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Duration of DAPT after PCI

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No conflicts or disclosures

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Case #1

A 70 year old man presents with hemoptysis and a new lung opacity. Bronchoscopy reveals endobronchial tumor and right upper lobe resection is recommended. Three months earlier he had PCI in setting of new onset angina with drug-eluting stents placed in the RCA and mid LAD. He is maintained on ASA 81-mg and clopidogrel 75-mg daily. The thoracic surgeon is reluctant to operate on DAPT. What would you recommend?

- A. Stop both ASA and clopidogrel
- B. Stop clopidogrel
- C. Surgery should be delayed for 3 months
- D. Stop clopidogrel and admit for Integrilin infusion for 4 days prior to surgery
- E. Perform stress test and, if negative, stop clopidogrel

Case #2

A 59 yr old woman had PCI with 2 drug-eluting (everolimus) stents in her LCx and RCA 12 months ago and is on ASA and clopidogrel. Her medical history includes well-controlled hypertension and diabetes mellitus for which she takes metformin. She has noticed easy bruising and occasional bleeding when brushing her teeth. She also wants to continue her regular winter downhill skiing. She asks whether it is necessary to continue taking clopidogrel.

What would you advise?

- A. Continue clopidogrel
- B. Discontinue clopidogrel

Which of the following is associated with longer-term continuation of clopidogrel?

- A. Improved survival
- B. Lower risk of MI
- C. Less repeat revascularization
- D. Lower risk of CVA
- E. All of the above

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Dual antiplatelet therapy (DAPT) post PCI

Minimum duration 12 months

FDA recommendation in 2005

Guideline recommendation (DES and BMS)

Arbitrary and without supportive data

DAPT study – DES only

	30 months DAPT	12 months DAPT	P value
Stent thrombosis	0.4%	1.4%	<0.001
MACCE	4.3%	5.9%	<0.001
Myocardial infarction	2.1%	4.1%	<0.001
Death	2.0%	1.5%	0.05
Moderate or severe bleeding	2.5%	1.6%	0.001

Everolimus DES: MACCE similar; ST reduced from 0.7% to 0.3%

No difference seen with BMS (underpowered?)*

DAPT Trial: 30 vs 12 months of DAPT

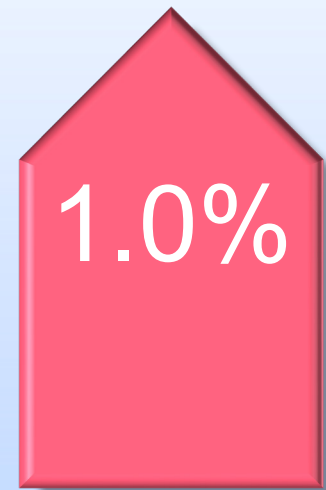
MACCE



Stent
thrombosis



Mod or major
Bleeding



Clarity or confusion?

Multiple Meta-analyses

DAPT treatment duration and outcomes

Summary

12 months no better than 3 or 6 months but more major bleeding

Prolonged >12 months

- Less ischemic events

- Less stent thrombosis

- More major bleeding

- More all cause deaths

Palmerini T: JACC 2015; Navarese EP: BMJ 2015; Palmerini T: Lancet 2015

Mortality in patients treated with extended duration dual antiplatelet therapy after drug-eluting stent implantation: a pairwise and Bayesian network meta-analysis of randomised trials



Tullio Palmerini, Umberto Benedetto, Letizia Bacchi-Reggiani, Diego Della Riva, Giuseppe Biondi-Zoccai, Fausto Feres, Alexandre Abizaid, Myeong-Ki Hong, Byeong-Keuk Kim, Yangsoo Jang, Hyo-Soo Kim, KyungWoo Park, Philippe Genereux, Deepak L Bhatt, Carlotta Orlandi, Stefano De Servi, Mario Petrou, Claudio Rapezzi, Gregg W Stone

Shorter DAPT

Significantly lower all-cause mortality NNT = 325
and

Significantly lower non-cardiac mortality NNT = 347

D Della Riva MD, C Rapezzi MD, C Orlandi MD; Oxford Heart

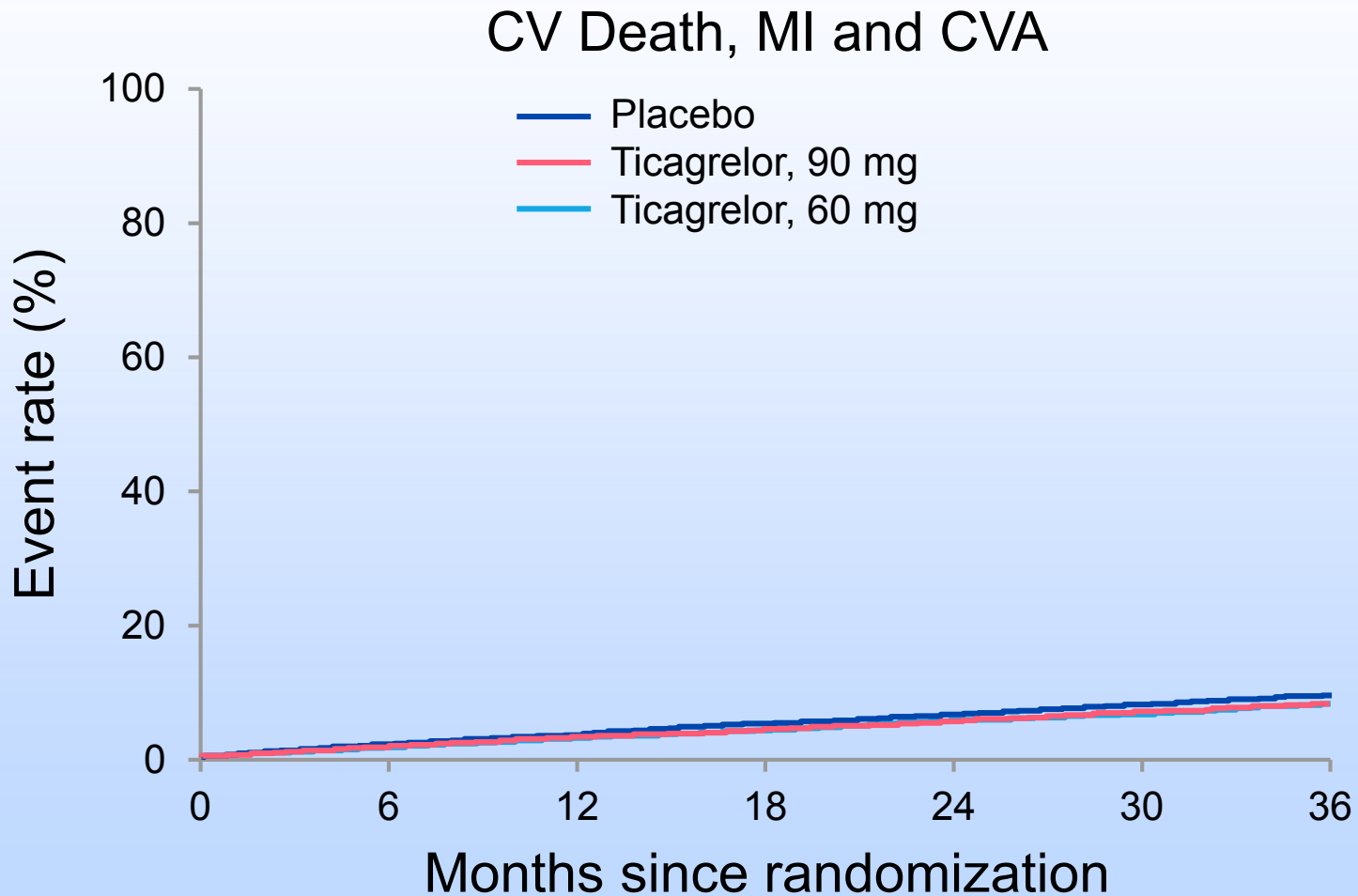
Conclusions

“...DAPT beyond 1 year after DES reduces myocardial infarction and stent thrombosis but is associated with higher mortality because of increased risk of non-CV mortality not offset by a reduction in cardiac mortality”

Palmerini T: Lancet 2015

Long-Term Ticagrelor After Prior MI

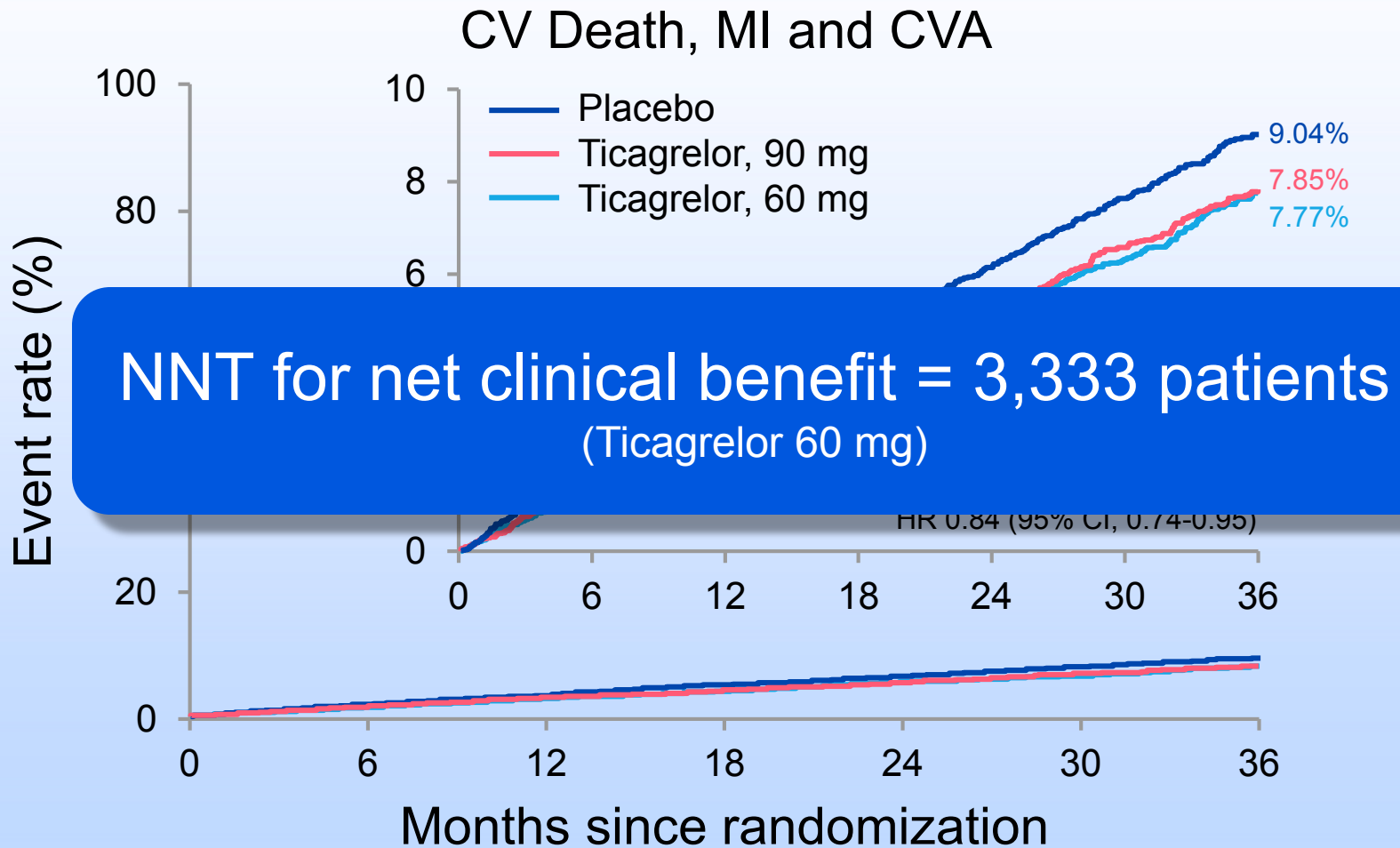
PEGASUS-TIMI 54 Trial



Bonaca MP: NEJM, 2015

Long-Term Ticagrelor After Prior MI

PEGASUS-TIMI 54 Trial



Bonaca MP: NEJM, 2015

Longer- Versus Shorter-Duration Dual-Antiplatelet Therapy After Drug-Eluting Stent Placement

A Systematic Review and Meta-analysis

Frederick A. Spencer, MD; Manya Prasad, MBBS; Per O. Vandvik, MD, PhD; Devin Chetan, HBA; Qi Zhou, PhD; and Gordon Guyatt, MD

Background: The appropriate duration of dual-antiplatelet therapy (DAPT) after drug-eluting stent (DES) placement remains controversial.

Purpose: To summarize data on clinical outcomes with longer-versus shorter-duration DAPT after DES placement in adults with coronary artery disease.

Data Sources: Ovid MEDLINE and EMBASE, 1996 to 27 March 2015, and manual screening of references.

Study Selection: Randomized, controlled trials comparing longer- versus shorter-duration DAPT after DES placement.

Data Extraction: Two reviewers screened potentially eligible articles; extracted data on populations, interventions, and outcomes; assessed risk of bias; and used the Grading of Recommendations Assessment, Development and Evaluation guidelines to rate overall confidence in effect estimates.

Data Synthesis: Among 1010 articles identified, 9 trials including 29 531 patients were eligible; data were complete for 28 808 patients. Moderate-quality evidence showed that longer-

duration DAPT decreased risk for myocardial infarction (risk ratio [RR], 0.73 [95% CI, 0.58 to 0.92]) and increased mortality (RR, 1.19 [CI, 1.04 to 1.36]). High-quality evidence showed that DAPT increased risk for major bleeding (RR, 1.63 [CI, 1.34 to 1.99]).

Limitation: Confidence in estimates were decreased owing to imprecision for most outcomes (particularly myocardial infarction), risk of bias from limited blinding in 7 of 9 studies, indirectness due to variability in use of first- and second-generation stents, and off-protocol use of DAPT in some studies.

Conclusion: Extended DAPT is associated with approximately 8 fewer myocardial infarctions per 1000 treated patients per year but 6 more major bleeding events than shorter-duration DAPT. Because absolute effects are very small and closely balanced, decisions regarding the duration of DAPT therapy must take into account patients' values and preference.

Primary Funding Source: None.

Ann Intern Med. 2015;163:118-126. doi:10.7326/M15-0083 www.annals.org
For author affiliations, see end of text.

This article was published online first at www.annals.org on 26 May 2015.

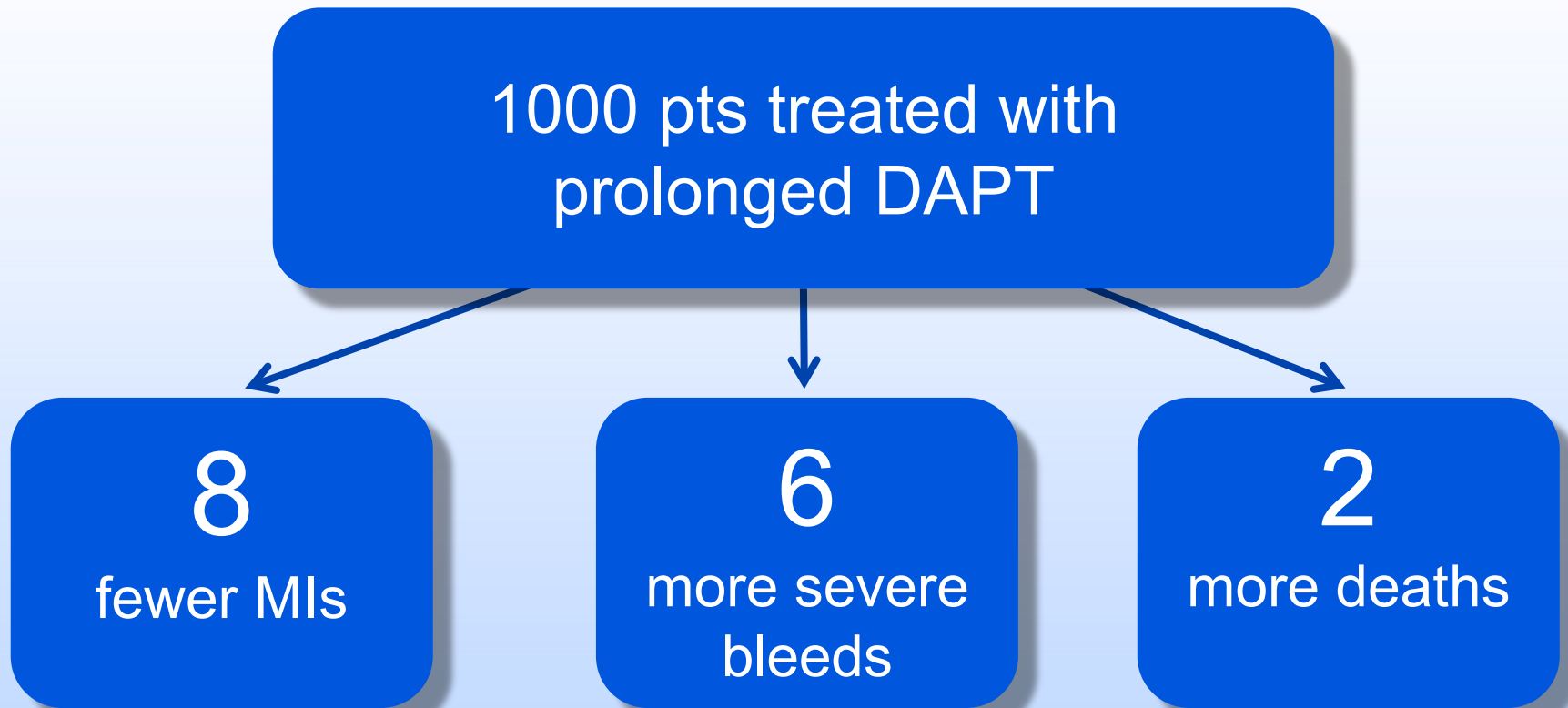
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Choosing short or long duration DAPT

Meta analysis



DAPT duration after PCI

Conclusions

Optimal DAPT duration remains matter for debate

Balancing ischemic benefit against bleeding risk

Shorter duration for low risk patients?

Prolonged duration for high risk patients?but who are they?

Excess mortality with extended DAPT

Real or not?

Shared decision making with patient



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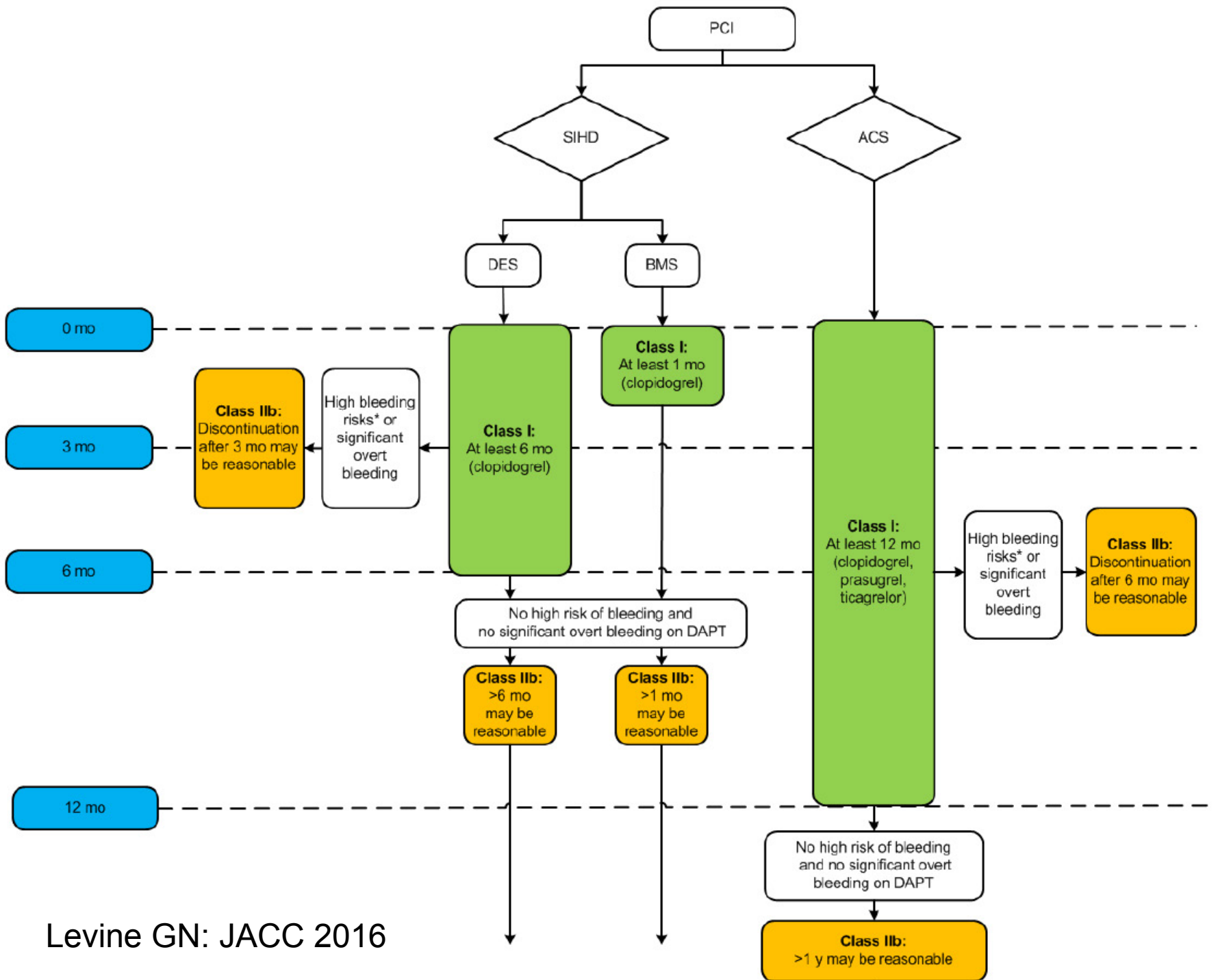
Practice Guideline: Focused Update | March 2016

2016 ACC/AHA Guideline Focused Update on Duration of Dual Antiplatelet Therapy in Patients With Coronary Artery Disease

A Report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines

Hesitant on recommending prolonged DAPT:
Class IIb

L. Kristin Newby, MD, MHS, FACC, FAHA; Patrick T. O’Gara, MD, FACC, FAHA; Marc S. Sabatine, MD, MPH, FACC, FAHA; Peter K. Smith, MD, FACC; Sidney C. Smith, Jr., MD, FACC, FAHA



Levine GN: JACC 2016



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