Revue des lignes directrices 2018 sur le traitement antiplaquettaire/antithrombotique chez le patient coronarien

1er décembre 2018

Jean-François Tanguay MD
Directeur, Cardiologie Interventionnelle
Institut de Cardiologie de Montréal
Professeur titulaire de Médecine
Chaire de recherche Desgroseillers-Bérard en cardiologie interventionnelle
Université de Montréal

Déclarations Conflits d'intérêts Potentiels

- **Support de recherche:** Abbott Vascular, Biosensors, Idorsia, Lilly, Novartis.
- **Conférencier:** AstraZeneca, Bayer, Novartis, Servier.
- **Consultant:** Amgen, AstraZeneca, Bayer, Novartis.
- **Autre:** Société de Cardiologie du Canada, Institut de Recherche en Santé du Canada, Fondation des Maladies du Coeur du Canada, NIH-NHLBI.

Objectifs

- **Soupeser les bénéfices et risques d'une double thérapie antiplaquettaire à long terme chez les sujets coronariens.**

- **Mieux comprendre pour quel patient réduire la durée de la double thérapie antiplaquettaire, lorsque justifiée.**

- **Gérer le traitement antithrombotique d'un patient anticoagulé et qui vient de recevoir une endoprothèse coronarienne.**

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Society Guidelines

2018 Canadian Cardiovascular Society/Canadian Association of Interventional Cardiology Focused Update of the Guidelines for the Use of Antiplatelet Therapy

Shamir R. Mehta, MD, MSc (co-chair),[a] Kevin R. Bainey, MD,[b] Warren J. Cantor, MD,[c] Marie Lordkipanidzé, BPharm, PhD,[d] Guillaume Marquis-Gravel, MD,[d] Simon D. Robinson, MBChB, MD,[e] Matthew Sibbald, MD, PhD,[a] Derek Y. So, MD,[f] Graham C. Wong, MD, MPH,[g] Joseph G. Abunassar, MD,[f] Margaret L. Ackman, PharmD,[b] Alan D. Bell, MD,[h] Raymond Cartier, MD,[d] James D. Douketis, MD,[i] Patrick R. Lawler, MD, MPH,[j] Michael S. McMurtry, MD,[b] Jacob A. Udell, MD,[j] Sean van Diepen, MD,[b] Subodh Verma, MD,[k] G.B. John Mancini, MD,[g] John A. Cairns, MD,[g] and Jean-François Tanguay, MD (co-chair);[d] and members of the Secondary Panel

Lignes directrices 2018

- Durée de la thérapie antiplaquettaire double
  - Patients SCA et non-SCA
- Revascularisation PCI + Anticoagulation
  - Fibrillation auriculaire
  - Maladies thromboemboliques veineuses
  - Valves bioprosthétiques ou mécaniques (incluant TAVR)
  - Thrombus VG établi ou possible
- Gestion de la thérapie antiplquettaire double chez les patients nécessitant:
  - Chirurgie non cardiaque
  - Pontages aortocoronariens électifs ou semi-urgent
- Comment et quand faire un changement de thérapies

Durée de la thérapie antiplaquettaire double post revascularisation percutanée

Cas #1

- Patiente de 63 ans vue au bureau 1 an après un infarctus ST élevé et angioplastie avec tuteurs.
- Bifurcation 2-stents IVA proximale (DES 3.5 X 32 mm) et grosse Diagonale (DES 2.5 X 15 mm)
- Diabète, dyslipidémie, HTA, et tabagisme
- A bien toléré 1 an de thérapie antiplquettaire double (aspirine 81 mg + ticagrelor 90 mg 2 fpj) sans saignement

Quelle durée de thérapie antiplquettaire double?

A) Aspirine 81 mg + clopidogrel 75 mg ad 3 ans

B) Aspirine 81 mg + ticagrelor 60 2 fpj ad 3 ans

C) Aspirine 81 mg + prasugrel 10 mg ad 3 ans

D) Aspirine 81 mg seule indéfinie

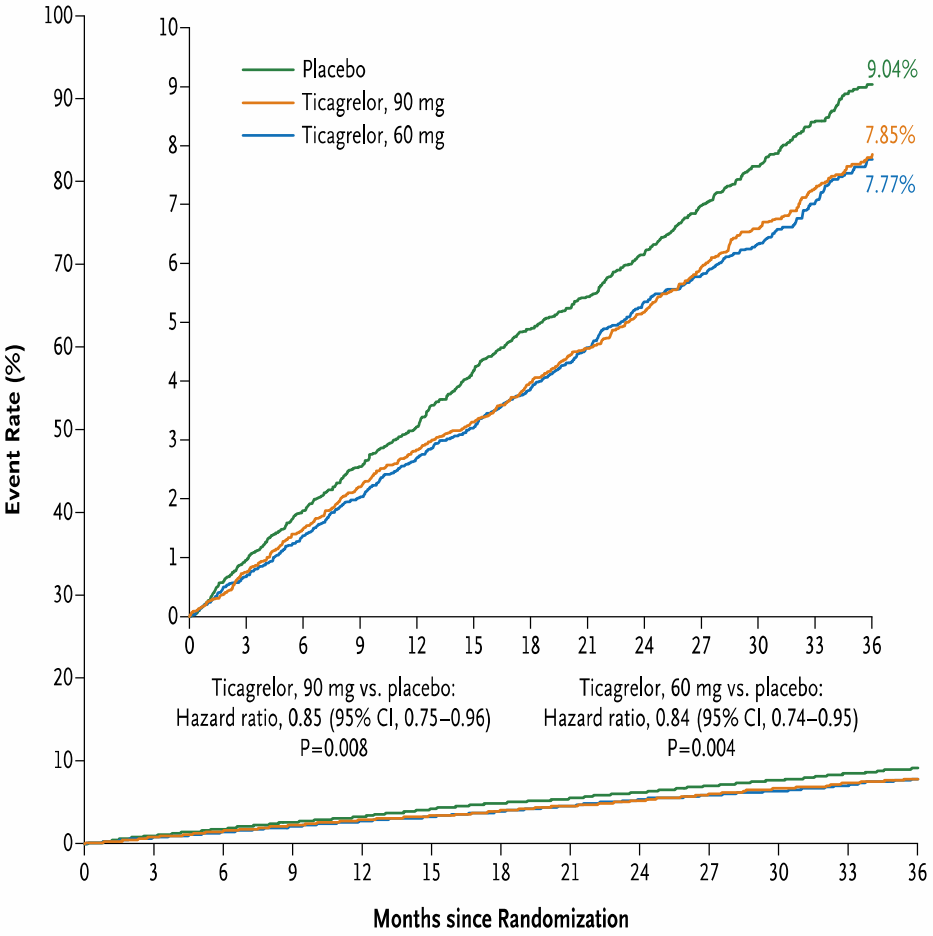
In patients with ACS (STEMI or NSTEACS) who receive PCI:

Recommendations

1) We **recommend** dual antiplatelet therapy (DAPT) with ASA 81 mg daily plus either ticagrelor 90 mg twice daily or prasugrel 10 mg once daily over clopidogrel 75 mg once daily for 1 year **(Strong Recommendation, High Quality Evidence)**.
2) We **recommend** that in patients who tolerate 1 year of DAPT without a major bleeding event and who are not at high risk of bleeding, DAPT should be extended beyond 1 year **(Strong Recommendation, High Quality Evidence for up to 3 years of treatment)**. After 1 year, we **recommend** a DAPT regimen of ASA 81 mg daily plus either ticagrelor 60 mg twice daily or clopidogrel 75 mg once daily **(Strong Recommendation, High Quality Evidence)** or prasugrel 10 mg once daily **(Weak Recommendation, Moderate Quality Evidence)**.

Values and Preferences: These recommendations place greater emphasis on reduction of major cardiovascular events and stent thrombosis versus an increase in bleeding complications.

PEGASUS Trial



No. at Risk													
Placebo	7067	6979	6892	6823	6761	6681	6508	6236	5876	5157	4343	3360	2028
Ticagrelor, 90 mg	7050	6973	6899	6827	6769	6719	6550	6272	5921	5243	4401	3368	2038
Ticagrelor, 60 mg	7045	6969	6905	6842	6784	6733	6557	6270	5904	5222	4424	3392	2055

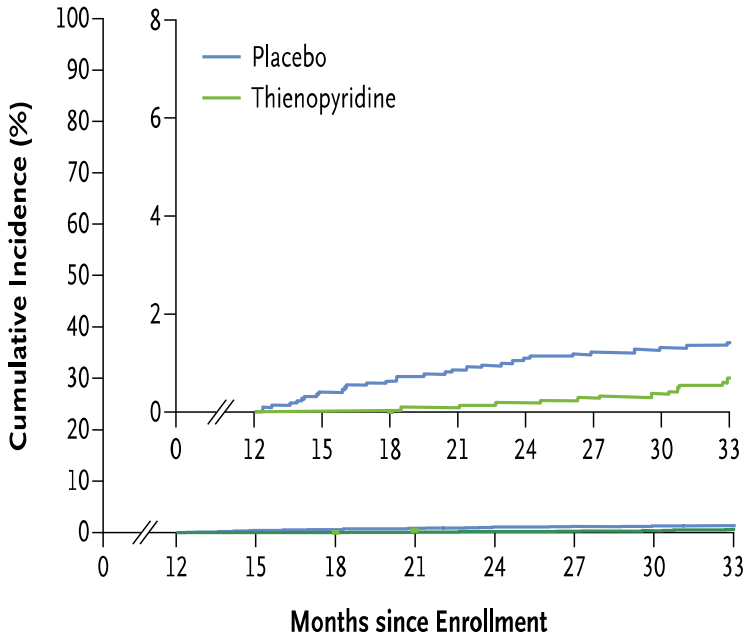
Bonaca MP et al. New Engl J Med. 2015.

DAPT Trial

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

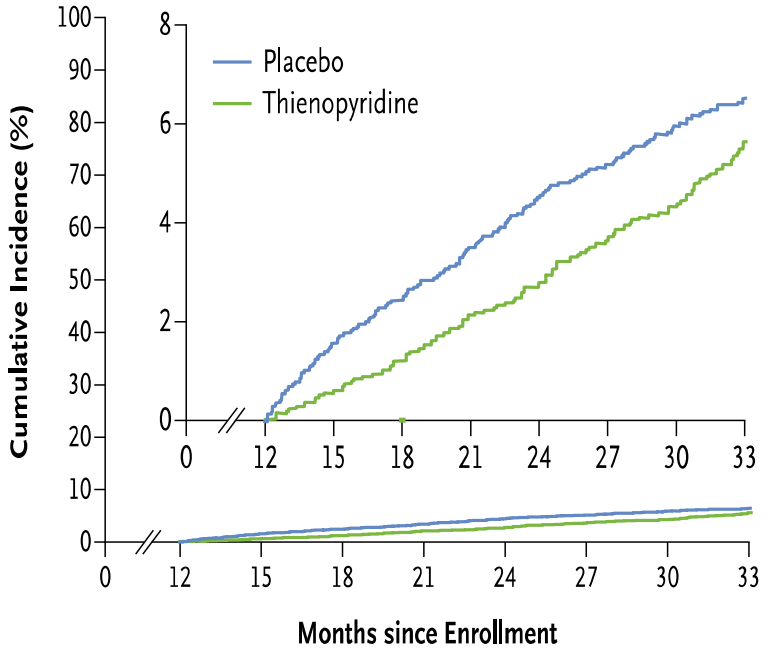


No. at Risk								
Thienopyridine	5020	4934	4870	4828	4765	4686	4642	3110
Placebo	4941	4845	4775	4721	4651	4603	4556	3105

Major Adverse Cardiovascular and Cerebrovascular Events

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

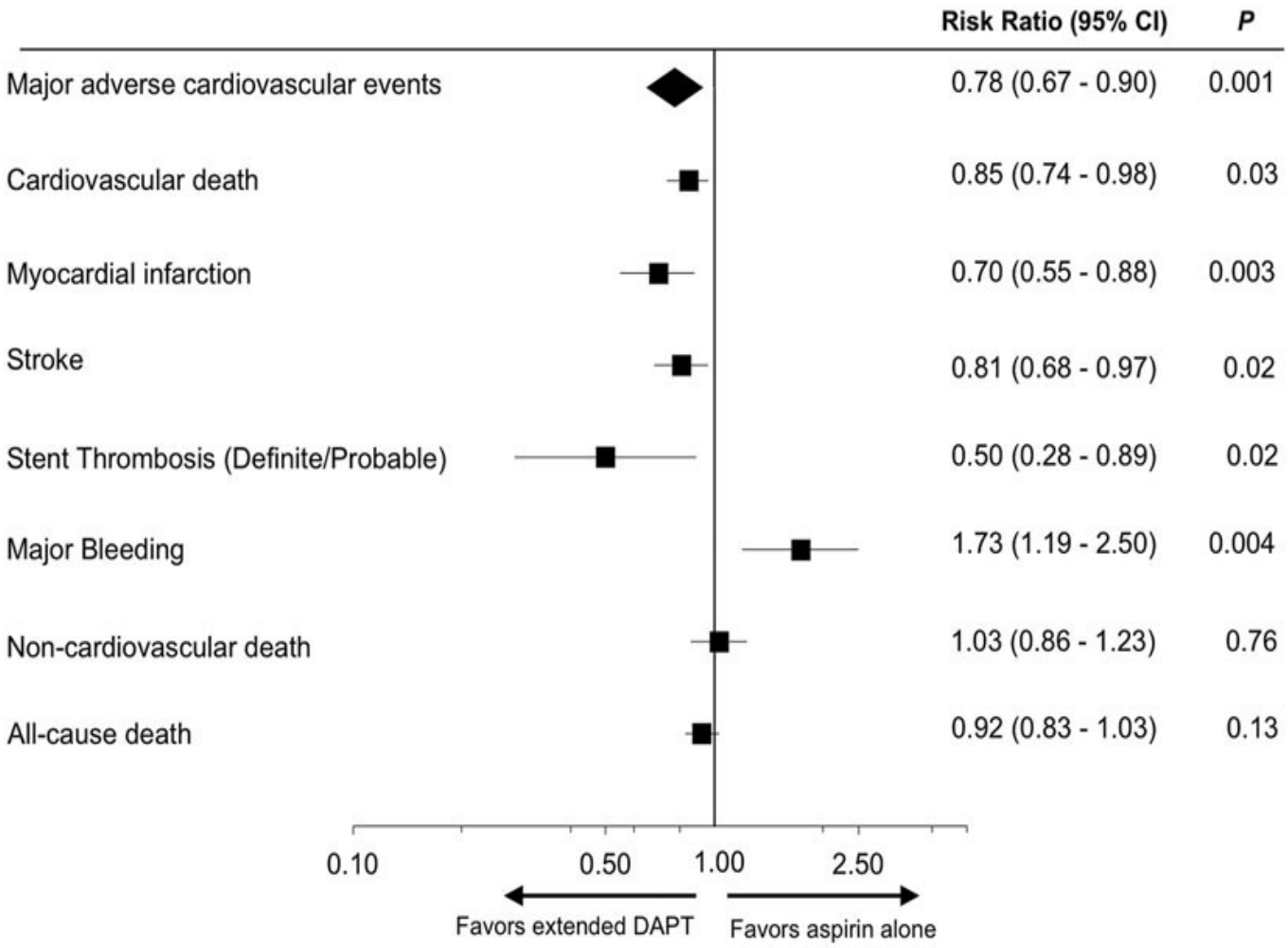
12–33 mo Thienopyridine vs. placebo, 5.6% vs. 6.5%; hazard ratio, 0.82; P=0.02



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

Mauri L et al. New Engl J Med. 2014.

Risks of cardiovascular and bleeding endpoints in patients with previous MI



Udell JA et al. Eur Heart J. 2016.

High-risk clinical and angiographic features for thrombotic events

Clinical	Angiographic
Prior myocardial infarction or troponin positive acute coronary syndrome	Multiple stents (≥ 3 stents implanted, ≥ 3 lesions stented)
Diabetes Mellitus treated with oral hypoglycemics or insulin✚	Long lesion length (> 60 mm total stent length)
Chronic kidney disease (creatinine clearance ≤ 60 ml/min)	Complex lesions (bifurcation treated with 2 stents, stenting of chronic occlusion)
Prior stent thrombosis	Left main or proximal LAD stenting
	Multivessel PCI

Risk scores for DAPT duration

Scores	Variables	Predicted outcomes
DAPT [1]	Age, MI at presentation, prior MI or PCI, diabetes, stent diameter <3 mm, smoking, paclitaxel-eluting stent, CHF/low EF, SVG PCI	Trade-off between ischemic/bleeding outcomes >1 year after PCI
PRECISE-DAPT [2]	Age, previous bleeding, WBC, hemoglobin, creatinine clearance	Trade-off between ischemic/bleeding outcomes with 3-6 versus 12-24 months of DAPT
CALIBER [3]	Ischemic score: 20 variables Bleeding score: 18 variables	Ischemic and bleeding events 2-6 years post-MI, with or without DAPT

1. Yeh RW et al. JAMA. 2016. 2. Costa F et al. Lancet. 2017. 3. Pasea L et al. Eur Heart J. 2017.

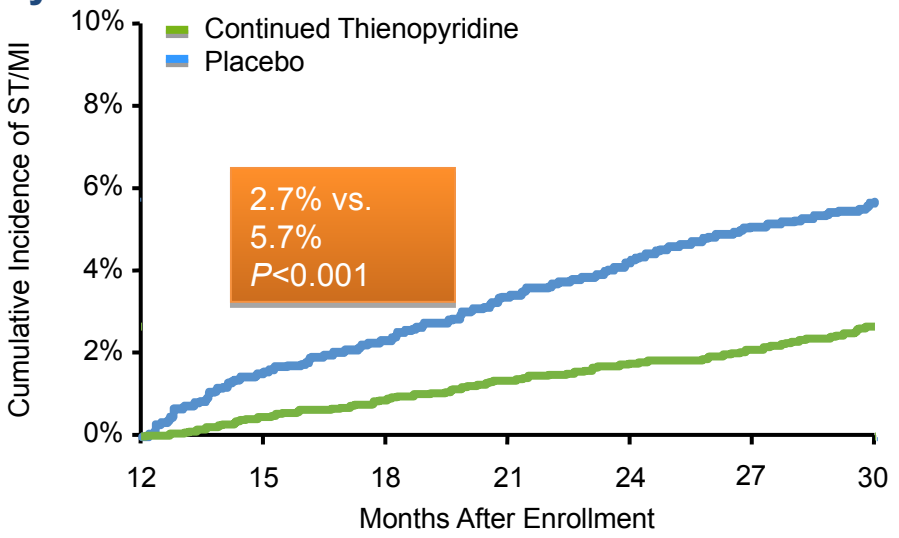
The DAPT Score

Variable	Points
Patient Characteristic	
Age	
≥ 75	-2
65 - <75	-1
< 65	0
Diabetes Mellitus	1
Current Cigarette Smoker	1
Prior PCI or Prior MI	1
CHF or LVEF < 30%	2
Index Procedure Characteristic	
MI at Presentation	1
Vein Graft PCI	2
Stent Diameter < 3mm	1

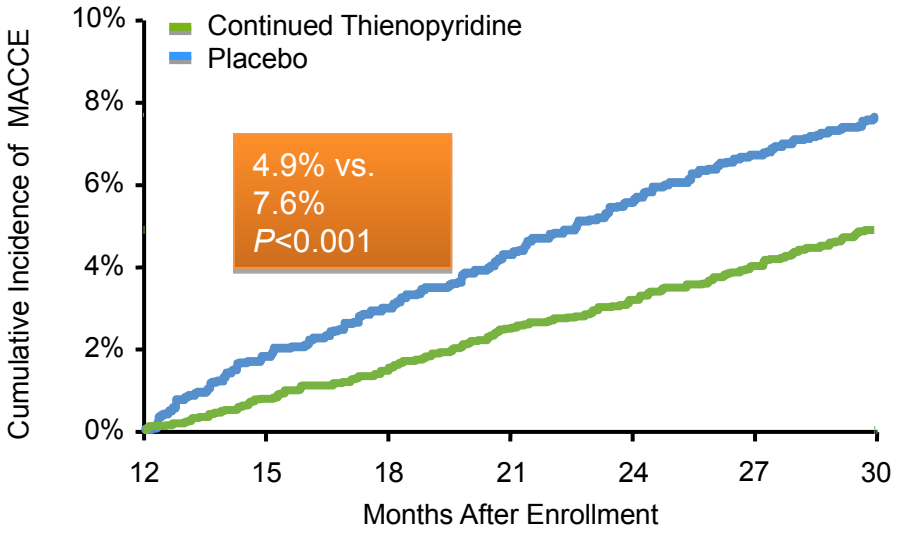
DAPT Score 4

Continued Thienopyridine vs. Placebo DAPT Score ≥ 2 (High); N=5917

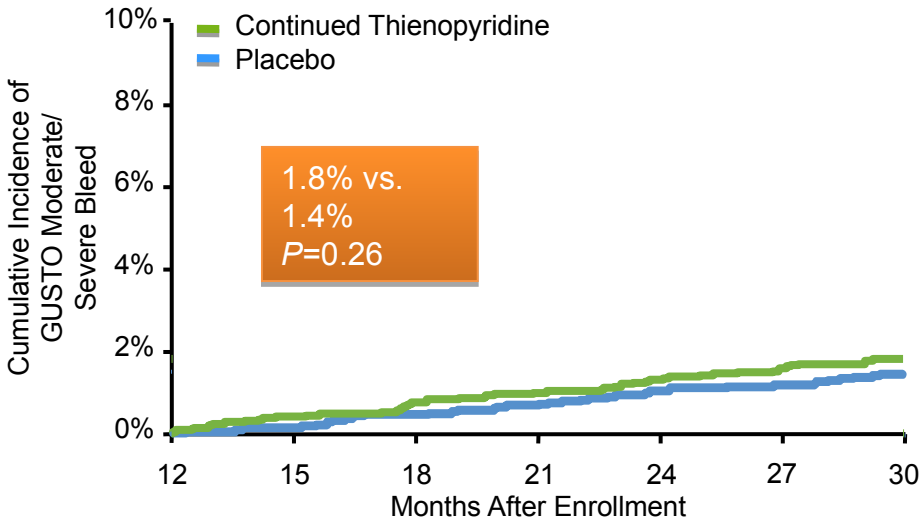
Myocardial Infarction or Stent Thrombosis

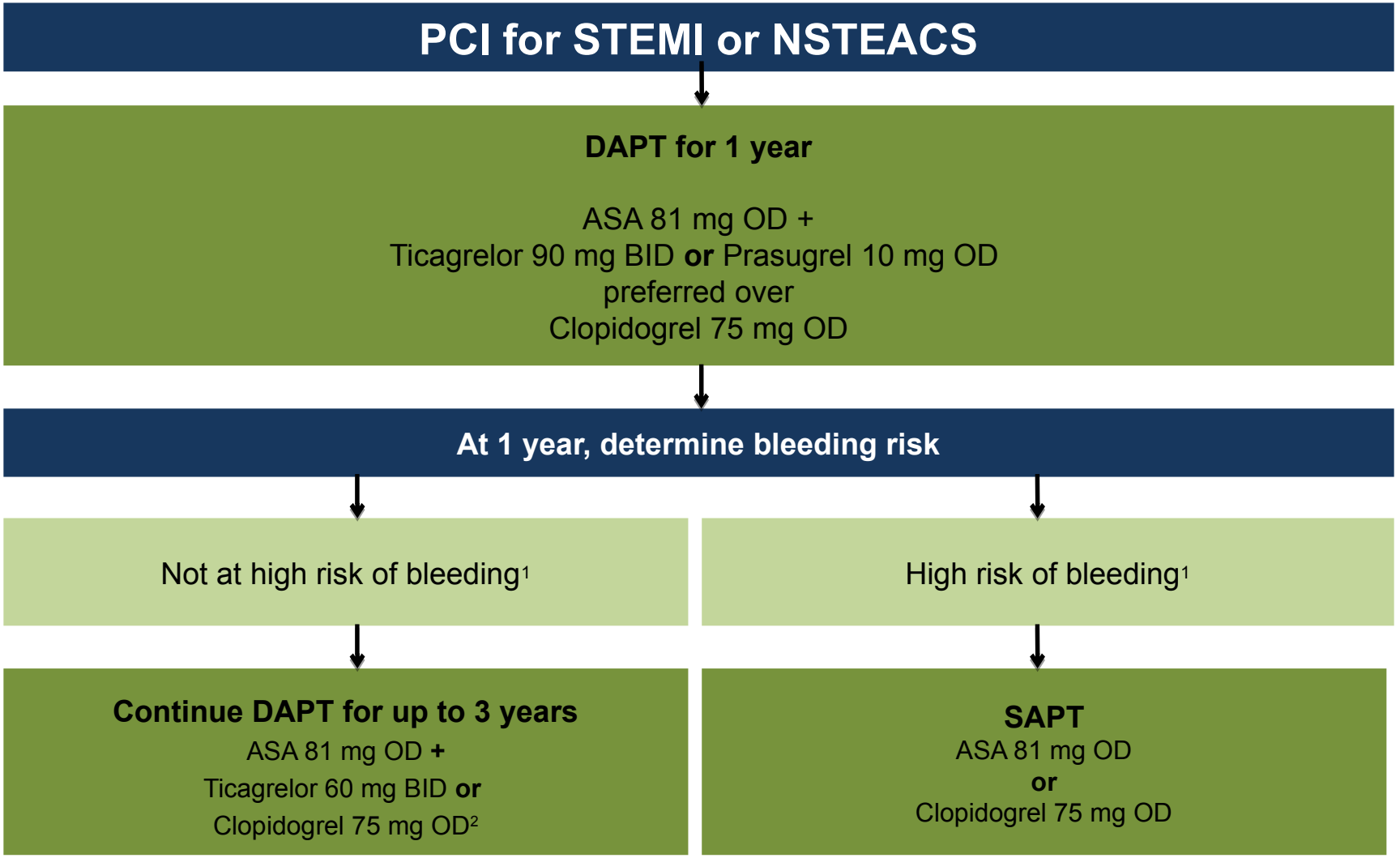


Death, MI or Stroke (MACCE)



GUSTO Moderate/ Severe Bleeding





1 Factors associated with increased bleeding risk include: need for OAC in addition to DAPT, advanced age (> 75 years), frailty, anemia with hemoglobin < 110 g/dL, chronic renal failure (creatinine clearance < 40 mL/min), low body weight (< 60 kg), hospitalization for bleeding within last year, prior stroke/intracranical bleed, regular need for NSAIDS or prednisone

2 Instead of ticagrelor or clopidogrel, prasugrel 5-10 mg daily is also an option (weak recommendation)

DAPT=dual antiplatelet therapy SAPT=single antiplatelet therapy STEMI=ST segment elevation myocardial infarction NSTEMI=non-ST segment elevation myocardial infarction OD=once daily BID=twice daily

Quelle durée de thérapie antiplquettaire double?

A) Aspirine 81 mg + clopidogrel 75 mg ad 3 ans

B) Aspirine 81 mg + ticagrelor 60 2 fpj ad 3 ans

C) Aspirine 81 mg + prasugrel 10 mg ad 3 ans

D) Aspirine 81 mg seule indéfinie

Case #2

- Pt de 76 ans vu au bureau 1 mois après tuteur coronarien électif sans complication ischémique.
- Tuteur IVA moyenne (DES 3.5 X 24 mm) pour angine stable.
- Histoire de saignement digestif 8 mois auparavant qui a nécessité transfusions.
- Diabète, dyslipidémie, tabac.
- A toléré 1 mois DAPT (aspirin 81 mg + clopidogrel 75 mg) sans saignement majeur.

Quelle durée DAPT considérer?

A) > 1 an et ad 3 ans

B) 1 an

C) 6 mois

D) 3 mois

E) 1 mois

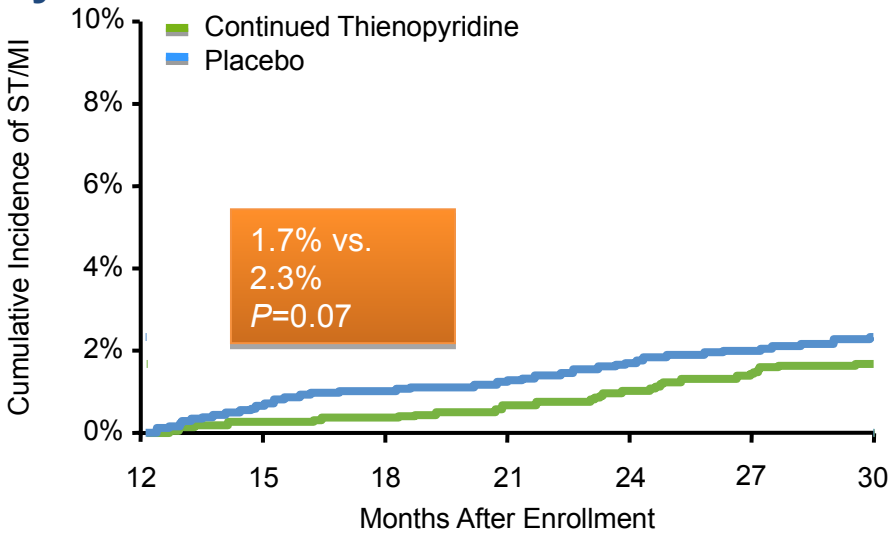
The DAPT Score

Variable	Points
Patient Characteristic	
Age	
≥ 75	-2
65 - <75	-1
< 65	0
Diabetes Mellitus	1
Current Cigarette Smoker	1
Prior PCI or Prior MI	1
CHF or LVEF < 30%	2
Index Procedure Characteristic	
MI at Presentation	1
Vein Graft PCI	2
Stent Diameter < 3mm	1

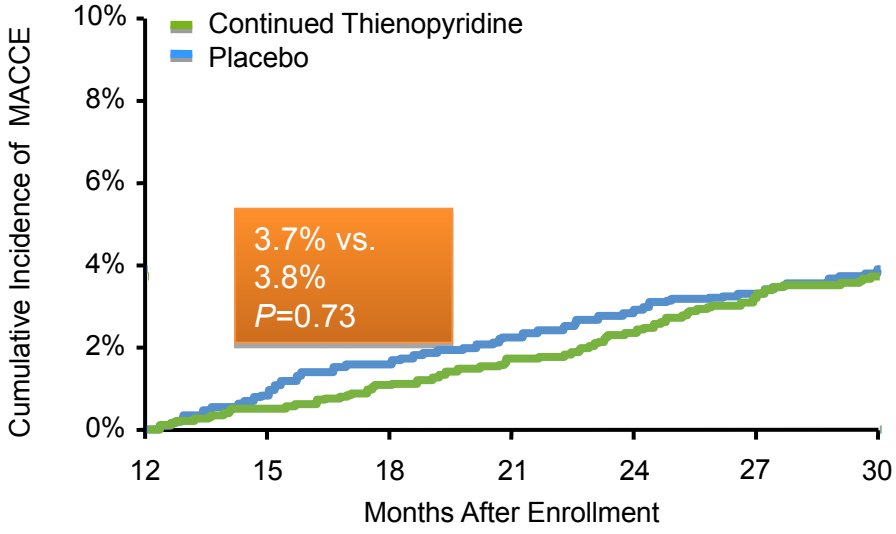
DAPT Score 0

Continued Thienopyridine vs. Placebo DAPT Score <2 (Low); N=5731

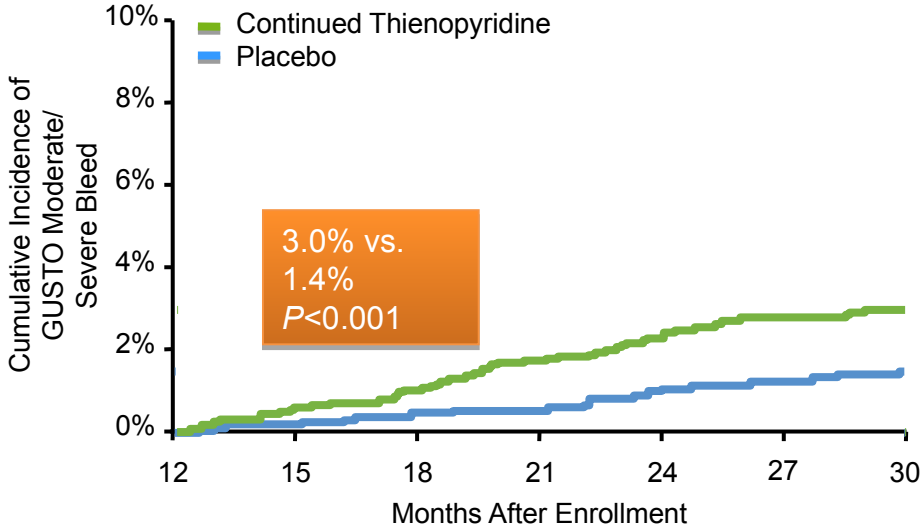
Myocardial Infarction or Stent Thrombosis



Death, MI, or Stroke (MACCE)



GUSTO Moderate/ Severe Bleeding



In patients undergoing PCI for a non-ACS indication (e.g., stable ischemic heart disease):

Recommendations

3) We **recommend** 6 months (and up to 1 year) of DAPT with ASA and clopidogrel **(Strong Recommendation, Moderate Quality Evidence)**.

4) We **suggest** that in patients who have additional high-risk clinical or angiographic features for thrombotic cardiovascular events and who are at low risk of bleeding, it is reasonable to extend the duration of DAPT to greater than 1 year **(Weak Recommendation, Moderate Quality Evidence for up to 3 years of treatment)**.

5) We **suggest** that in patients who are at high risk of bleeding, the duration of DAPT be shortened to a minimum of 1 month (if a BMS was used) or 3 months (if a DES was used); **(Weak Recommendation, Low Quality Evidence)**.

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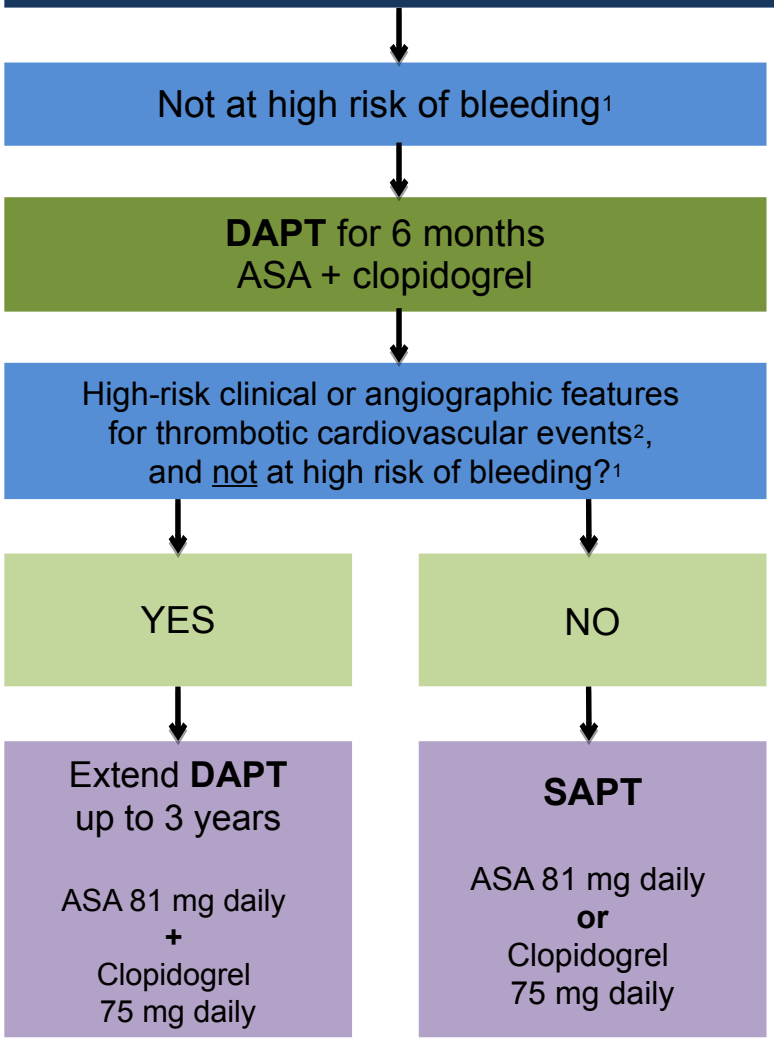
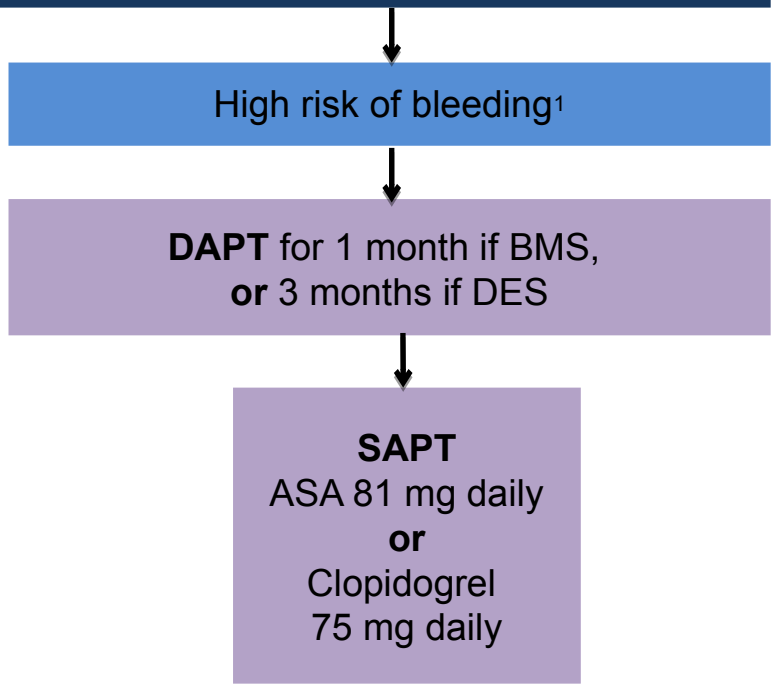
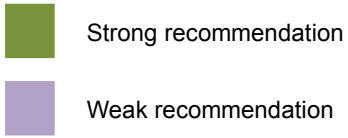
Factors associated with increased bleeding risk

1.	Need for OAC in addition to DAPT
2.	Advanced age (> 75 years)
3.	Frailty
4.	Anemia with hemoglobin < 110 g/dL
5.	Chronic renal failure (creatinine clearance < 40 mL/min)
6.	Low Body Weight (< 60 kg)
7.	Hospitalization for bleeding within last year
8.	Prior stroke/intracranical bleed
9.	Regular need for NSAIDS or prednisone

Elective PCI







1 Factors associated with increased bleeding risk include: need for OAC in addition to DAPT, advanced age (> 75 years), frailty, anemia with hemoglobin < 110 g/dL, chronic renal failure (creatinine clearance < 40 mL/min), low body weight (< 60 kg), hospitalization for bleeding within last year, prior stroke/intracranical bleed, regular need for NSAIDS or prednisone

2 Clinical and angiographic features associated with increased risk of thrombotic events include: age > 65, diabetes mellitus, prior myocardial infarction, chronic renal dysfunction (creatinine clearance < 60 mL/min), multi-vessel disease, multiple stents implanted, complex bifurcation lesion, total stent length > 60 mm, chronic total occlusion intervention or bioabsorbable vascular scaffold (BVS) implantation.

DAPT=dual antiplatelet therapy SAPT=single antiplatelet therapy BMS=bare metal stent DES=drug eluting stent

Quelle durée DAPT considérer?

A) > 1 an et ad 3 ans

B) 1 an

C) 6 mois

D) 3 mois

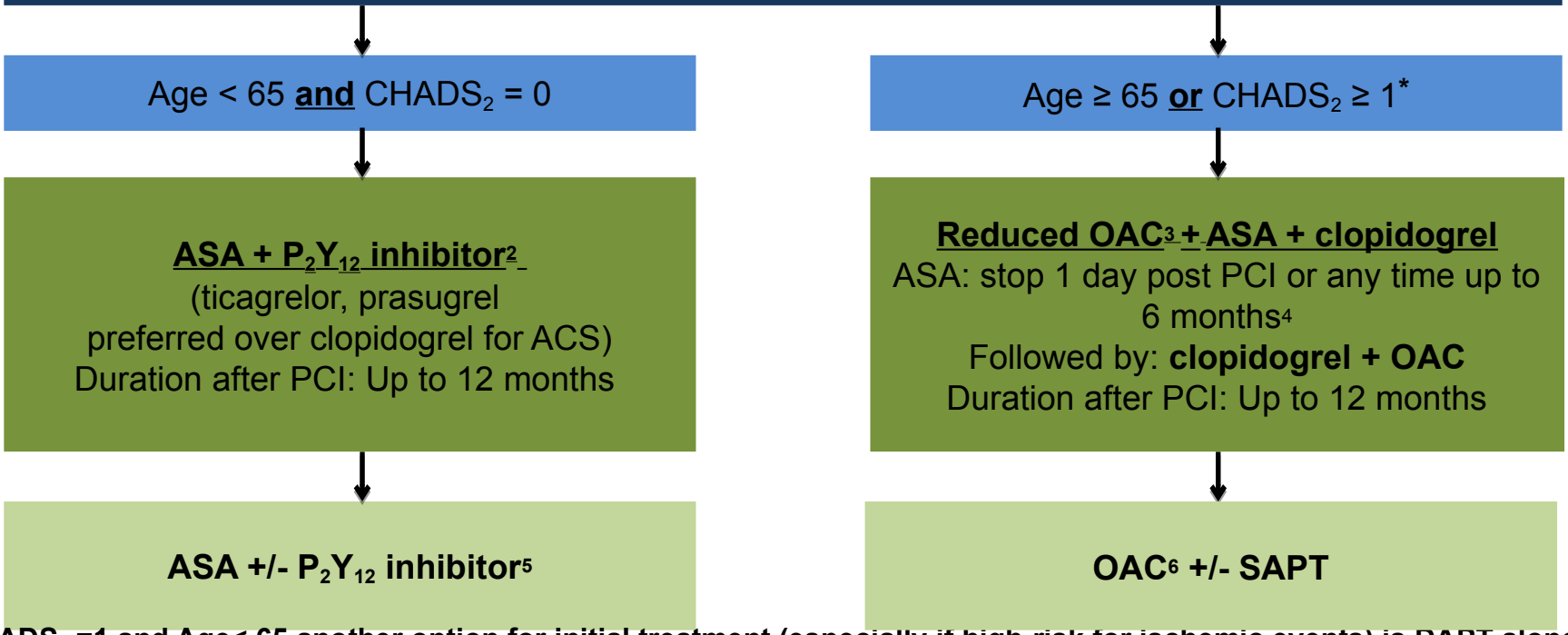
E) 1 mois

Gestion d’un patient qui nécessite une anticoagulation et qui a un tuteur coronarien récent

CAS 3

- 64 ANS
- STEMI ANTÉRIEUR DILATÉ AVEC 1 DES
- TICAGRELOR + ASA
- AU CONGÉ ‘FA DE NOVO’ ET IVG
- CHADS2 = 1 (CHF)
- QUE FAIRE?

AF and PCI for ACS or high-risk[1] elective PCI



***If $CHADS_2$ =1 and Age< 65 another option for initial treatment (especially if high-risk for ischemic events) is DAPT alone using ASA+ticagrelor or ASA+prasugrel, similar to the recommendation for the $CHADS_2$=0 patient**

1. A PCI is considered high-risk based on clinical and angiographic features such as: diabetes, prior ACS, chronic renal dysfunction (creatinine clearance < 60 mL/min), prior stent thrombosis, current smoker, multi-vessel coronary artery disease, multiple stents implanted, complex bifurcation lesion, total stent length > 60 mm, chronic total occlusion intervention or bioabsorbable vascular scaffold implantation.
2. Ticagrelor and prasugrel are recommended in ACS patients, whereas clopidogrel is recommended for elective PCI.
3. Regimens evaluated in the context of triple therapy include rivaroxaban 2.5 mg BID or warfarin. If warfarin is to be used, recommended INR target is 2.0-2.5. OAC options evaluated in the context of a dual pathway strategy include rivaroxaban 15 mg daily (plus clopidogrel) or dabigatran 110 mg/150 mg BID (plus clopidogrel).
4. DAPT will have been started as part of ACS management or prior to high risk elective PCI. ASA may be discontinued as early as the day following PCI or it can be continued longer term (eg. 1, 3 or maximum 6 months after PCI). The timing of when to discontinue ASA will vary, depending on the individual patient's ischemic and bleeding risk.
5. A P_2Y_{12} inhibitor can be added to ASA if high-risk clinical or angiographic features of ischemic events and low risk of bleeding.
6. The dose of OAC beyond 1 year after PCI should be standard stroke prevention doses as per the CCS Atrial Fibrillation Guidelines. Single antiplatelet therapy with either ASA or clopidogrel may be added to OAC if high-risk clinical or angiographic features of ischemic events and low risk of bleeding.

AF: atrial fibrillation; ACS: acute coronary syndrome; ASA: acetylsalicylic acid; OAC: oral anticoagulant; PCI: percutaneous coronary intervention; DAPT: dual antiplatelet therapy; SAPT: single antiplatelet therapy

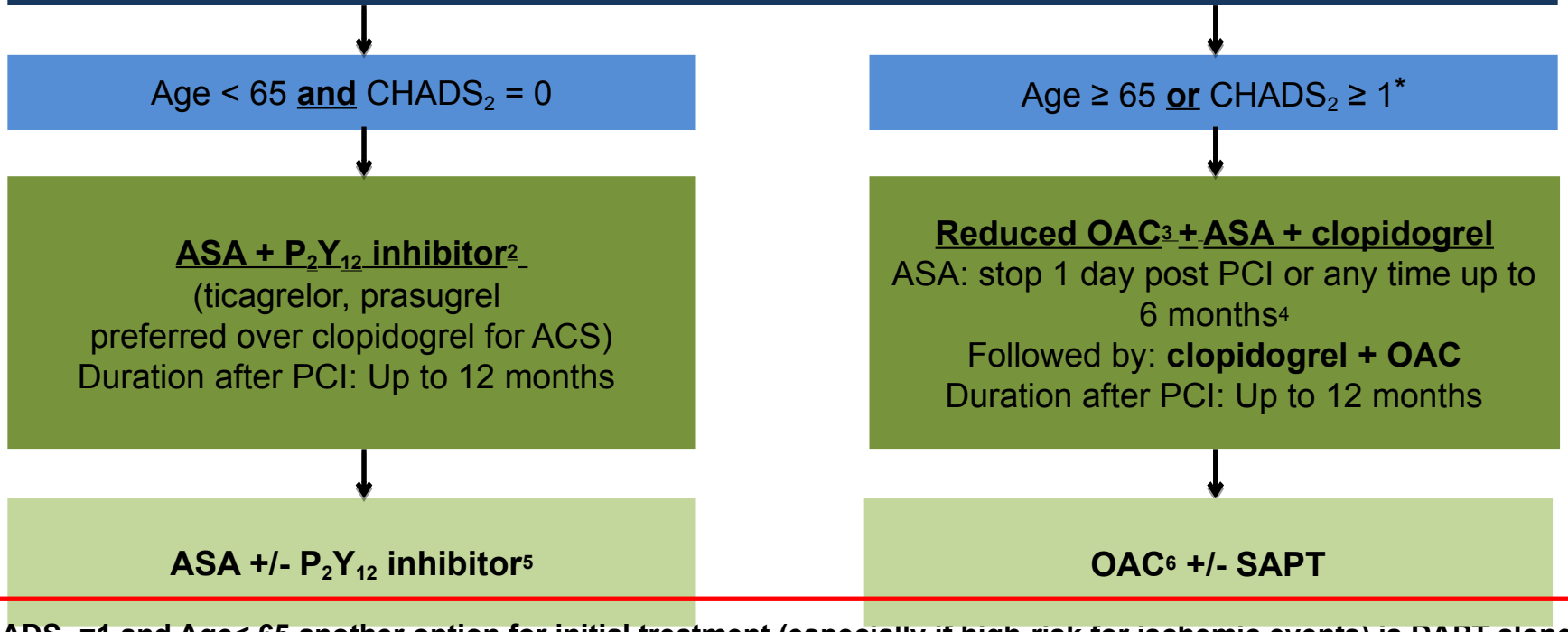
Dual Pathway and Triple Therapy Regimens Evaluated in Clinical Trials

Dual Pathway	Triple Therapy
1. Rivaroxaban 15 mg daily + clopidogrel 75 mg daily[1]	1. Rivaroxaban 2.5 mg BID + ASA 81 mg daily + clopidogrel 75 mg daily[1]
2. Dabigatran 110* or 150 mg BID + clopidogrel 75 mg daily[2]	2. Warfarin (INR 2.0-2.5) + ASA 81 mg daily + clopidogrel 75 mg daily[4]
3. Warfarin + clopidogrel 75 mg daily[3]	

*In the RE-DUAL PCI trial, the 110 mg BID dabigatran dose was associated with a trend to a higher risk of death or thrombotic events (11% versus 8.5%, hazard ratio 1.30, 95% CI 0.98-1.73, P=0.07). This risk was not observed with the 150 mg BID dose (7.9% versus 7.9%, hazard ratio 0.97, 95% CI 0.68-1.39, P=0.44). Therefore, in patients who are not at high risk of bleeding, the dabigatran 150 mg BID dose, when used in combination with clopidogrel 75 mg daily (ASA omitted), may be preferable.

1. PIONEER-AF: Gibson CM et al. NEJM 2016;375:2423]
2. RE-DUAL PCI: Cannon CP et a.l. NEJM 2017; 377:1513-1524
3. WOEST: Dewilde et al., Lancet 2013;381:1107-15
4. ISAR Triple :Fiedler et al . J Am Coll Cardiol 2015;65:1619-29

AF and PCI for ACS or high-risk[1] elective PCI



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CAS CLINIQUE 3

- 64 ANS
- STEMI ANTÉRIEUR DILATÉ AVEC 1 DES
- TICAGRELOR + ASA
- AU CONGÉ ‘FA DE NOVO’ ET IVG
- CHADS2 = 1 (CHF)

- QUE FAIRE?

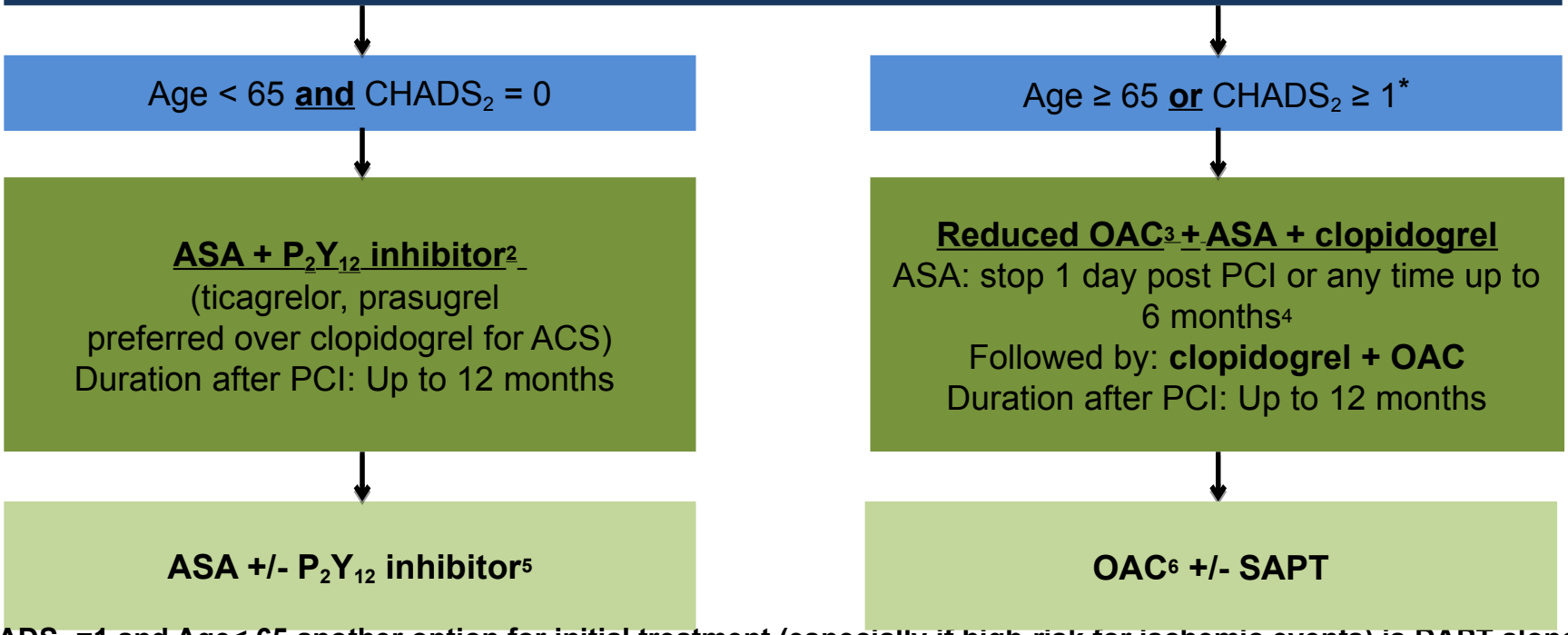
Risque ischémique vs thromboembolique vs saignement

ASA+ticagrelor 6-12 mois puis NOAC + ASA

CAS CLINIQUE 4

- 82 ANS DIABÈTE et HTA
- FA DE LONGUE DATE SOUS APIXABAN 2.5MG BID (POIDS= 55 Kg)
- NSTEMI AVEC TROPONINE 850
- DILATATION AVEC 4 STENTS DONT 1 KISSING IVA-D1
- LE CARDIOLOGUE AIMERAIT TICAGRELOR X12 mois
- ET MEME 24-36 MOIS… (PEGASUS?)
- QUE FAIRE?

AF and PCI for ACS or high-risk[1] elective PCI



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1. A PCI is considered high-risk based on clinical and angiographic features such as: diabetes, prior ACS, chronic renal dysfunction (creatinine clearance < 60 mL/min), prior stent thrombosis, current smoker, multi-vessel coronary artery disease, multiple stents implanted, complex bifurcation lesion, total stent length > 60 mm, chronic total occlusion intervention or bioabsorbable vascular scaffold implantation.
2. Ticagrelor and prasugrel are recommended in ACS patients, whereas clopidogrel is recommended for elective PCI.
3. Regimens evaluated in the context of triple therapy include rivaroxaban 2.5 mg BID or warfarin. If warfarin is to be used, recommended INR target is 2.0-2.5. OAC options evaluated in the context of a dual pathway strategy include rivaroxaban 15 mg daily (plus clopidogrel) or dabigatran 110 mg/150 mg BID (plus clopidogrel).
4. DAPT will have been started as part of ACS management or prior to high risk elective PCI. ASA may be discontinued as early as the day following PCI or it can be continued longer term (eg. 1, 3 or maximum 6 months after PCI). The timing of when to discontinue ASA will vary, depending on the individual patient's ischemic and bleeding risk.
5. A P_2Y_{12} inhibitor can be added to ASA if high-risk clinical or angiographic features of ischemic events and low risk of bleeding.
6. The dose of OAC beyond 1 year after PCI should be standard stroke prevention doses as per the CCS Atrial Fibrillation Guidelines. Single antiplatelet therapy with either ASA or clopidogrel may be added to OAC if high-risk clinical or angiographic features of ischemic events and low risk of bleeding.

AF: atrial fibrillation; ACS: acute coronary syndrome; ASA: acetylsalicylic acid; OAC: oral anticoagulant; PCI: percutaneous coronary intervention; DAPT: dual antiplatelet therapy; SAPT: single antiplatelet therapy

High-risk clinical and angiographic features for thrombotic events

Clinical	Angiographic
Prior myocardial infarction or troponin positive acute coronary syndrome	Multiple stents (≥ 3 stents implanted, ≥ 3 lesions stented)
Diabetes Mellitus treated with oral hypoglycemics or insulin✚	Long lesion length (> 60 mm total stent length)
Chronic kidney disease (creatinine clearance ≤ 60 ml/min)	Complex lesions (bifurcation treated with 2 stents, stenting of chronic occlusion)
Prior stent thrombosis	Left main or proximal LAD stenting
	Multivessel PCI

Factors associated with increased bleeding risk

1.	Need for OAC in addition to DAPT
2.	Advanced age (> 75 years)
3.	Frailty
4.	Anemia with hemoglobin < 110 g/dL
5.	Chronic renal failure (creatinine clearance < 40 mL/min)
6.	Low Body Weight (< 60 kg)
7.	Hospitalization for bleeding within last year
8.	Prior stroke/intracranical bleed
9.	Regular need for NSAIDS or prednisone

Dual Pathway and Triple Therapy Regimens Evaluated in Clinical Trials

Dual Pathway	Triple Therapy
1. Rivaroxaban 15 mg daily + clopidogrel 75 mg daily[1]	1. Rivaroxaban 2.5 mg BID + ASA 81 mg daily + clopidogrel 75 mg daily[1]
2. Dabigatran 110* or 150 mg BID + clopidogrel 75 mg daily[2]	2. Warfarin (INR 2.0-2.5) + ASA 81 mg daily + clopidogrel 75 mg daily[4]
3. Warfarin + clopidogrel 75 mg daily[3]	

*In the RE-DUAL PCI trial, the 110 mg BID dabigatran dose was associated with a trend to a higher risk of death or thrombotic events (11% versus 8.5%, hazard ratio 1.30, 95% CI 0.98-1.73, P=0.07). This risk was not observed with the 150 mg BID dose (7.9% versus 7.9%, hazard ratio 0.97, 95% CI 0.68-1.39, P=0.44). Therefore, in patients who are not at high risk of bleeding, the dabigatran 150 mg BID dose, when used in combination with clopidogrel 75 mg daily (ASA omitted), may be preferable.

1. PIONEER-AF: Gibson CM et al. NEJM 2016;375:2423]
2. RE-DUAL PCI: Cannon CP et a.l. NEJM 2017; 377:1513-1524
3. WOEST: Dewilde et al., Lancet 2013;381:1107-15
4. ISAR Triple :Fiedler et al . J Am Coll Cardiol 2015;65:1619-29

CAS CLINIQUE 4

- 82 ANS DB HTA
- FA CHRONIQUE SOUS APIXABAN 2.5MG BID (POIDS= 55 Kg)
- NSTEMI AVEC TROPONINE 850
- DILATATION AVEC 4 STENTS DONT 1 KISSING IVA-D1
- LE CARDIOLOGUE AIMERAIT TICAGRELOR X12 mois
- ET MEME 24-36 MOIS… (PEGASUS?)
- QUE FAIRE?

  Tous les risques sont élevés

  Minimiser durée triple thérapie: 1-3 mois

  Valeurs et préférences

  IPP et diverses options

  Ticagrelor? (5% PIONEER, 15% ReDual)

  Dose NACO en function études/fonction rénale

Conclusions

- Les lignes directrices 2018 SCC présentent des recommandations/suggestions basées sur les évidences cliniques et opinions d'experts pour la gestions des therapies antiplaquettaires et anticoagulants des patients avec maladie coronarienne et revascularisation.
- Pour décider de la durée de thérapie, une évaluation dynamique des risques hémorragiques et ischémiques est fortement suggérée.
- Pour les patients avec FA et PCI, quelques options de double ou triple therapies sont suggérées considérant les risques emboliques, ischémiques et hémorragiques.

DUAL PATHWAY VS. TRADITIONAL TRIPLE THERAPY:
Evidence from randomized clinical trials

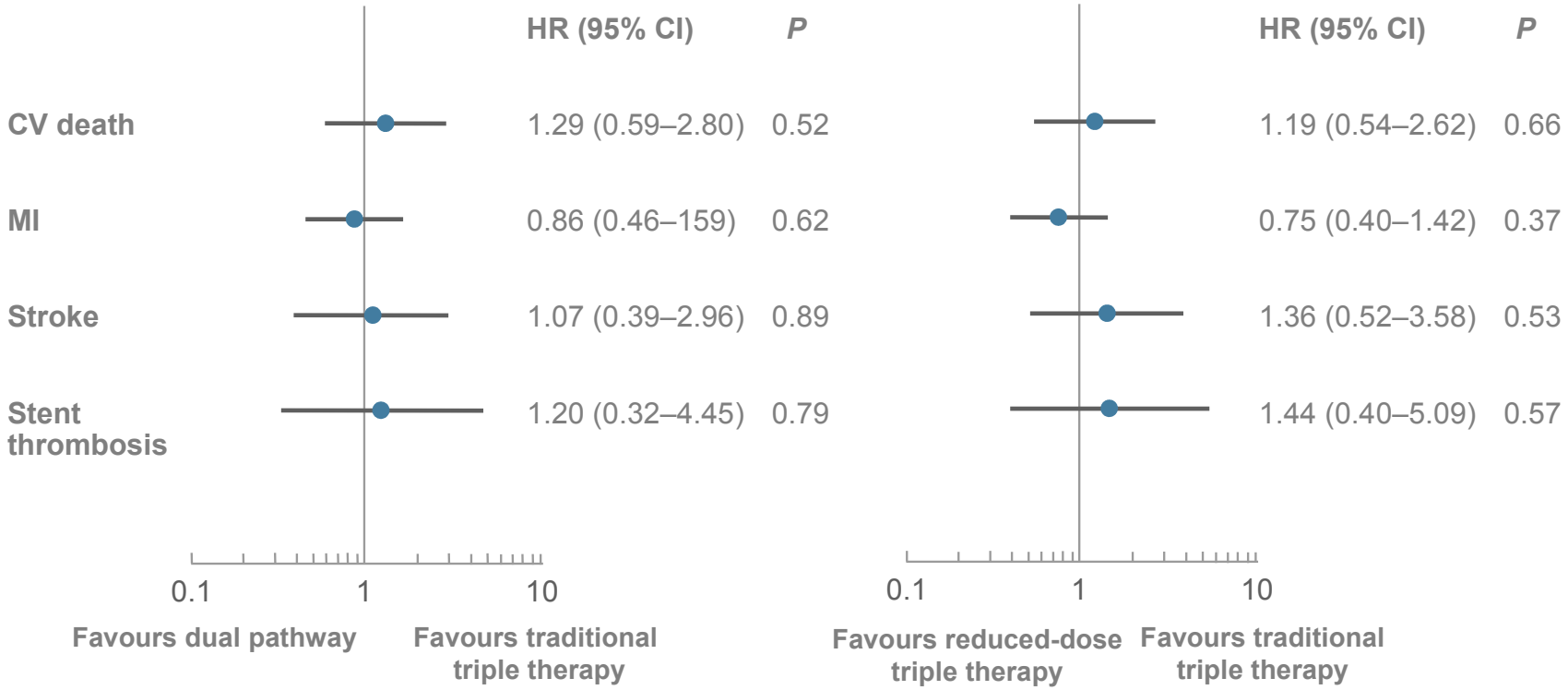
TRIAL	DUAL PATHWAY	TRIPLE THERAPY	BLEEDING OUTCOME	EFFICACY OUTCOME (UNDERPOWERED)
WOEST trial[1] (n = 573)	Warfarin + clopidogrel	Warfarin + ASA + clopidogrel	Dual pathway < triple therapy	Noninferior (combined endpoint)
ISAR-TRIPLE[2*] (n = 614)	VKA + ASA	VKA + ASA + clopidogrel	Dual pathway < triple therapy from week 6 onward (underpowered post hoc landmark analysis)	No difference in primary or composite ischemic endpoints
PIONEER[3] **AF-PCI** (n = 2124)	Rivaroxaban (15 mg QD) + clopidogrel†	Rivaroxaban (2.5 mg BID) + ASA + clopidogrel† VKA + ASA + clopidogrel*	Rivaroxaban (either dual pathway or vascular dose triple therapy) < traditional triple therapy	Noninferior
RE-DUAL PCI[4] (n = 2725)	Dabigatran (110 or 150 mg BID) + $P2Y_{12}$ inhibitor‡	Warfarin + ASA + $P2Y_{12}$ inhibitor‡	Dual pathway < triple therapy	Noninferior for thromboembolic events

***Post hoc landmark analysis** (six weeks to nine months); † ≤15% of patients received ticagrelor or prasugrel; ‡clopidogrel or ticagrelor
ASA, acetylsalicylic acid; BID, twice daily; QD, once daily; VKA, vitamin K antagonist

1. Dewilde WJ *et al. The Lancet* 2013; 381:1107-15. 2. Fiedler KA *et al. J Am Coll Cardiol* 2015; 65:1619-29.
3. Gibson *et al. N Engl J Med* 2016; 375:2423-34. 4. Cannon CP *et al. N Engl J Med* 2017; 377:1513-24.

PIONEER AF-PCI TRIAL:

Other secondary efficacy outcomes were similar across all three groups (trial not powered for efficacy)



- Dual pathway – anticoagulant dose rivaroxaban (15 mg QD) + $P2Y_{12}$ inhibitor for 12 months
- Vascular dose triple therapy – vascular dose rivaroxaban (2.5 mg BID) + DAPT for 1, 6 or 12 months
- Traditional triple therapy (VKA + DAPT)

Data from separate trials; not intended for direct cross-trial comparison

BID, twice daily; CI, confidence interval; CV, cardiovascular; DAPT, dual antiplatelet therapy; HR, hazard ratio; MI, myocardial infarction ; QD, once daily; VKA, vitamin K antagonist

Gibson *et al. N Engl J Med* 2016; 375:2423-34.

RE-DUAL TRIAL:

Numerically higher rate of secondary endpoints with 110 mg dose (trial not powered for efficacy)

RE-DUAL Secondary Efficacy Endpoints				
Group	Dual Therapy (dabigatran, 110 mg) vs. Triple Therapy (warfarin)			
Endpoint	110 mg dual pathway N = 981	Traditional triple therapy N = 981	HR (95% CI)	*P* value
	N (%)			
Composite MACE	149 (15.2)	131 (13.4)	1.13 (0.90–1.43)	0.30
Thromboembolic events or death	108 (11.0)	83 (8.5)	1.30 (0.98–1.73)	0.07
Death	55 (5.6)	48 (4.9)	1.12 (0.76–1.65)	0.56
MI	44 (4.5)	29 (3.0)	1.51 (0.94–2.41)	0.09
Stroke	17 (1.7)	13 (1.3)	1.30 (0.63–2.67)	0.48

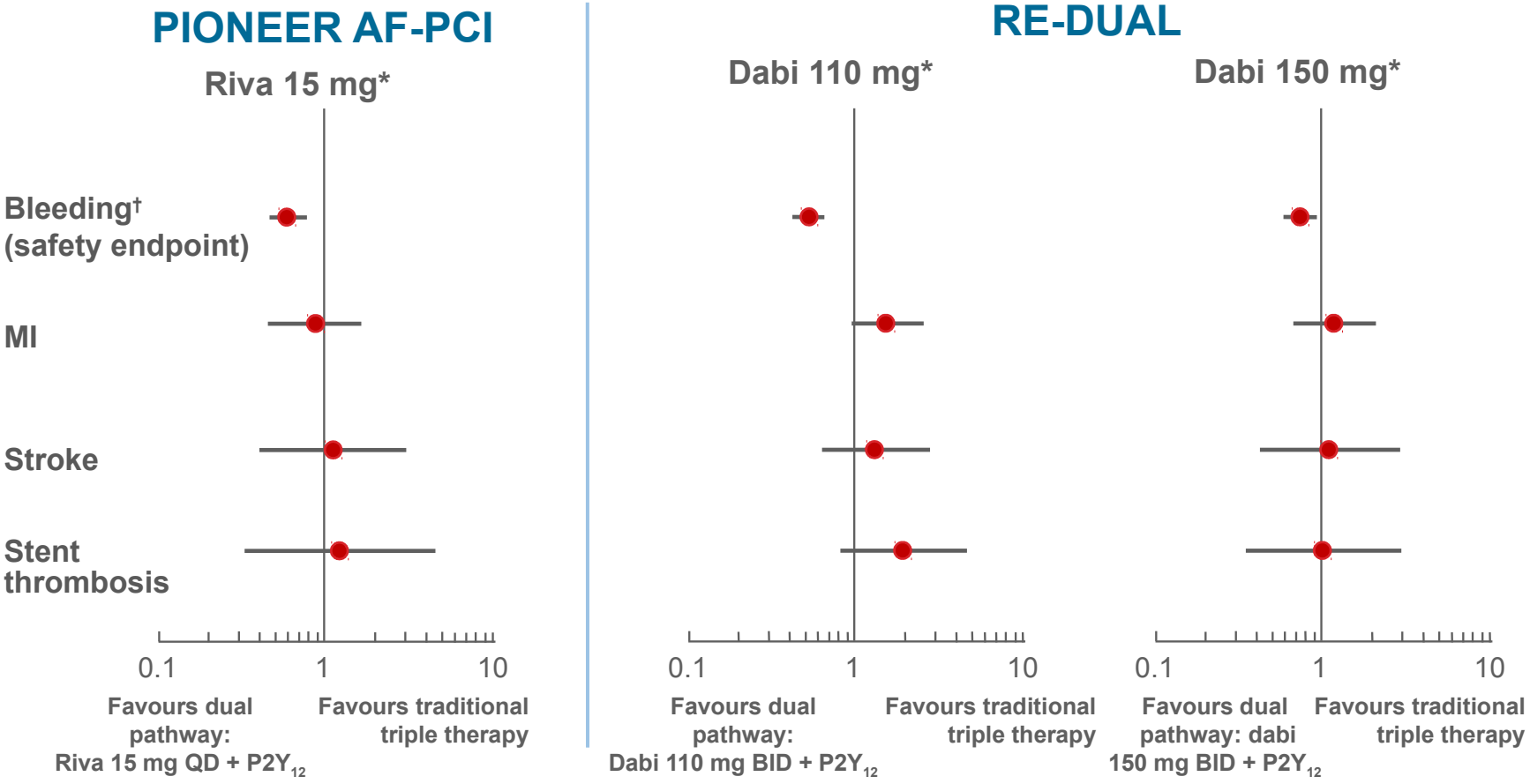
Major adverse cardiac event: a composite of thromboembolic events, death, or unplanned revascularization

HR, hazard ratio; MI, myocardial infarction; MACE, major adverse cardiac event; NI, noninferiority

Cannon CP *et al*. *N Engl J Med* 2017; 377:1513-24.

BACK TO TRIALS

COMPARING THE DUAL PATHWAY VS. TRADITIONAL TRIPLE THERAPY



*in combination with a single $P2Y_{12}$ inhibitor. Data from separate trials; not intended for direct cross-trial comparison.

† RE-DUAL: ISTH major + clinically relevant nonmajor bleeding. PIONEER AF-PCI: clinically significant bleeding (TIMI major + TIMI minor + bleeding requiring medical attention)

AF, atrial fibrilation; BID, twice daily; Dabi, Dabigatran; MI, myocardial infarction; PCI, percutaneous coronary intervention; QD, once daily; Riva, rivaroxaban

Gibson *et al. N Engl J Med* 2016; 375:2423-34. Cannon CP *et al*. *N Engl J Med* 2017; 377:1513-24.

2018 CCS/CAIC UPDATE APT GUIDELINES

PATIENTS WITH AF UNDERGOING PCI

Patients who have concomitant AF and symptomatic CAD receive a regimen of antithrombotic therapy that is based on a balanced assessment of their risk of*:

Ischemic stroke

Future coronary event(s)

Clinically significant bleeding associated with the use of antithrombotic agents

*strong recommendation

AF, atrial fibrillation; APT, antiplatelet therapy; CAD, coronary artery disease; CAIC, Canadian Association of Interventional Cardiology; CCS, Canadian Cardiovascular Society; PCI, percutaneous coronary intervention

2018 CCS/CAIC Focused Update of the Guidelines for the Use of Antiplatelet Therapy. *Can J Cardiol 2018; 34:214-33.*