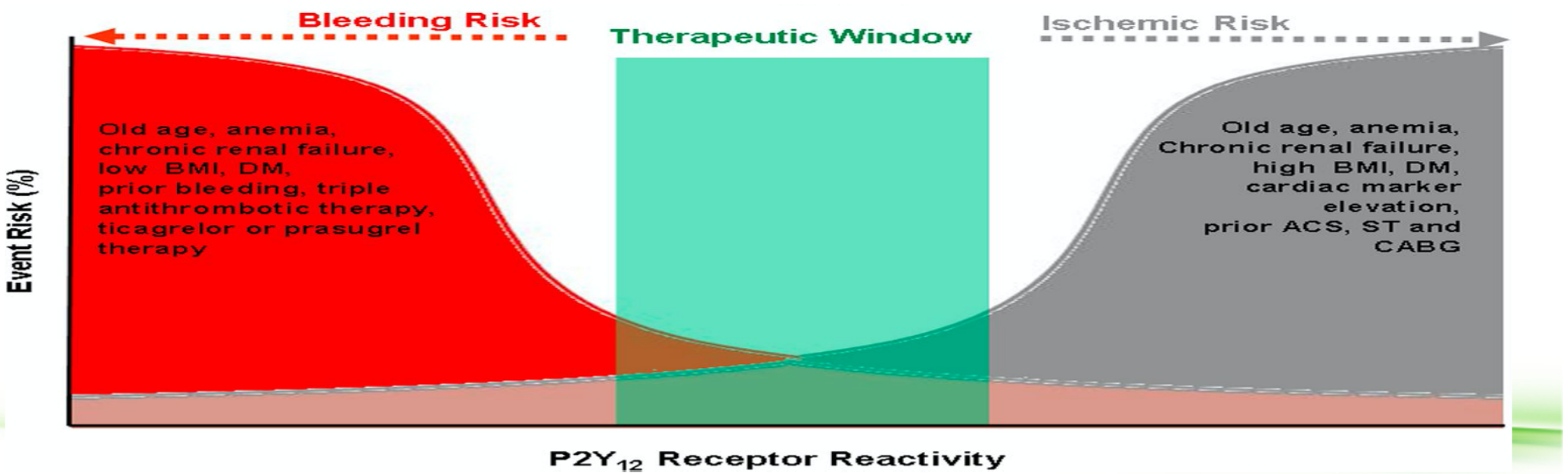
Treatment Dilemmas between Bleeding Risk and Ischemic Risk

- **Prior major bleeding**
- **Anemia**
- **Clinical significant bleeding**
- **Socioeconomic factors**
  (insurance, financial hardship of current medication)
- **Need for oral anticoagulation**
- **Side effects of Potent $P2Y_{12}$ inhibitors**
  (e.g. dyspnea in ticagrelor)
- **Presumed high bleeding risk**

Escalation Prolonged DAPT

Short DAPT **De-escalation**

- **Prior stent thrombosis on adequate antiplatelet therapy**
- **Stenting of the last remaining patent coronary artery**
- **≥ 3stents implanted**
- **Bifurcation with two stents implanted**
- **Total stent length > 60mm**
- **Treatment of chronic total occlusion**



1. J Am Coll Cardiol. 2013 Dec 17;62(24):2261-73. 2. Adapted from Korean Circ J. 2018 Oct;48(10):863-872.

The Dual Antiplatelet Therapy (DAPT) study

Large RCT to address the issue of prolonged DAPT (30 m/o vs 12m/o)
Exclude MACCE/bleeding events within 1st year after DES

Table 2. Stent Thrombosis and Major Adverse Cardiovascular and Cerebrovascular Events.*

Outcome	Continued Thienopyridine (N=5020)	Placebo (N=4941)	Hazard Ratio, Thienopyridine vs. Placebo (95% CI)†	P Value†
	no. of patients (%)			
Stent thrombosis‡	19 (0.4)	65 (1.4)	0.29 (0.17–0.48)	<0.001
Definite	15 (0.3)	58 (1.2)	0.26 (0.14–0.45)	<0.001
Probable	5 (0.1)	7 (0.1)	0.71 (0.22–2.23)	0.55
Major adverse cardiovascular and cerebrovascular events§	211 (4.3)	285 (5.9)	0.71 (0.59–0.85)	<0.001
Death	98 (2.0)	74 (1.5)	1.36 (1.00–1.85)	0.05
Cardiac	45 (0.9)	47 (1.0)	1.00 (0.66–1.52)	0.98
Vascular	5 (0.1)	5 (0.1)	0.98 (0.28–3.39)	0.98
Noncardiovascular	48 (1.0)	22 (0.5)	2.23 (1.32–3.78)	0.002
Myocardial infarction	99 (2.1)	198 (4.1)	0.47 (0.37–0.61)	<0.001
Stroke	37 (0.8)	43 (0.9)	0.80 (0.51–1.25)	0.32
Ischemic	24 (0.5)	34 (0.7)	0.68 (0.40–1.17)	0.16
Hemorrhagic	13 (0.3)	9 (0.2)	1.20 (0.50–2.91)	0.68
Type uncertain	0	1 (<0.1)	—	0.32

Thienopyridine drug at start of open-label period — no. (%)**		
Clopidogrel	3275 (65.2)	3230 (65.4)
Prasugrel	1745 (34.8)	1711 (34.6)
Type of drug-eluting stent at index procedure — no. (%)		
Everolimus-eluting	2345 (46.7)	2358 (47.7)
Paclitaxel-eluting	1350 (26.9)	1316 (26.6)
Zotarolimus-eluting	642 (12.8)	622 (12.6)
Sirolimus-eluting	577 (11.5)	541 (10.9)
>1 type	106 (2.1)	104 (2.1)
No. of treated lesions	1.30±0.55	1.29±0.54
No. of treated vessels	1.11±0.33	1.12±0.34
No. of stents	1.47±0.75	1.45±0.75
Minimum stent diameter — no. (%)		
<3 mm	2341 (46.6)	2293 (46.4)
≥3 mm	2679 (53.4)	2648 (53.6)
Total stent length — mm	27.70±16.77	27.43±17.02
Lesions		
Treated vessel††		
Native coronary-artery lesions	6396/6586 (97.1)	6204/6407 (96.8)
Left main	55/6586 (0.8)	55/6407 (0.9)
Left anterior descending	2715/6586 (41.2)	2586/6407 (40.4)
Right	2153/6586 (32.7)	2057/6407 (32.1)
Circumflex	1473/6586 (22.4)	1506/6407 (23.5)
Venous graft	154/6586 (2.3)	173/6407 (2.7)
Arterial graft	36/6586 (0.5)	30/6407 (0.5)
Modified ACC–AHA lesion class B2 or C — no./total no. (%)‡‡	2754/6335 (43.5)	2643/6137 (43.1)

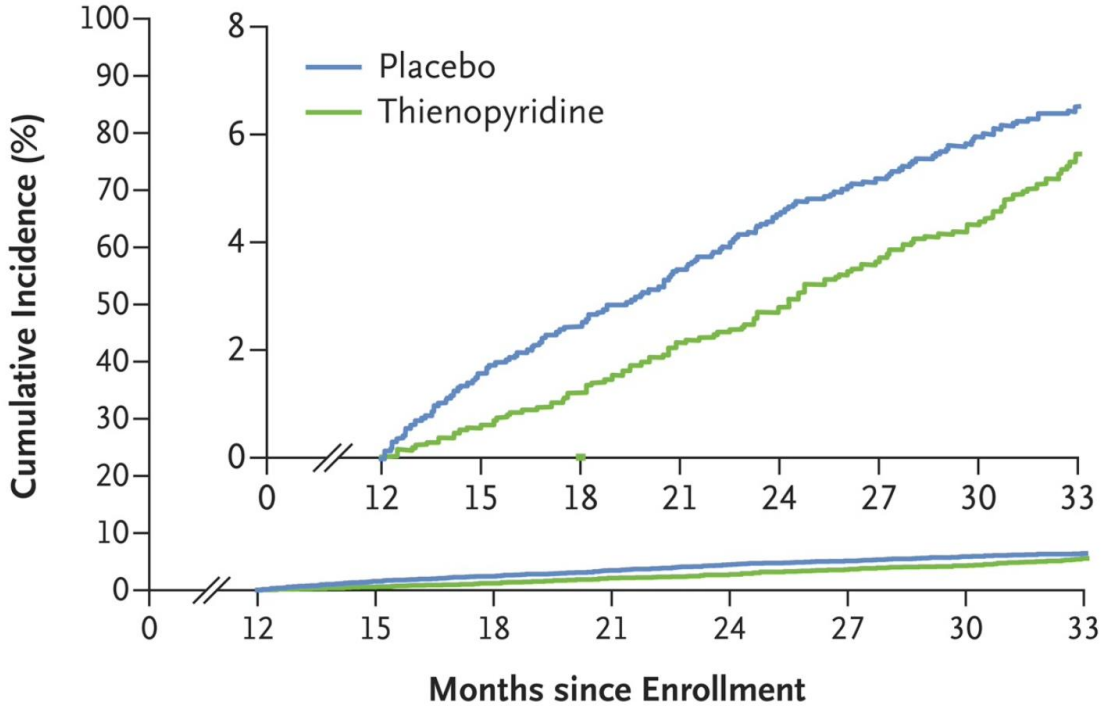
N Engl J Med 2014; 371:2155-2166

Prolonged DAPT decreased MACCE/ ST

Major Adverse Cardiovascular and Cerebrovascular Events

12–30 mo Thienopyridine vs. placebo, 4.3% vs. 5.9%; hazard ratio, 0.71; P<0.001

12–33 mo Thienopyridine vs. placebo, 5.6% vs. 6.5%; hazard ratio, 0.82; P=0.02

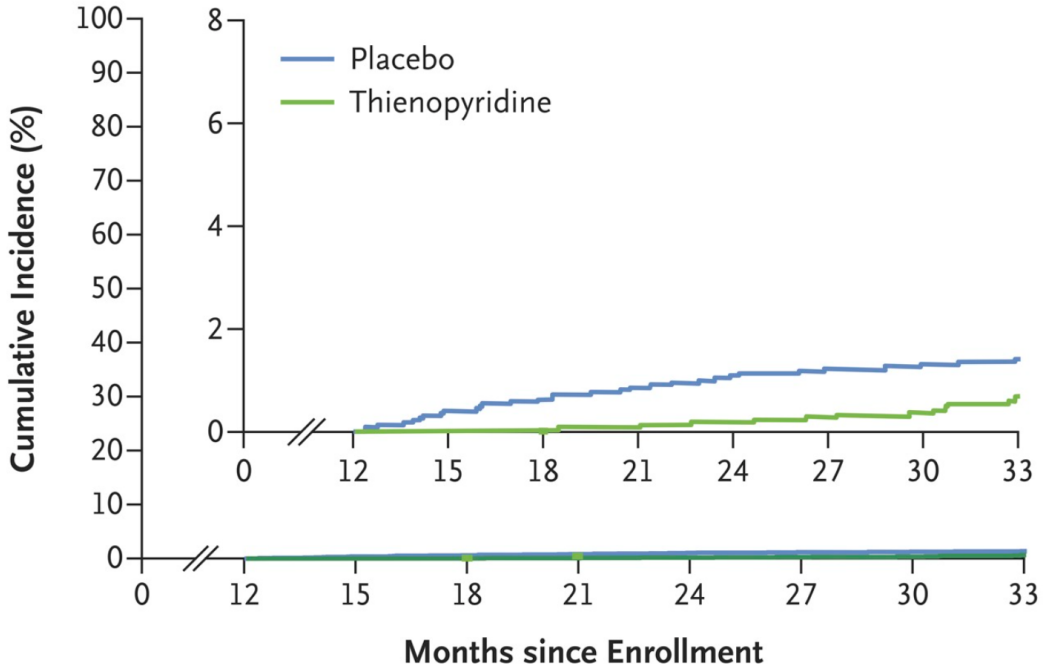


No. at Risk								
Thienopyridine	5020	4917	4840	4778	4702	4611	4554	3029
Placebo	4941	4799	4715	4635	4542	4476	4412	2997

Stent Thrombosis

12–30 mo Thienopyridine vs. placebo, 0.4% vs. 1.4%; hazard ratio, 0.29; P<0.001

12–33 mo Thienopyridine vs. placebo, 0.7% vs. 1.4%; hazard ratio, 0.45; P<0.001



No. at Risk								
Thienopyridine	5020	4934	4870	4828	4765	4686	4642	3110
Placebo	4941	4845	4775	4721	4651	4603	4556	3105

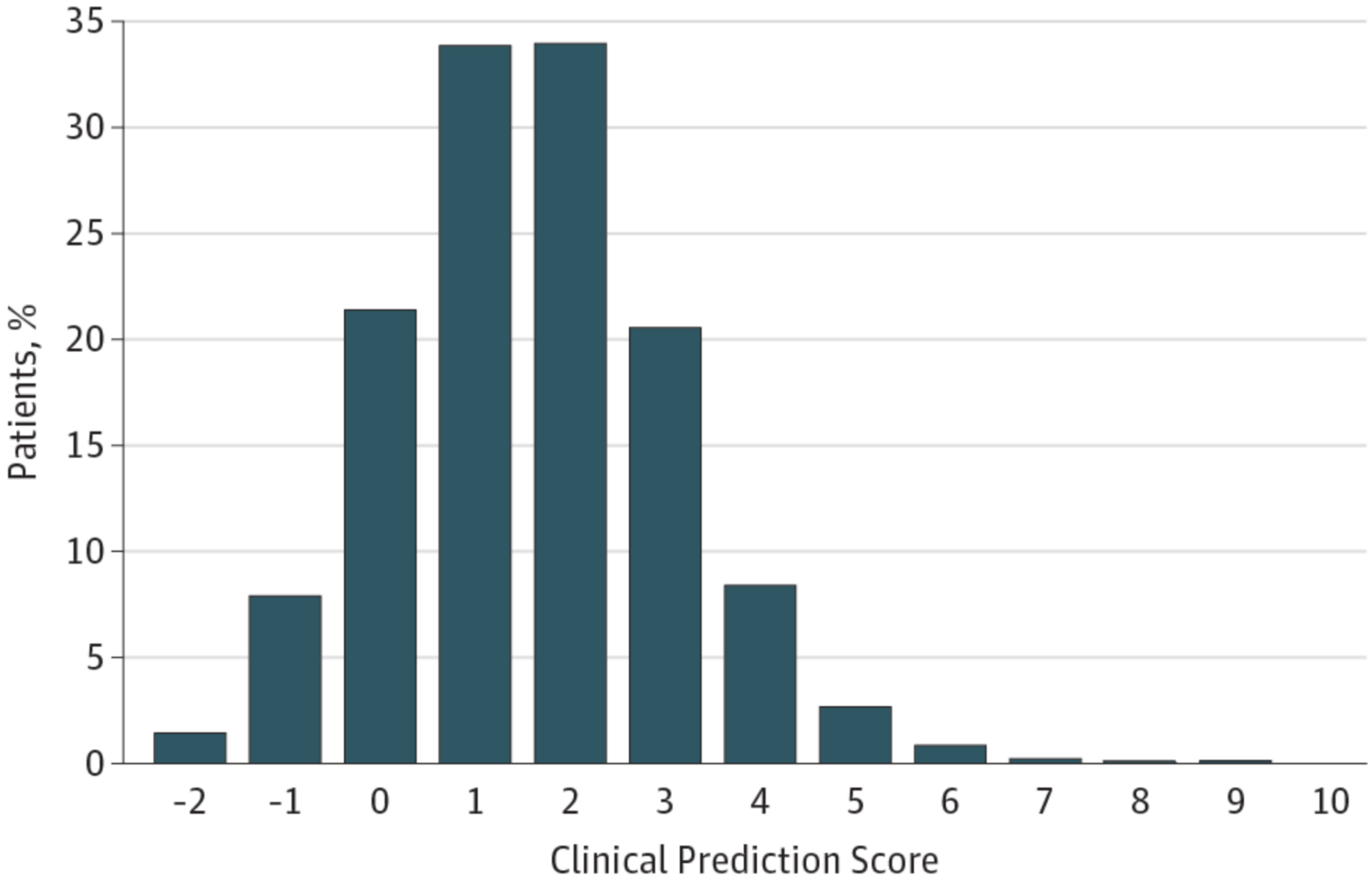
Prolonged DAPT increased Bleeding (trade-off)

Table 3. Bleeding End Point during Month 12 to Month 30.*

Bleeding Complications	Continued Thienopyridine (N=4710)	Placebo (N=4649)	Difference	Two-Sided P Value for Difference
	no. of patients (%)		*percentage points (95% CI)*	
GUSTO severe or moderate†	119 (2.5)	73 (1.6)	1.0 (0.4 to 1.5)	0.001
Severe	38 (0.8)	26 (0.6)	0.2 (–0.1 to 0.6)	0.15
Moderate	81 (1.7)	48 (1.0)	0.7 (0.2 to 1.2)	0.004
BARC type 2, 3, or 5	263 (5.6)	137 (2.9)	2.6 (1.8 to 3.5)	<0.001
Type 2	145 (3.1)	72 (1.5)	1.5 (0.9 to 2.1)	<0.001
Type 3	122 (2.6)	68 (1.5)	1.1 (0.6 to 1.7)	<0.001
Type 5	7 (0.1)	4 (0.1)	0.1 (–0.1 to 0.2)	0.38

DAPT score

Clinical Prediction Score	
Variable	**Points**
Age, y	
≥75	-2
65-<75	-1
<65	0
Cigarette smoking	1
Diabetes mellitus	1
MI at presentation	1
Prior PCI or prior MI	1
Paclitaxel-eluting stent	1
Stent diameter <3 mm	1
CHF or LVEF <30%	2
Vein graft stent	2
Total score range: -2 to 10	



Yeh RW, Secemsky EA, Kereiakes DJ, et al. Development and Validation of a Prediction Rule for Benefit and Harm of Dual Antiplatelet Therapy Beyond 1 Year After Percutaneous Coronary Intervention. *JAMA.*2016;315(16):1735–1749. doi:10.1001/jama.2016.3775

Table 2. Myocardial Infarction or Stent Thrombosis Prediction Model and Moderate or Severe Bleeding Prediction Model

	Predictors of Myocardial Infarction or Stent Thrombosis[b]		Predictors of Moderate or Severe Bleeding[c]	
Predictors of Events[a]	HR (95% CI)	*P* Value	HR (95% CI)	*P* Value
Continued thienopyridine vs placebo	0.52 (0.42-0.65)	<.001	1.66 (1.26-2.19)	<.001
Myocardial infarction at presentation	1.65 (1.31-2.07)	<.001		
Prior PCI or prior myocardial infarction	1.79 (1.43-2.23)	<.001		
History of CHF or LVEF <30%	1.88 (1.35-2.62)	<.001		
Vein graft stent	1.75 (1.13-2.73)	.01		
Stent diameter <3 mm	1.61 (1.30-1.99)	<.001		
Paclitaxel-eluting stent	1.57 (1.26-1.97)	<.001		
Cigarette smoking	1.40 (1.11-1.76)	.01		
Diabetes mellitus	1.38 (1.10-1.72)	.01		
Age, per 10 y			1.54 (1.34-1.78)	<.001
Peripheral arterial disease	1.49 (1.05-2.13)	.03	2.16 (1.46-3.20)	<.001
Hypertension	1.37 (1.03-1.82)	.03	1.45 (1.00-2.11)	.05
Renal insufficiency/failure	1.55 (1.03-2.32)	.04	1.66 (1.04-2.66)	.03

Observed outcomes stratified by DAPT score

Major Adverse Cardiovascular and Cerebrovascular Events[b]						Risk difference (%)	
Score							
−2 to 0	1373	1356	99 (3.7)	52 (3.9)	47 (3.5)	0.40 (−1.06 to 1.86)	.02
1	1501	1501	110 (3.8)	50 (3.4)	60 (4.1)	−0.65 (−2.04 to 0.75)	
2	1525	1486	137 (4.7)	51 (3.4)	86 (6.0)	−2.54 (−4.10 to −0.98)	
≥3	1463	1443	221 (7.9)	91 (6.4)	130 (9.3)	−2.95 (−4.97 to −0.92)	

Moderate or Severe Bleed[c]						Risk difference (%)	
Score							
−2 to 0	1373	1356	72 (2.7)	49 (3.7)	23 (1.7)	1.97 (0.71 to 3.23)	.04
1	1501	1501	51 (1.8)	34 (2.3)	17 (1.2)	1.17 (0.20 to 2.14)	
2	1525	1486	45 (1.5)	28 (1.9)	17 (1.2)	0.69 (−0.22 to 1.60)	
≥3	1463	1443	47 (1.7)	24 (1.7)	23 (1.7)	0.03 (−0.95 to 1.01)	

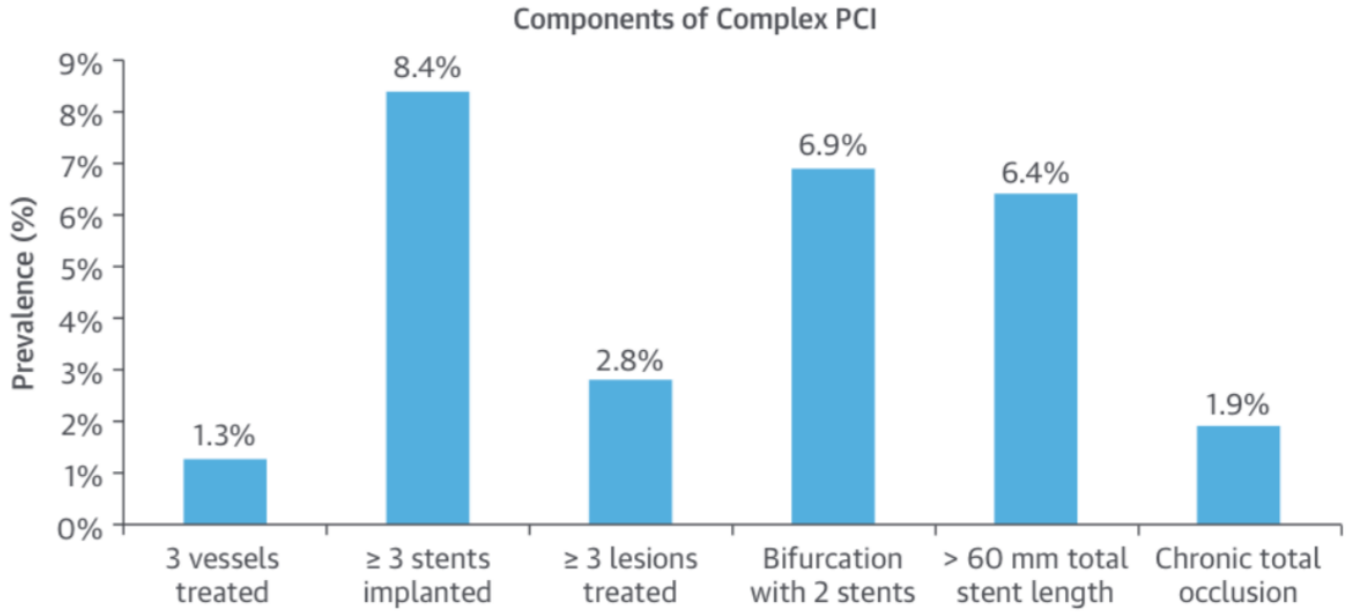
- Prolonged DAPT maybe more beneficial in high DAPT score (≥ 2)

Yeh RW, Secemsky EA, Kereiakes DJ, et al. Development and Validation of a Prediction Rule for Benefit and Harm of Dual Antiplatelet Therapy Beyond 1 Year After Percutaneous Coronary Intervention. *JAMA*.2016;315(16):1735–1749. doi:10.1001/jama.2016.3775

Efficacy and Safety of DAPT after Complex PCI

- Complex PCI: 3 vessels treated, ≥ 3 stents, ≥ 3 lesions, Bifurcation with 2 stents, > 60mm total stent length, CTO

FIGURE 1 Prevalence and Overlap of Complex PCI Components

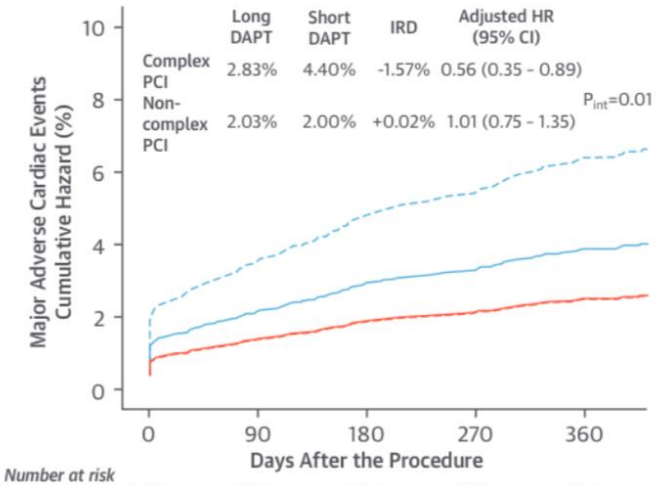


Target vessels	Complex PCI	Noncomplex PCI	
Left main	49 (5.1)	106 (1.8)	<0.0001

Giustino et al. JACC 2016;68:1851-64

Long DAPT better than Short DAPT in Complex PCI (NOT in Noncomplex PCI)

A



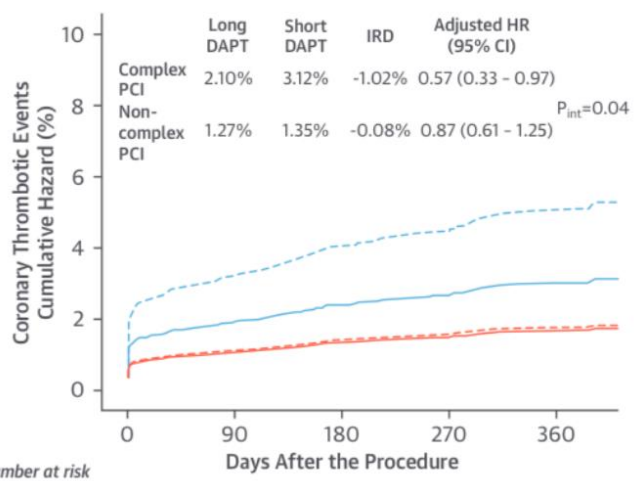
	Long DAPT	Short DAPT	IRD	Adjusted HR (95% CI)
Complex PCI	2.83%	4.40%	-1.57%	0.56 (0.35 - 0.89)
Non-complex PCI	2.03%	2.00%	+0.02%	1.01 (0.75 - 1.35)

P_{int}=0.01

Number at risk

Non-complex PCI - Short DAPT	3938	3875	3816	3782	3511
Non-complex PCI - Long DAPT	3932	3874	3824	3794	3520
Complex PCI - Short DAPT	802	777	768	759	668
Complex PCI - Long DAPT	840	816	805	796	693

B



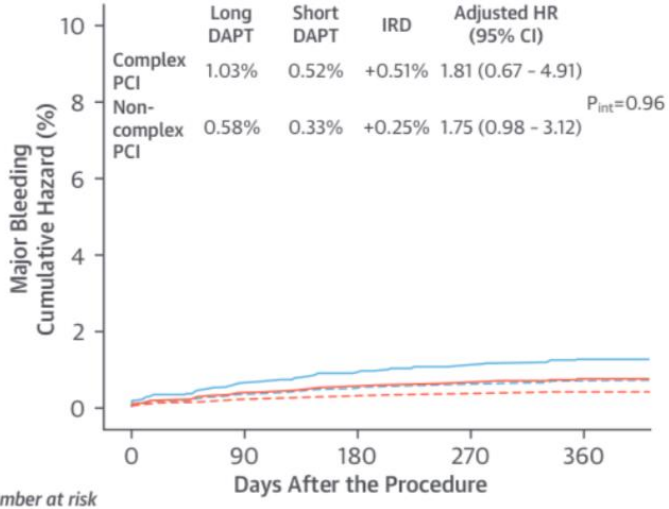
	Long DAPT	Short DAPT	IRD	Adjusted HR (95% CI)
Complex PCI	2.10%	3.12%	-1.02%	0.57 (0.33 - 0.97)
Non-complex PCI	1.27%	1.35%	-0.08%	0.87 (0.61 - 1.25)

P_{int}=0.04

Number at risk

Non-complex PCI - Short DAPT	3938	3873	3817	3784	3515
Non-complex PCI - Long DAPT	3932	3875	3828	3797	3524
Complex PCI - Short DAPT	801	776	767	760	671
Complex PCI - Long DAPT	840	817	806	797	694

C



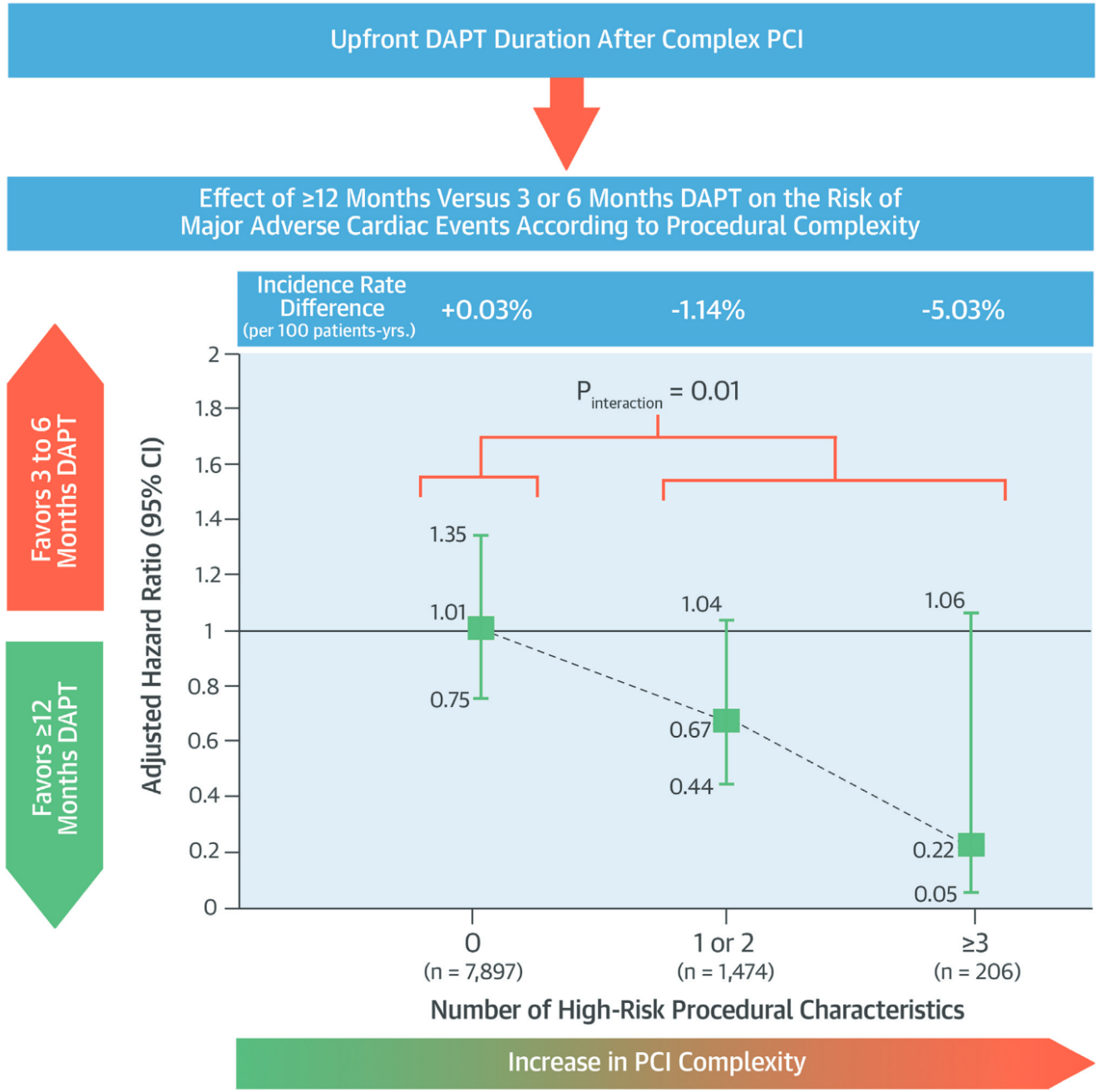
	Long DAPT	Short DAPT	IRD	Adjusted HR (95% CI)
Complex PCI	1.03%	0.52%	+0.51%	1.81 (0.67 - 4.91)
Non-complex PCI	0.58%	0.33%	+0.25%	1.75 (0.98 - 3.12)

P_{int}=0.96

Number at risk

Non-complex PCI - Short DAPT	3947	3900	3849	3814	3550
Non-complex PCI - Long DAPT	3941	3892	3844	3811	3540
Complex PCI - Short DAPT	816	801	794	787	692
Complex PCI - Long DAPT	846	826	815	808	706

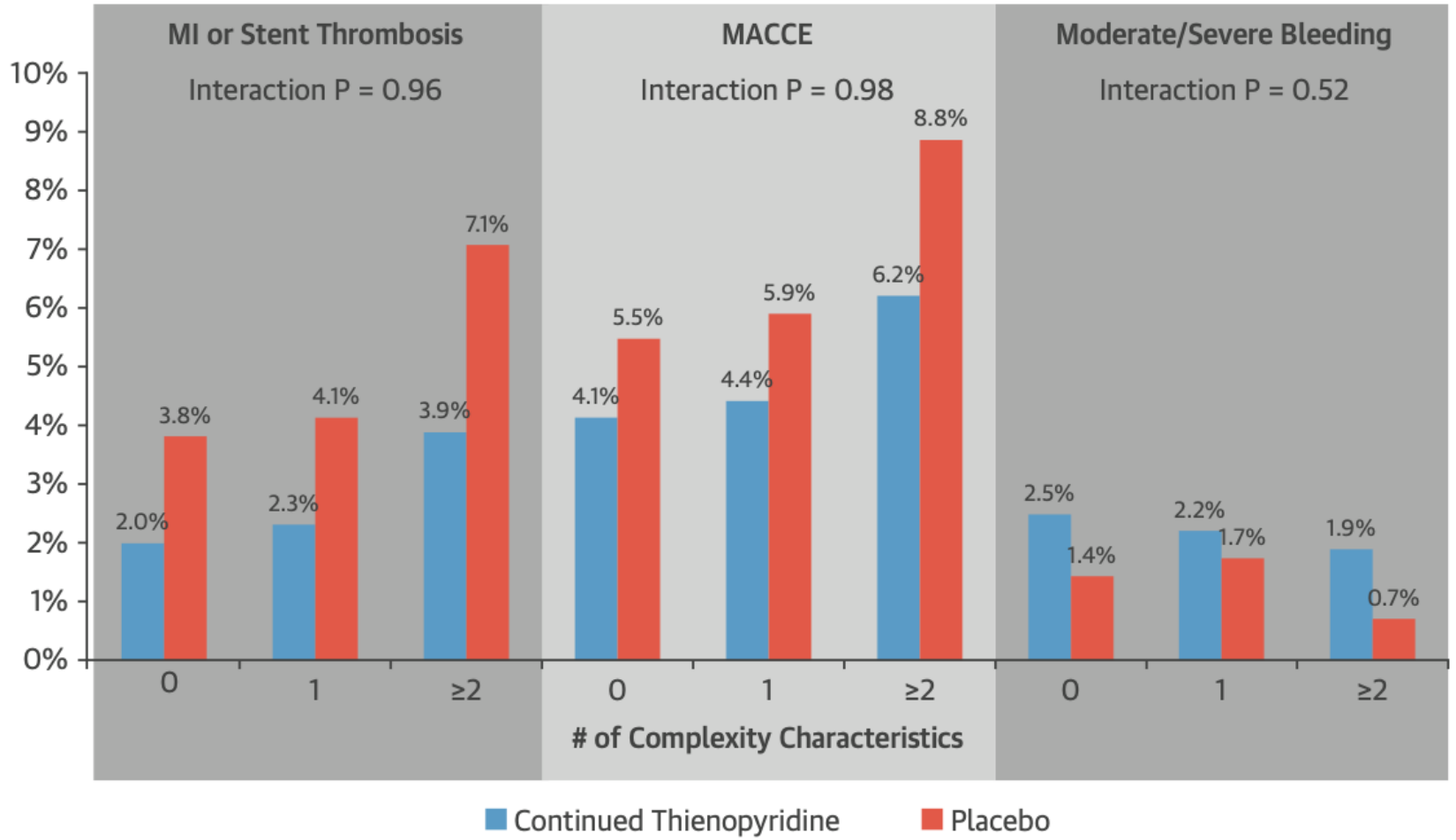
CENTRAL ILLUSTRATION Ischemic Benefit of Long-Term DAPT According to the Degree of PCI Complexity



Giustino, G. et al. J Am Coll Cardiol. 2016;68(17):1851-64.

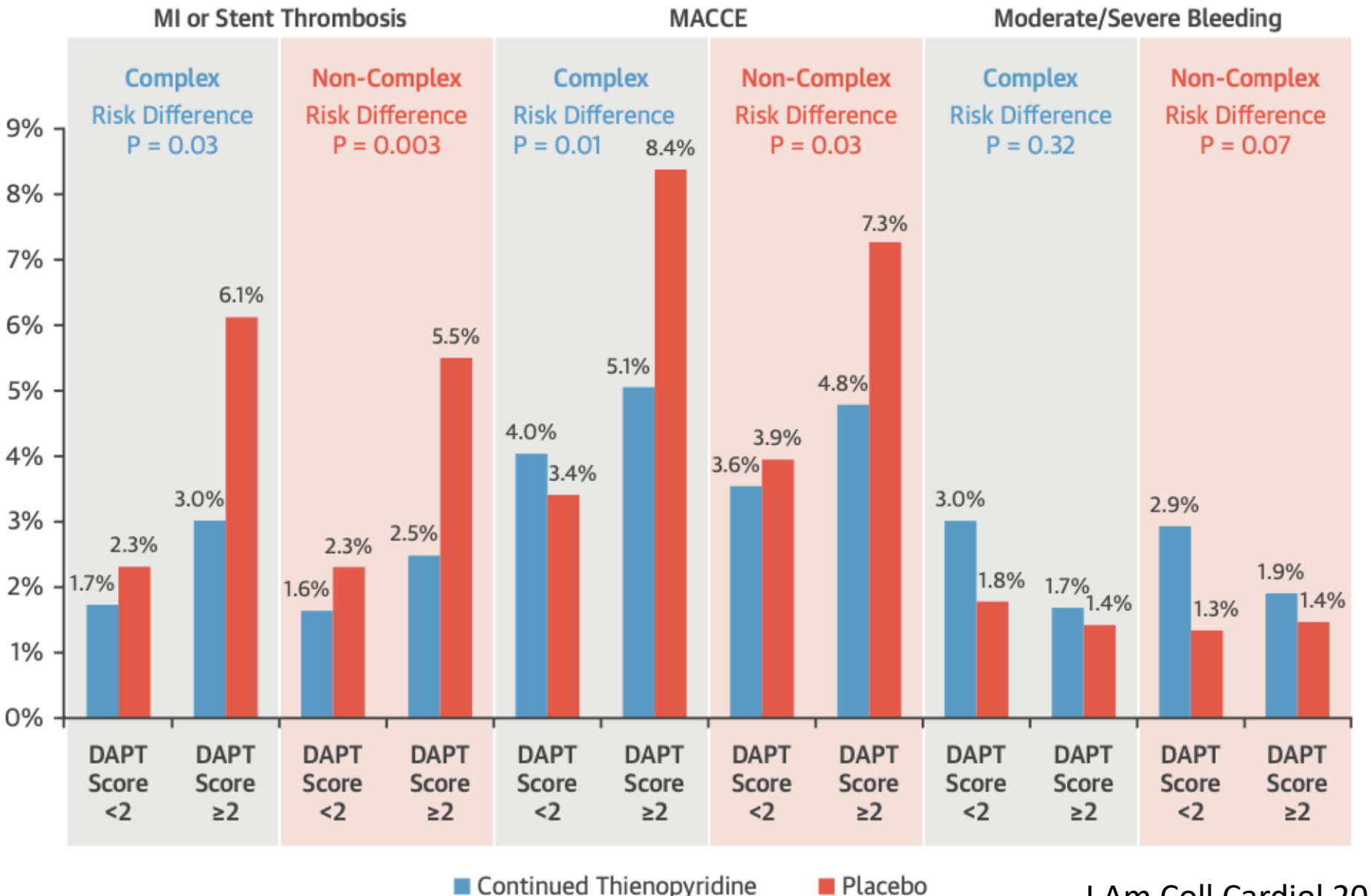
Lesion Complexity and Outcomes of Extended Dual Antiplatelet Therapy After Percutaneous Coronary Intervention

CENTRAL ILLUSTRATION **Dual Antiplatelet Therapy With Complex Lesions: Cumulative Incidence of Endpoint Events From 12 to 30 Months After Randomization**



Yeh, R.W. et al. J Am Coll Cardiol. 2017;70(18):2213-23.

FIGURE 3 Cumulative Incidence of Endpoint Events From 12 to 30 Months After Randomization, Stratified by Treatment Arm, Anatomical Complexity, and DAPT Score



J Am Coll Cardiol 2017;70:2213–23

Dual Antiplatelet Therapy Duration Determines Outcome After 2- But Not 1-Stent Strategy in Left Main Bifurcation Percutaneous Coronary Intervention

Grand-DES Registry : New-generation DES Sub-cohort

Korean Nationwide Multicenter Pooled Registry of Drug-Eluting Stents

Registry	HOST-BIOLIMUS-Korea-3000	EXCELLENT-PRIME	EXCELLENT Prospective cohort	HOST-RESOLINTE	RESOLUTE-Korea
Period	2010.3 - 2014.11	2010.12 - 2012.8	2008.4 - 2010.5	2011.10 - 2014.7	2009.1 - 2010.6
Stent type	BP-BES	DP-EES-Prime	DP-EES	DP-ZES-RI	DP-ZES-R
Patients	3007	2076	3078	3004	2007
Lesions	4070	2899	4176	4099	2801
1Y f/u loss	23 (0.8%)	1 (0.05%)	15 (0.5%)	9 (0.3%)	6 (0.3%)
2Y f/u loss	32 (1.1%)	2 (0.1%)	15 (0.5%)	10 (0.3%)	8 (0.4%)
3Y f/u loss	37 (1.2%)	2 (0.1%)	15 (0.5%)	13 (0.4%)	8 (0.4%)
Bifurcation	**1284 (42.7%)**	**923 (44.5%)**	**995 (32.3%)**	**1348 (44.9%)**	**789 (39.3%)**

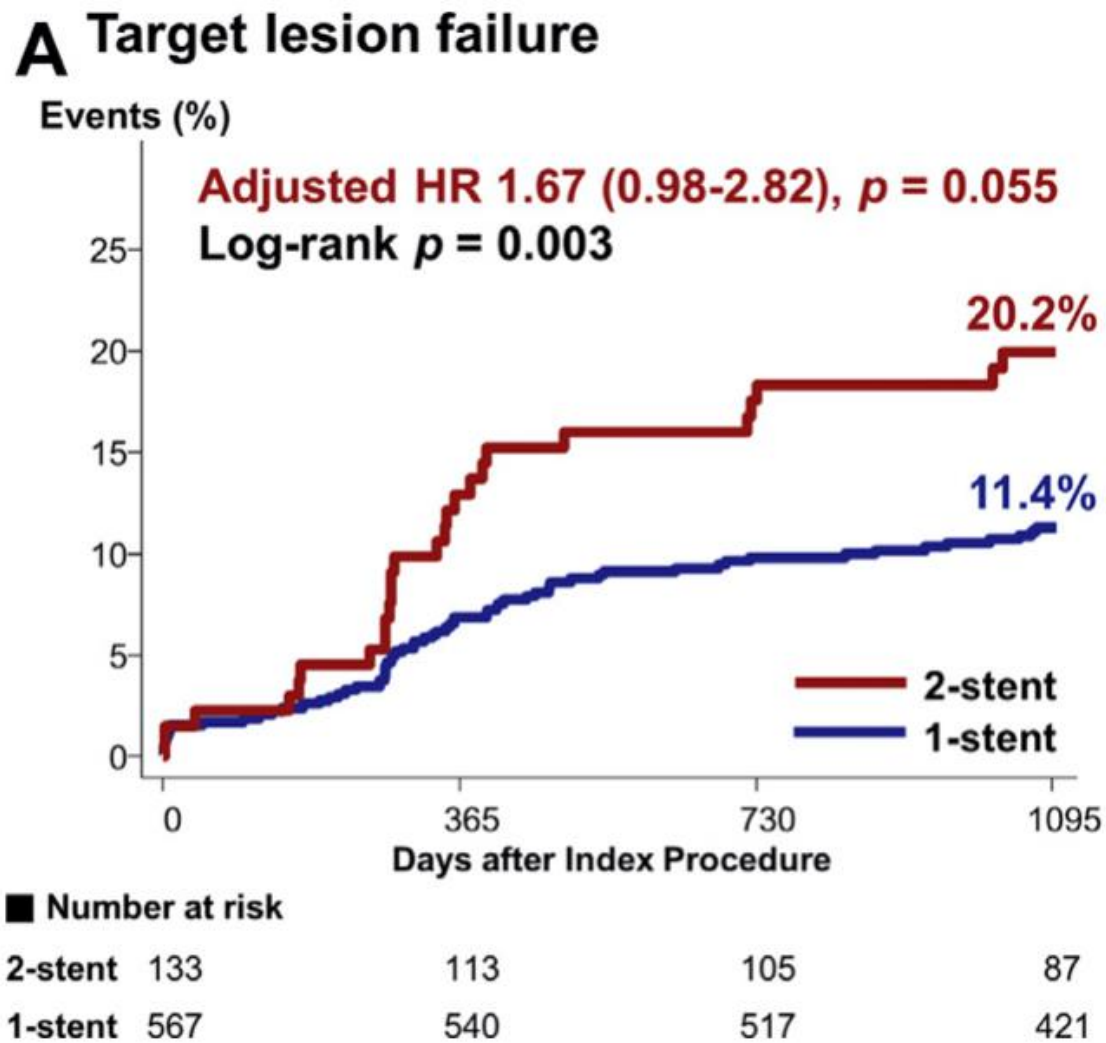
Bifurcation Treated by New-generation DES
N = 5,339

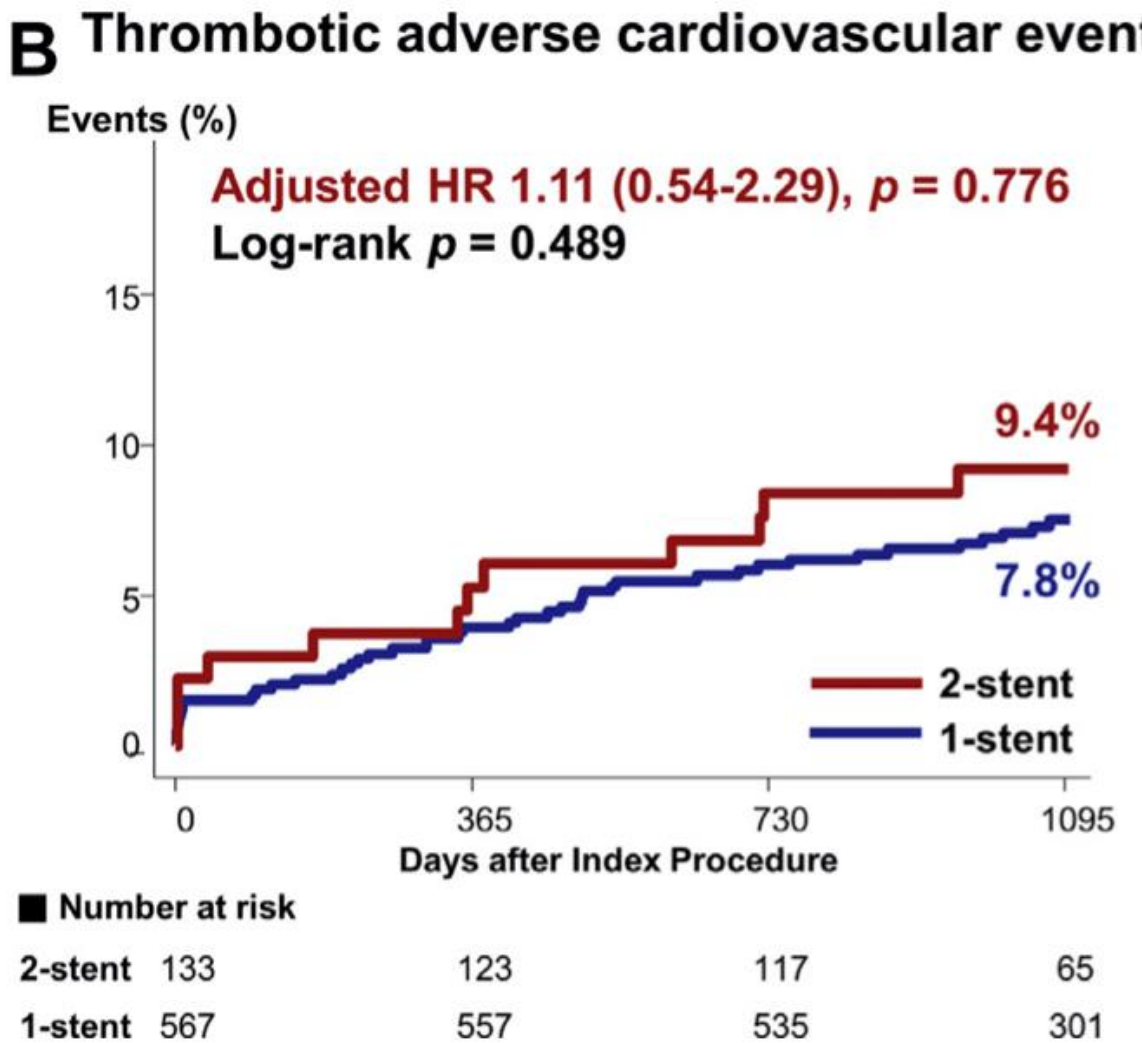
4,639 were excluded : Non-LM bifurcation

Left Main Bifurcation
N = 700

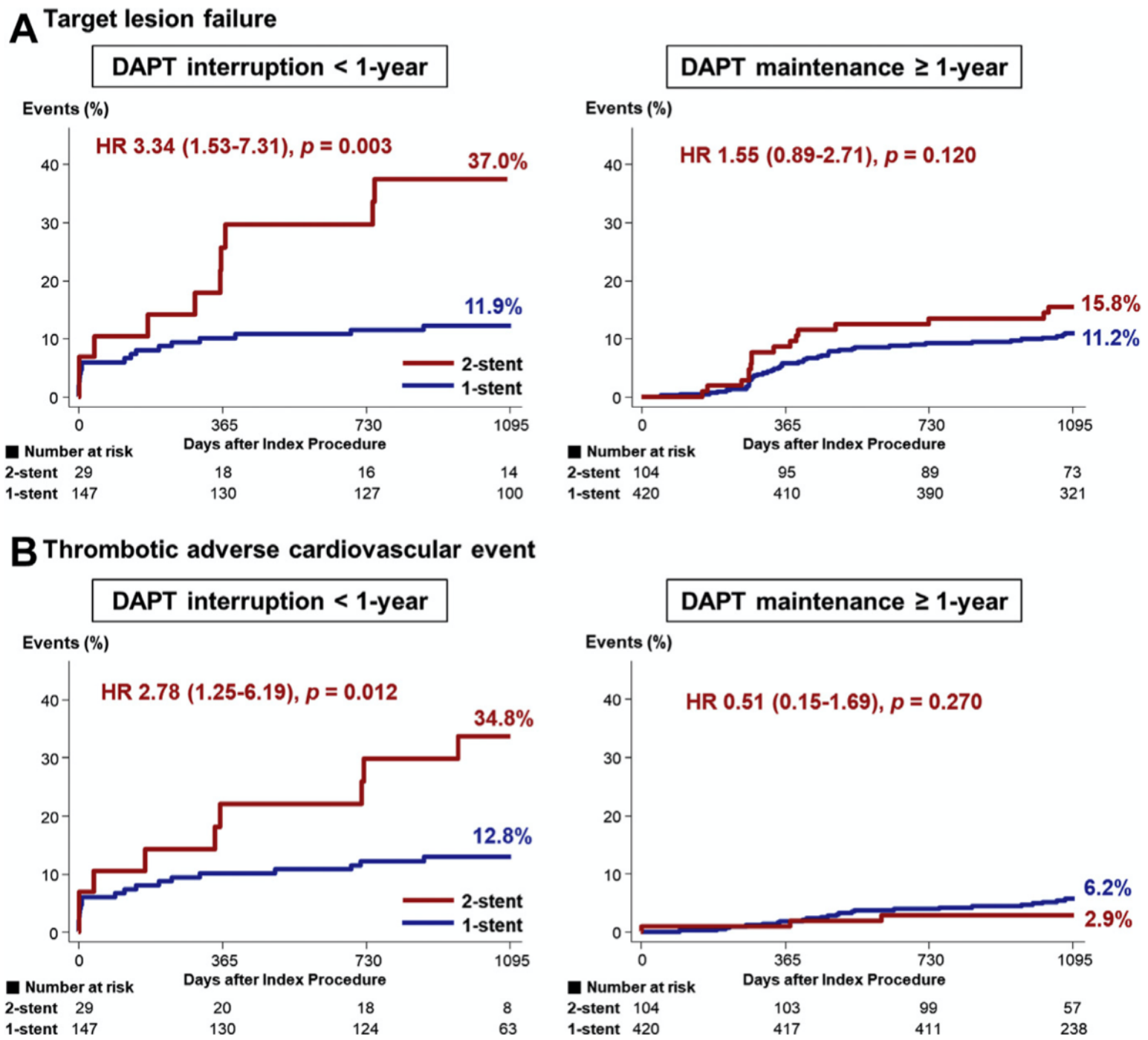
1-stent strategy	2-stent strategy
N = 567	N = 133

Rhee TM, Park KW, Kim CH, et al. J Am Coll Cardiol Intv 2018;11:2453–63





J Am Coll Cardiol Intv 2018;11:2453–63



J Am Coll Cardiol Intv 2018;11:2453–63

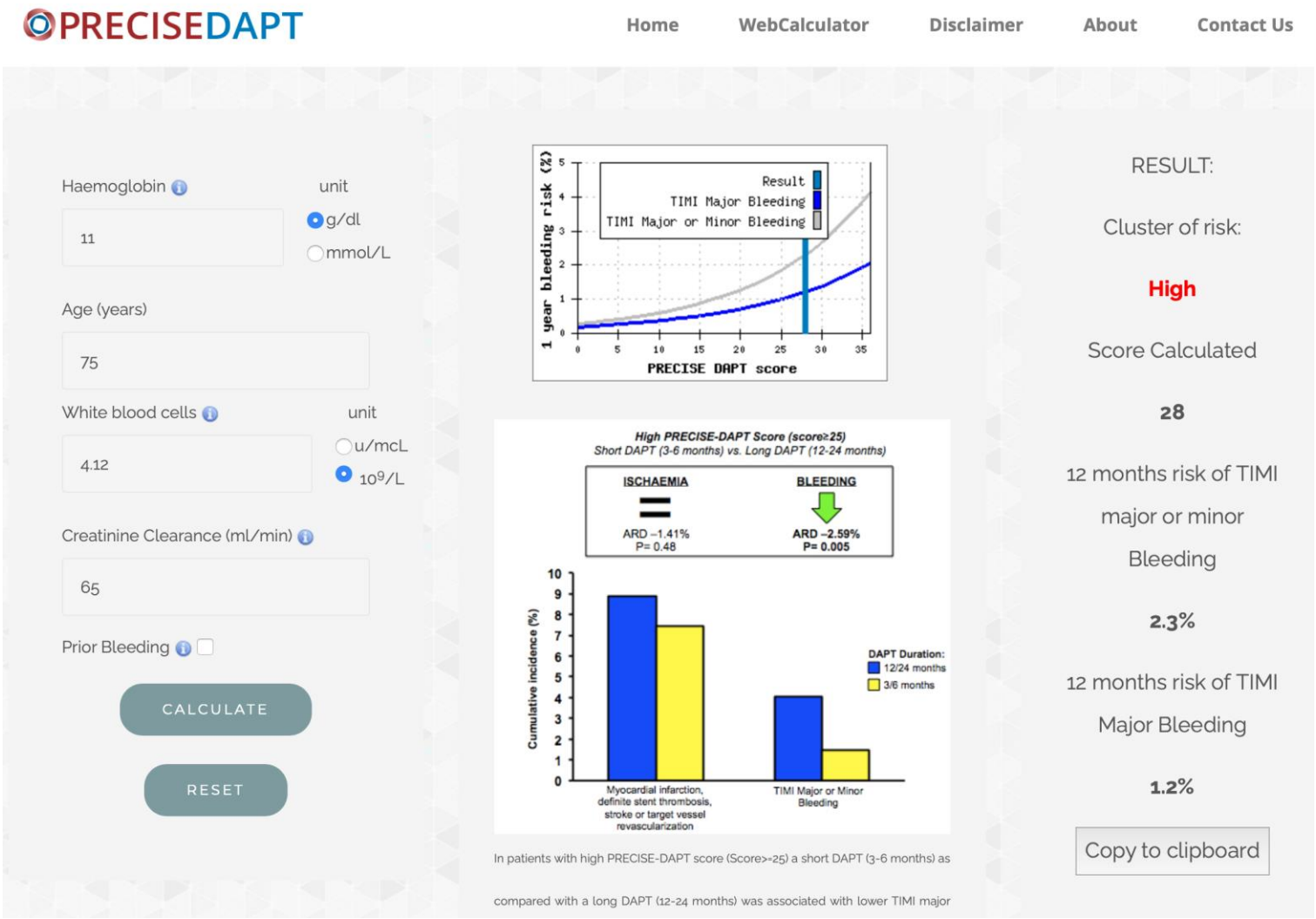
TABLE 5 Independent Predictors of Target Lesion Failure

	Hazard Ratio	95% CI	p Value
1-stent group			
LV dysfunction (EF <40%)	2.339	1.172-4.667	0.016
Acute myocardial infarction	2.309	1.361-3.916	0.002
3-vessel disease	1.993	1.194-3.325	0.008
2-stent group			
Peripheral vascular disease	5.591	1.230-25.414	0.026
Lesion at in-stent restenosis	3.811	0.980-14.813	0.053
DAPT interruption before 1 yr	3.810	1.564-9.282	0.003
LV dysfunction (EF <40%)	3.257	1.201-8.835	0.020
Total number of implanted stents (per 1 ↑)	1.444	1.136-1.836	0.003

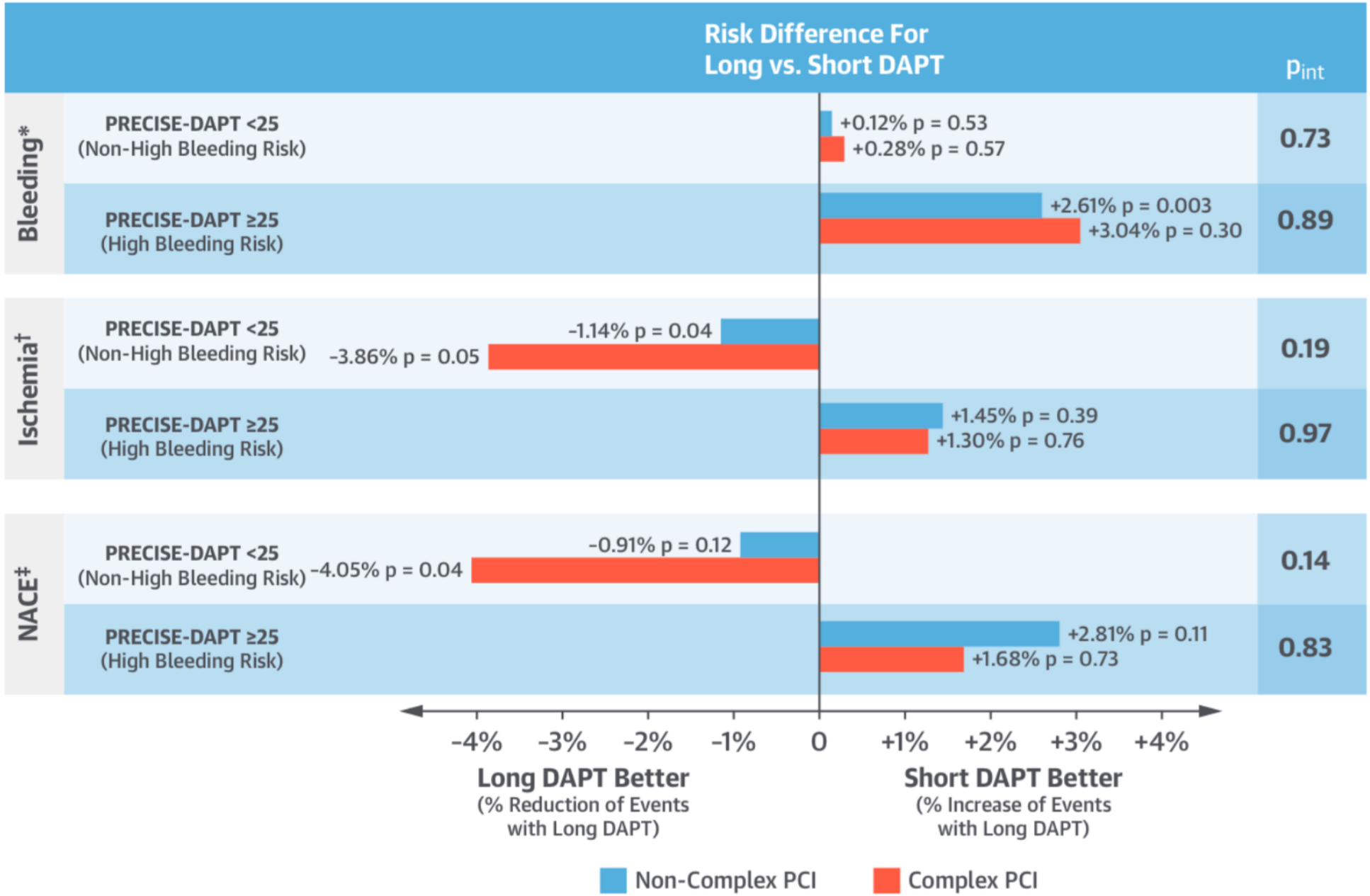
J Am Coll Cardiol Intv 2018;11:2453–63

PRECISE-DAPT score

- The PRECISE-DAPT score was calculated based on age, creatinine clearance, hemoglobin, white blood cell count and previous spontaneous bleeding



CENTRAL ILLUSTRATION **PRECISE-DAPT Score and Complex Percutaneous Coronary Intervention**



Costa, F. et al. J Am Coll Cardiol. 2019;73(7):741-54.

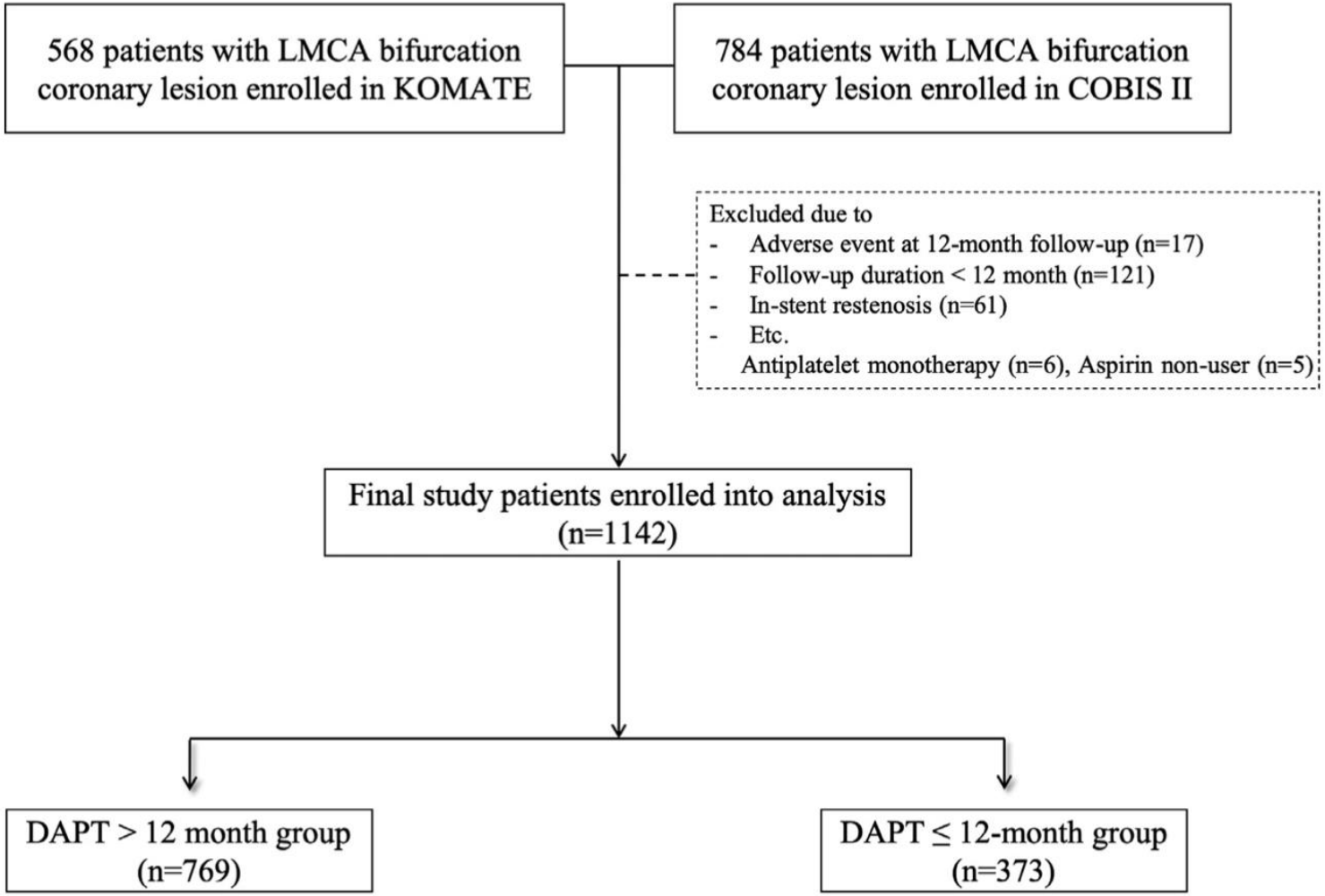
ARC-High Bleeding Risk (1 major or 2 minor)

Table 3 **Major and minor criteria for hbr at the time of PCI** Academic Research Consortium for HBR (High Bleeding Risk)

Major	Minor
	Age ≥75 y
Anticipated use of long-term oral anticoagulation*	
Severe or end-stage CKD (eGFR <30 mL/min)	Moderate CKD (eGFR 30–59 mL/min)
Hemoglobin <11 g/dL	Hemoglobin 11–12.9 g/dL for men and 11–11.9 g/dL for women
Spontaneous bleeding requiring hospitalization or transfusion in the past 6 mo or at any time, if recurrent	Spontaneous bleeding requiring hospitalization or transfusion within the past 12 mo not meeting the major criterion
Moderate or severe baseline thrombocytopenia† (platelet count <100 × 109/L)	
Chronic bleeding diathesis	
Liver cirrhosis with portal hypertension	
	Long-term use of oral NSAIDs or steroids
Active malignancy‡ (excluding nonmelanoma skin cancer) within the past 12 mo	
Previous spontaneous ICH (at any time)Previous traumatic ICH within the past 12 moPresence of a bAVMModerate or severe ischemic stroke§ within the past 6 mo	Any ischemic stroke at any time not meeting the major criterion
Nondeferrable major surgery on DAPT	
Recent major surgery or major trauma within 30 d before PCI	

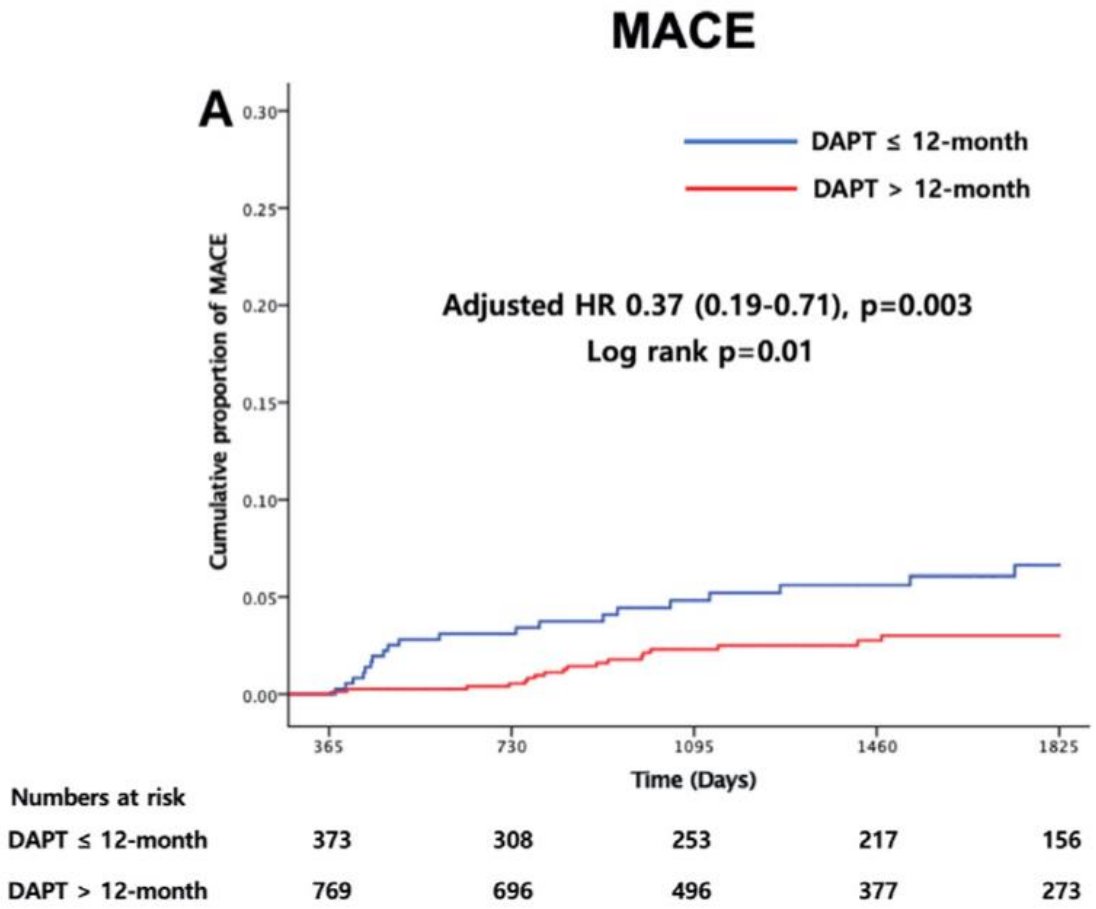
European Heart Journal (2019) 40, 2632–2

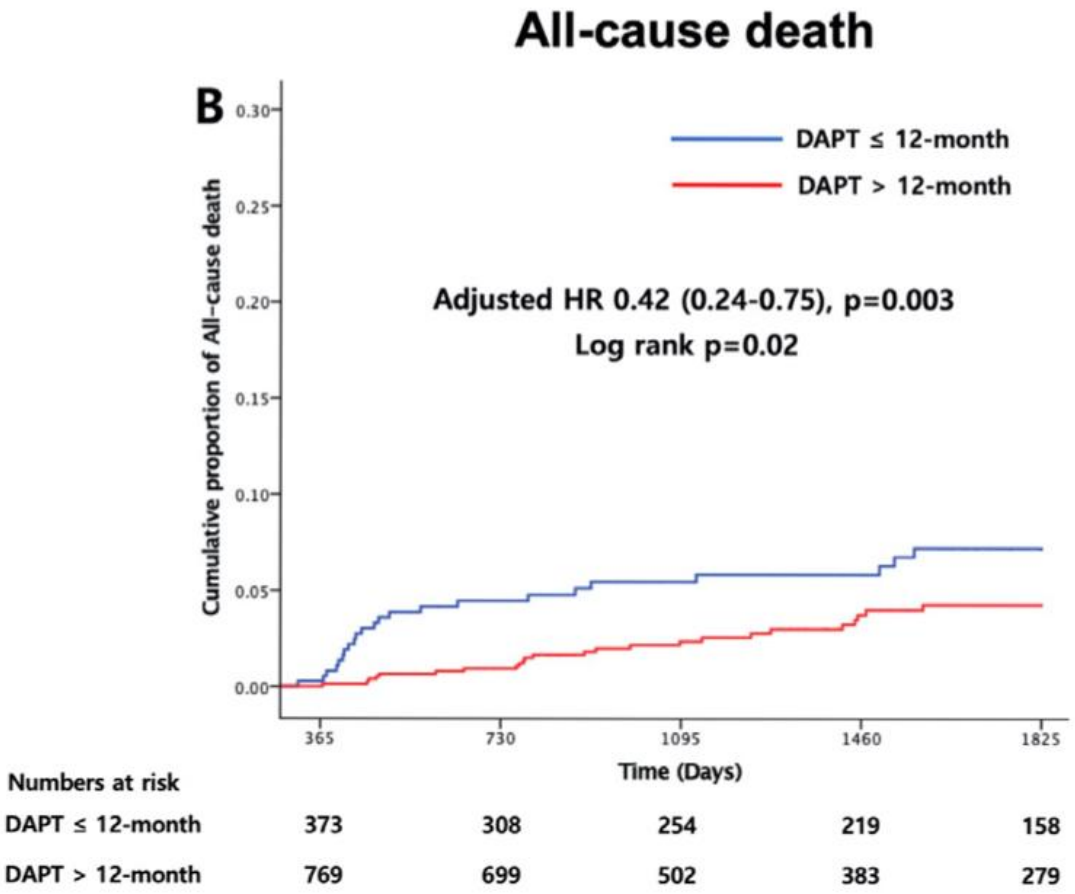
Long-Term Efficacy of Extended Dual Antiplatelet Therapy After Left Main Coronary Artery Bifurcation Stenting



Cho S, Kim JS, Kang TS, et al. Am J Cardiol 2020;125:320−327

Long-Term Efficacy of Extended Dual Antiplatelet Therapy After Left Main Coronary Artery Bifurcation Stenting





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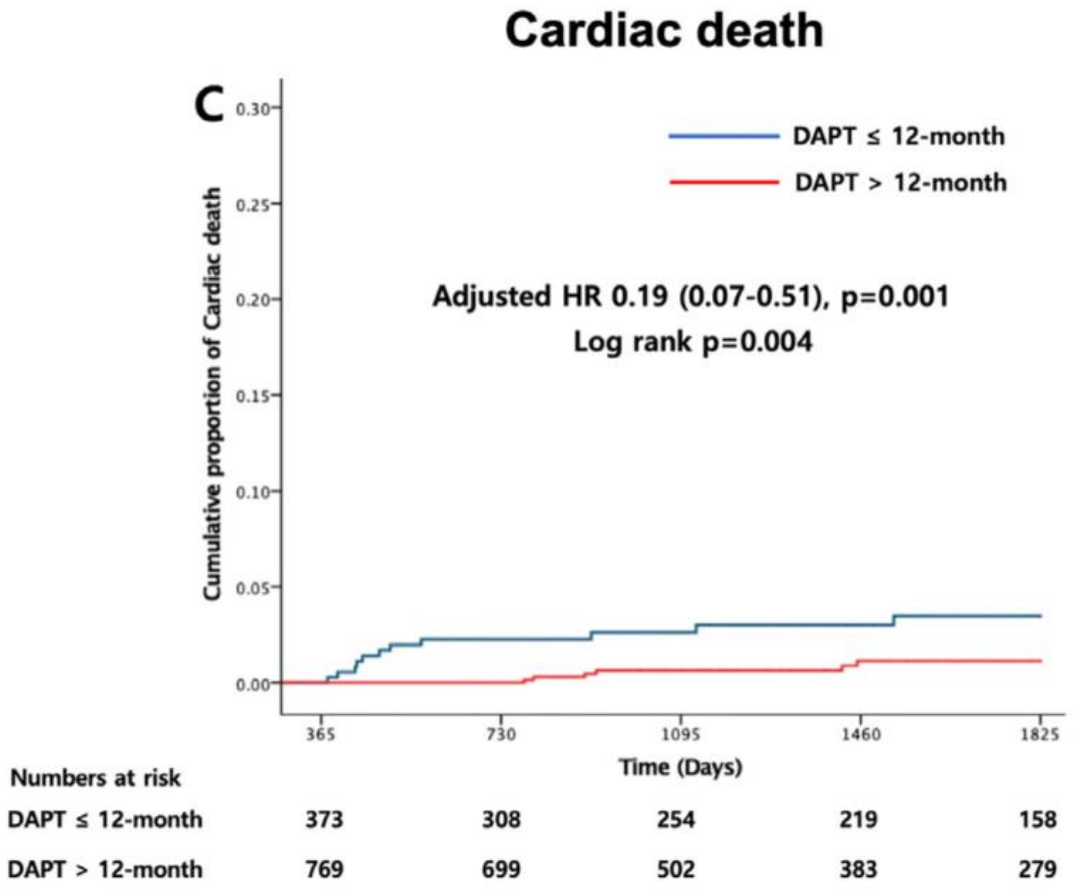

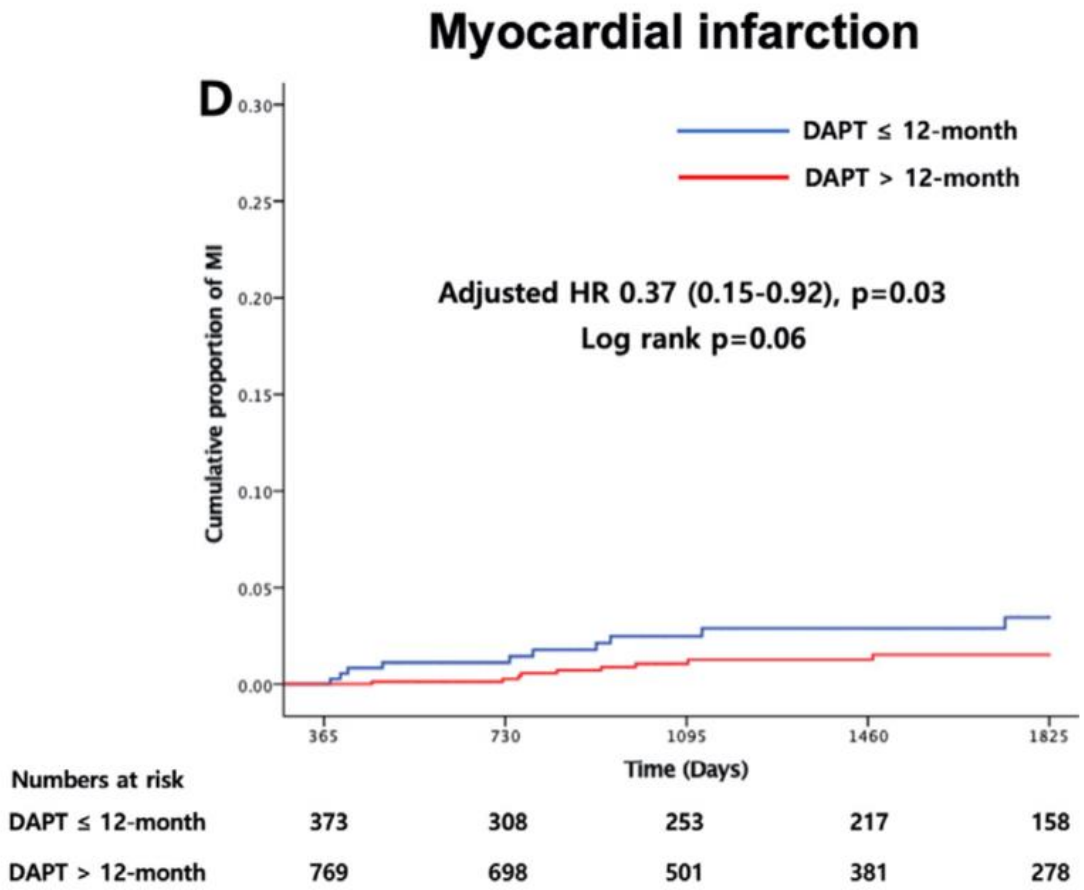

Am J Cardiol 2020;125:320–327

Table 4
Independent predictors of clinical outcomes

Variable	Univariate analysis		Multivariate analysis	
	HR (95% CI)	p Value	HR (95% CI)	p Value
Age >75 years	3.5 (1.7–7.2)	0.001	3.58 (1.63–7.87)	0.002
DAPT >12 months	0.43 (0.23–0.81)	0.01	0.34 (0.17–0.67)	0.002
DAPT score ≥2	2.17 (1.08–4.35)	0.03	2.76 (1.33–5.7)	0.01
CKD	6.87 (3.03–15.61)	<0.0001	6.85 (2.83–16.61)	<0.0001
2-stent strategy	0.92 (0.43–1.94)	0.82		
Male	1.13 (0.54–2.39)	0.74		
ACS	2.32 (1.17–4.61)	0.02		
Multivessel disease	1.43 (0.71–2.88)	0.32		
DM	1.26 (0.65–2.43)	0.5		
Hypertension	1.29 (0.66–2.53)	0.45		
Previous PCI	1.58 (0.78–3.19)	0.2		
Previous CABG	1.51 (0.36–6.27)	0.57		
IVUS	0.67 (0.36–1.27)	0.22		

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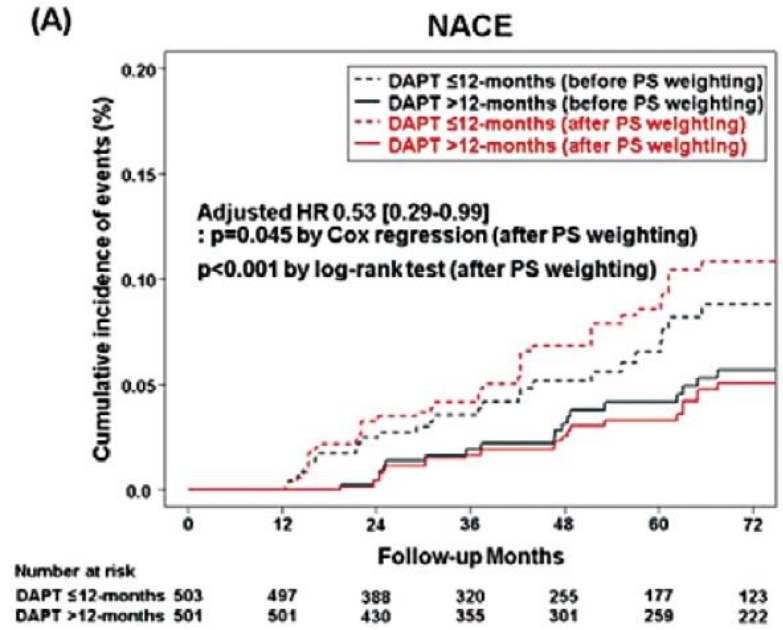
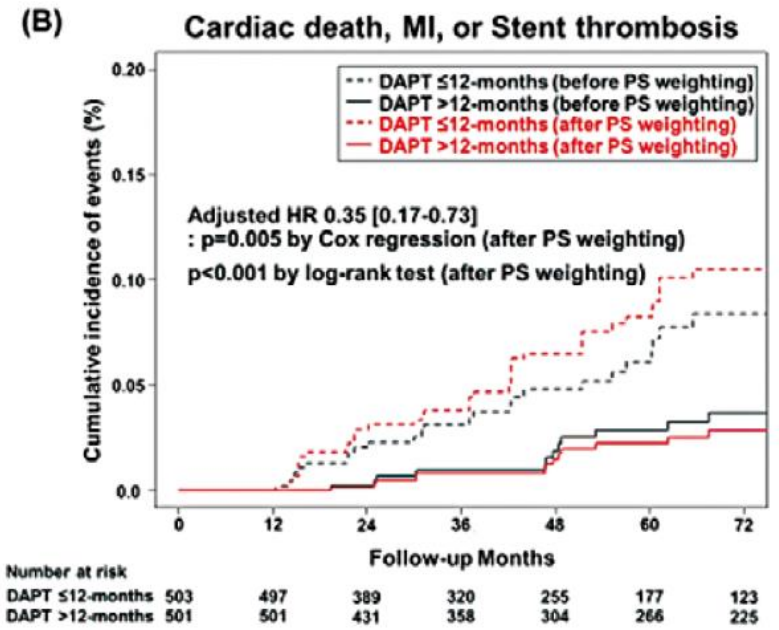
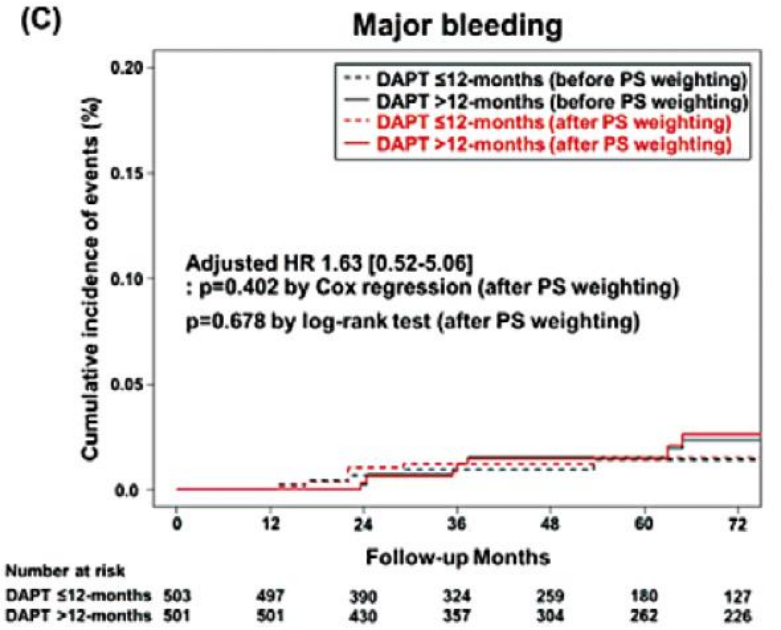
Optimal Duration for Dual Antiplatelet Therapy After Left Main Coronary Artery Stenting

- KOMATE (Korean Multicenter Angioplasty Team) registry

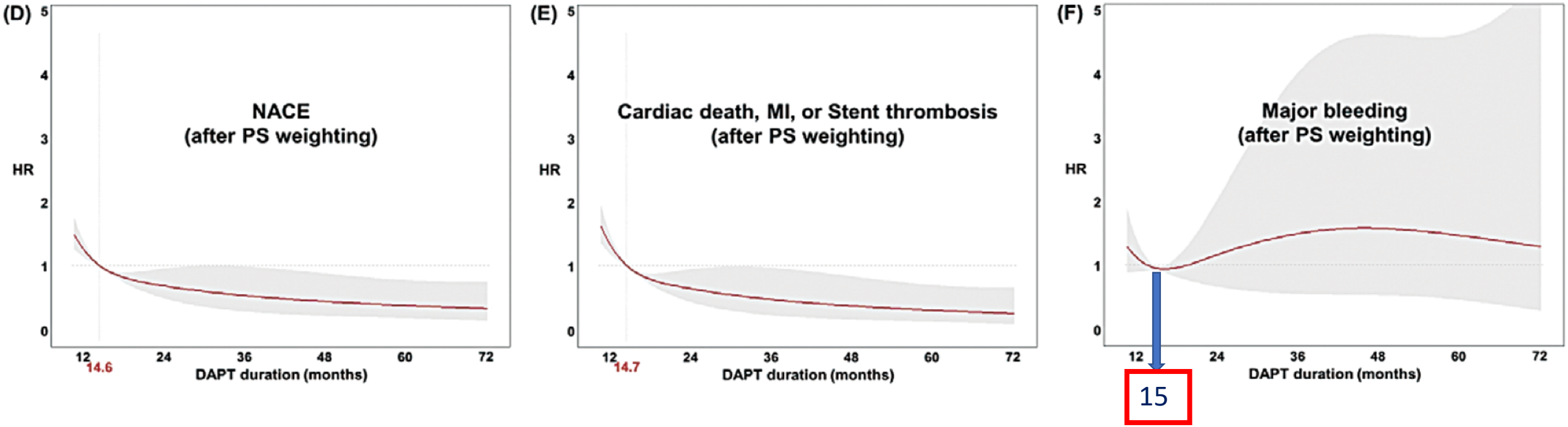






Choi J, Kim IS, S Cho, et al. Circ J 2021; **85:** 59–68

Optimal Duration for Dual Antiplatelet Therapy After Left Main Coronary Artery Stenting

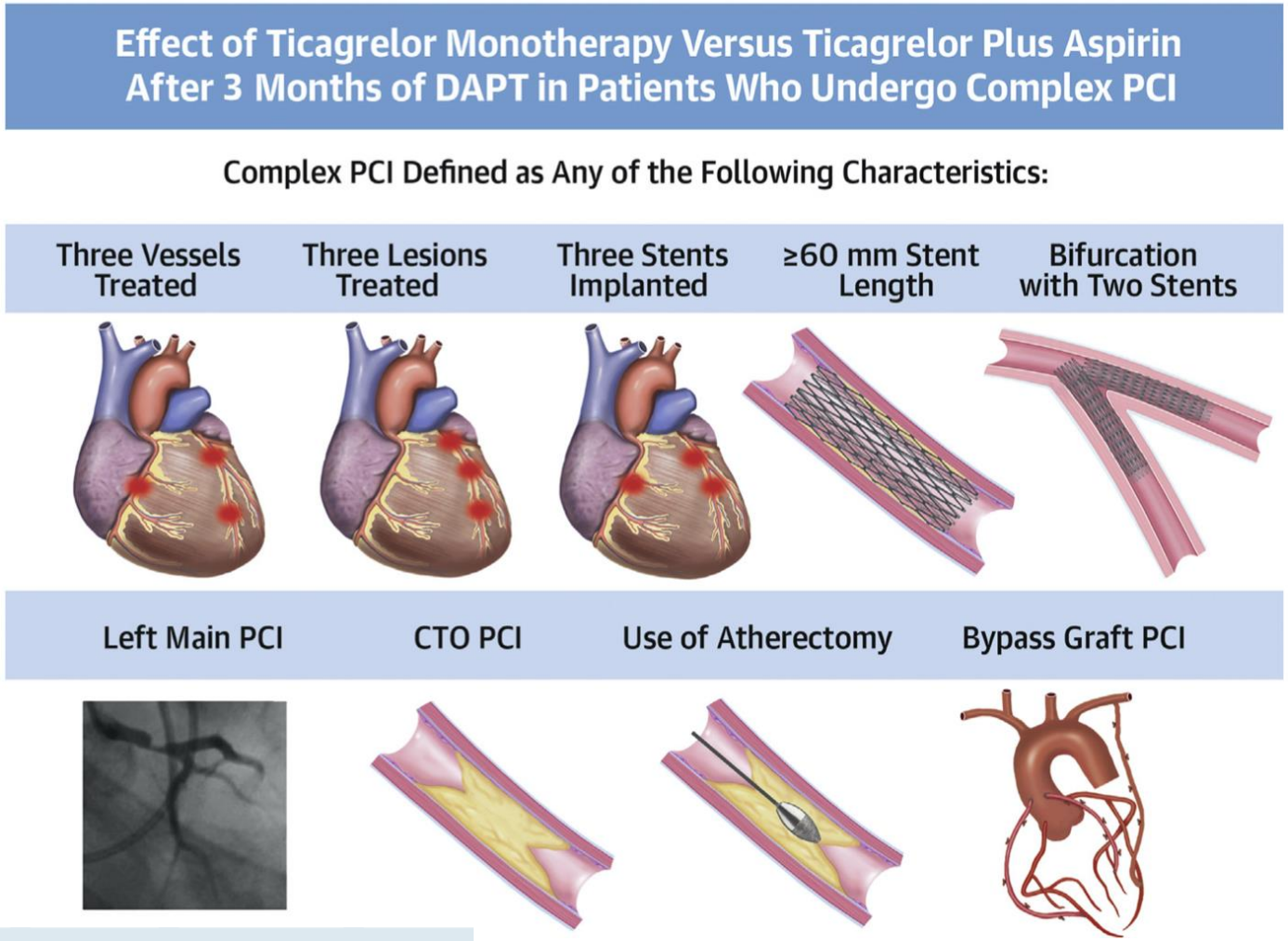


- Authors: maybe 15 m/o of DAPT is the best cut-off time point after LM stenting

Choi J, Kim IS, S Cho, et al. Circ J 2021; **85:** 59–68

TWILIGHT Complex

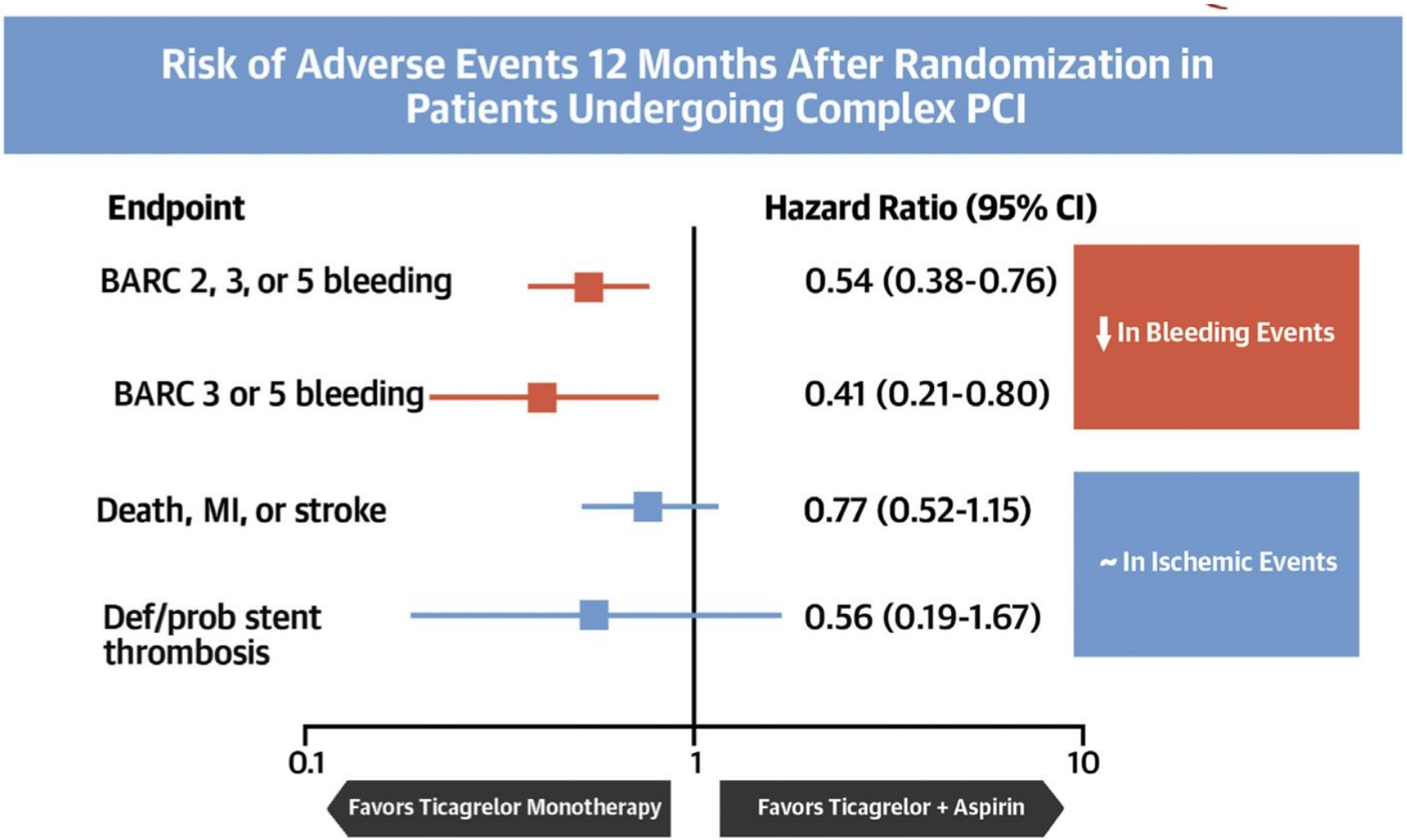
CENTRAL ILLUSTRATION Ticagrelor With or Without Aspirin After Complex Percutaneous Coronary Intervention



Vessel treated			
Left main	353 (15.1)	0 (0.0)	<0.0001

Dangas G, et al. J Am Coll Cardiol 2020;75:2414–24

A+T 3m/o, then T monotherapy vs A+T 12 m/o



Dangas, G. et al. J Am Coll Cardiol. 2020;75(19):2414-24.

Optimal duration or regimen after LM stenting ?

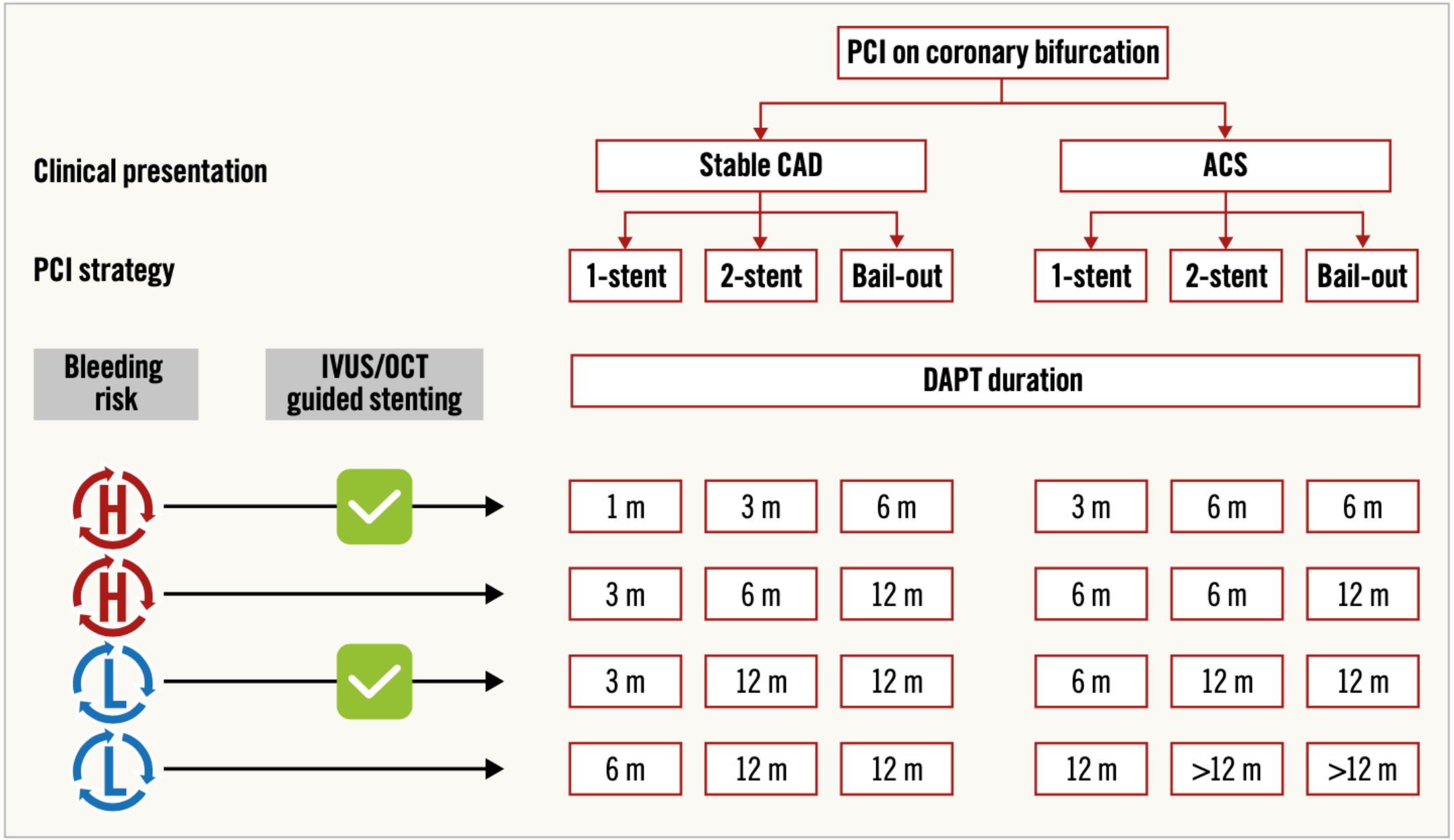
- ACS vs SIHD (SCAD)
- Stent generation: short DAPT outcome trial, OCT substudy (early endothelialization)
- Intra-vascular imaging guidance (IVUS/OCT): stent optimization, atherectomy or plaque modification, POT (proximal optimization therapy) if indicated
- Scoring system: DAPT score, PRECISE-DAPT score
- Lesion/Procedural complexity
- Plaque burden (non-stent segment) ? SYNTAX score ? Un-controlled risk factors (high A1c, LDL, smoking..etc)
- Potent P2Y12i (dosing ? Ticagrelor 90mg or 60mg BD, Prasugrel 10mg or 5mg or 3.75mg QD) monotherapy vs DAPT with ASA + clopidogrel ?
- De-escalation/ short DAPT (drop off ASA or P2Y12i ?) according to the bleeding risk (ARC-HRB or PRECISE-DAPT score) in LM stenting ?
- Indication of long-term OAC (triple vs dual ? NOAC vs LAA closure)

https://www.goalcast.com/9-things-making-life-difficult/

Table 1. Studies assessing the impact of DAPT duration after PCI of bifurcation lesions.

	Giustino et al[18]	Yeh et al[19]	Jang et al[32]	Rhee et al[33]	Zimarino et al[10]	Kogame et al[22]	Costa et al[20]	Dangas et al[23]
Year	2016	2017	2018	2018	2019	2019	2019	2020
Type of study	Pooled analysis from 6 RCTs	Substudy of an RCT	nROS	Pooled analysis from 5 nROS	nROS	Substudy of an RCT	Pooled analysis from RCTs	Substudy of an RCT
Name of the original study	–	DAPT	COBIS II	–	EBC registry	GLOBAL LEADERS	PRECISE-DAPT	TWILIGHT COMPLEX
Study population	n=9,577	n=11,554	n=2,082	n=700	n=5,036	n=15,845	n=14,963	n=2,342
Bifurcation lesions	6.8%	6.2%	100%	100%	100%	15.8%	8%	10.7%
2-stent	100%	100%	26%	19%	10%	20%	100%	100%
DAPT duration Short-term Long-term	3-6 months ≥12 months	12 months 30 months	<12 months ≥12 months	<12 months ≥12 months	<6 months SCAD, <12 months ACS ≥6 months SCAD ≥12 months ACS	1 month (then ticagrelor) 12 months (then aspirin)	3-6 months 12-24 months	3 months 15 months
Follow-up	13 months	30 months	4 years	3 years	18 months	2 years	2 years	18 months
Efficacy endpoint	MACE (cardiac death, MI, or ST)	MI or ST	Death or MI	MACE (cardiac death, MI, or ST)	MACE (cardiac death, MI, or ST)	Death or MI	MI, ST, stroke, TVR	Death, MI, stroke
Safety endpoint	Major bleeding	Moderate/severe bleeding	NA	NA	NA	Major bleeding	Major and minor bleeding	BARC 3 or 5 bleeding
Main findings	Long-term DAPT reduces the risk of MACE in the complex PCI group, increases the risk of major bleeding	Long-term DAPT increases the risk of bleeding and reduces MI or ST, most evident among complex PCI with DAPT score ≥2	After PS matching, the risk of death or MI was lower in the long- vs short-term DAPT group	After PS matching, the risk of MACE in the 2-stent group was lower with long- vs short-term DAPT	Long-term DAPT was associated with a lower risk of MACE	No differences in death or MI. No differences in bleeding risk	Long-term DAPT reduces the risk of ischaemic events in complex PCI only if PRECISE-DAPT score <25.	Long-term DAPT increased the risk of bleeding and is associated with a trend towards a reduction in risk of death, MI or stroke

MACE: major adverse cardiac events; NA: not available; nROS: non-randomised observational study; PS: propensity score; RCT: randomised clinical trial; TVR: target vessel revascularisation


PCI on coronary bifurcation
Clinical presentation
Stable CAD
ACS
PCI strategy
1-stent
2-stent
Bail-out
1-stent
2-stent
Bail-out
Bleeding risk
IVUS/OCT guided stenting
DAPT duration
H
1 m
3 m
6 m
3 m
6 m
6 m
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12 m
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