Dual Anti-platelet Therapy (DAPT) in 2019
Is aspirin giving us headaches?

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No conflicts to disclose
A Balancing Act

Longer, more intense DAPT

Ischemic Events

DAPT after PCI

Shorter, less intense DAPT

Major Bleeding
Stent thrombosis and ischemic events


- Factors that increase risk
  - Premature withdrawal of P2Y12 agent
  - Greater lesion complexity (higher SYTNAX score)
  - Greater patient complexity (smoking, diabetes, CKD, LVEF < 40%, age ≥ 75 y)
  - ACS versus stable angina setting

- Factors that decrease risk
  - Use of second generation DES (vs. BMS or first generation DES)
  - Maximal platelet inhibition at the time of DES deployment
  - Better patient compliance with GDMT
  - Optimal stent apposition
Major bleeding events


• Factor that increase risk
  • Increased medical complexity (diabetes, CKD, liver disease, LVEF < 40%)
  • Need for concurrent anticoagulation
  • Increased bleeding risk (prior GI bleeding, chronic aspirin or steroid use)
  • Female sex

• Factors that decrease risk
  • Proton pump inhibitor use in patients at increased bleeding
  • Use of radial versus femoral arterial access
  • Age ≤ 65 years
  • Normal BMI
ACC/AHA 2016 Guideline Focused Update on Duration of Dual Antiplatelet Therapy in Patients with Coronary Artery Disease

Aspirin Effects Beyond the Platelet

**COX-1 inhibition:**
- Peptic ulcers
- GI bleeding

**COX inhibition:**
- Na & water retention
- Hypertension
- Hemodynamic acute kidney injury

**Arachidonic Acid**
- GI mucosa (COX-1)
- Kidney (COX-1 & 2)
- Cardiovascular (COX-1 & 2)

**PGE₂:**
- Gastric protection
- ↑ mucus secretion
- ↑ bicarbonate
- ↑ mucosal blood flow

**PGE₂ & PGI₂:**
- Afferent arteriolar vasodilation (↑GFR)
- ↑ Na & water excretion

**PGI₂ & TXA₂:**
- Vascular (COX-2: PGI₂):
  - Vasodilation
  - Inhibit platelet aggregation
- Platelet (COX-1: TXA₂):
  - Platelet aggregation
  - Vasoconstriction

**COX-2 > COX-1 inhibition:**
- Stroke
- Myocardial infarction
STOPDAPT-2

#ACC19

Trial Description: Patients undergoing PCI were randomized to 1 month of DAPT followed by clopidogrel monotherapy for 5 years versus 12 months of DAPT followed by aspirin monotherapy for 5 years.

RESULTS

- Primary outcome, death, MI, stent thrombosis, stroke, TIMI major/minor bleeding at 1 year: 2.4% of 1-month DAPT group compared with 3.7% of 12-month DAPT group (p for superiority = 0.04)
- Death, MI, stent thrombosis, or stroke at 1 year: 2.0% of 1-month DAPT group compared with 2.5% of 12-month DAPT group (p for noninferiority = 0.005)

CONCLUSIONS

- Among patients undergoing PCI for stable and unstable cardiovascular disease, 1-month DAPT followed by clopidogrel monotherapy was superior to 12-month DAPT followed by aspirin monotherapy at preventing net adverse clinical events
- 1-month DAPT was noninferior to 12-month DAPT at preventing major adverse ischemic events

Presented by Dr. Hirotoshi Watanabe at ACC 2019
Trial Description: Patients undergoing DES-PCI were randomized in a 1:1 fashion to either dual antiplatelet therapy (DAPT) for 3 months followed by P2Y12 inhibitor monotherapy for 9 months, or DAPT for 12 months. They were followed for 1 year.

RESULTS
- Primary endpoint: MACCE (death, MI, stroke) at 12 months, for 3- vs. 12-month DAPT: 2.9% vs. 2.5%, p for noninferiority = 0.007; p for superiority = 0.46
- Death: 1.4% vs. 1.2%, p = 0.61; MI: 0.8% vs. 1.2%, p = 0.28; stent thrombosis: 0.2% vs. 0.1%, p = 0.65
- Bleeding BARC 2-5: 2.0% vs. 3.4%, p = 0.02

CONCLUSIONS
- 3 months of DAPT followed by P2Y12 inhibitor use as monotherapy for 9 months is noninferior to 12 months of DAPT among unselected patients undergoing PCI with a DES; bleeding was lower with this strategy
- Interesting findings, adds to other trials seeking to drop aspirin rather than the P2Y12 inhibitor as antiplatelet agent long-term; outcomes may be different among patients with ACS vs. stable ischemic heart disease

Presented by Dr. Joo-Yong Hahn at ACC 2019
Applicability?

• Asian vs. US population?
  • BMI
  • Variance in drug metabolism
  • Health care delivery

• Stable vs. ACS patient enrollment?

• Different practice patterns?
  • Routine use of post PCI intracoronal imaging
  • Greater use of clopidogrel
Conclusions

• These studies add to the growing body of evidence supporting the safety of shorter duration DAPT therapy following PCI.

• These studies make a credible argument that post-DAPT monotherapy with a P2Y12 inhibitor (clopidogrel in particular) is as effective as aspirin monotherapy but with the possible benefit of reduced bleeding risk.