Review: After PCI in AF, OACs plus single vs dual antiplatelets reduce major bleeding; no difference for MACE

Clinical impact ratings: ★★★★★★☆ ★★★★★★☆

Question
After percutaneous coronary intervention (PCI) in atrial fibrillation (AF), what are the safety and efficacy of adding single antiplatelet therapy (SAPT) vs dual antiplatelet therapy (DAPT) to oral anticoagulants (OACs)?

Review scope
Included studies compared OACs plus SAPT with OACs plus DAPT after PCI in patients ≥18 years of age with AF, and reported ≥1 outcome of interest. Exclusion criteria included use of OACs for indications other than AF. Primary safety outcome was major bleeding, and primary efficacy outcome was a composite of major adverse cardiovascular events (myocardial infarction, stroke, or all-cause mortality). Secondary outcomes were components of the composite outcome and minor bleeding.

Review methods
MEDLINE, EMBASE/Excerpta Medica, and CENTRAL to Oct 2017, and reference lists were searched for full-text comparative studies. 9 studies ((n = 12,940)*, mean age 72 y, 75% men, mean follow-up 12 mo) met inclusion criteria: 4 randomized controlled trials (RCTs, (n = 6026)*) and 5 observational studies (n = 6,914). For antiplatelet drugs, 84% of patients received aspirin, 55% clopidogrel, 12% ticagrelor, and 0.13% prasugrel. For OACs, 4 studies used vitamin K antagonists, 1 rivaroxaban, 1 dabigatran, and 3 did not specify the OACs used. The 4 RCTs had low risk for bias for allocation concealment and outcome assessment and high risk for bias for blinding (Cochrane assessment tool). 4 of the 5 observational studies were rated as good quality (>6 out of 8 on the Newcastle-Ottawa Scale).

Main results
The main results are in the Table.

Conclusion
After percutaneous coronary intervention in patients with atrial fibrillation receiving oral anticoagulation, single vs dual antiplatelet therapy reduces major bleeding, with no difference for major adverse cardiovascular events.

*Information confirmed by author.

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Commentary
Decisions in medicine must weigh expected benefits against projected costs (both economic and adverse effects). RCTs have shown that the cost–benefit calculus in AF favors systemic oral anticoagulation to prevent cardioembolic stroke, despite the risk for major hemorrhage. Both RCTs and observational studies of large cohorts support SAPT after PCI with stents in AF to prevent stent thrombosis and MI.

The current American College of Cardiology (ACC)/American Heart Association (AHA)/Heart Rhythm Society (HRS) guideline recommends that patients with AF undergoing PCI receive DAPT (aspirin plus a P2Y12 inhibitor, such as clopidogrel) in addition to an OAC (1). However, this recommendation was heavily influenced by observational studies of cohorts in registries. Khan and colleagues conducted a meta-analysis that separately analyzed observational studies and multicenter, prospective RCTs. Analysis restricted to the 4 available RCTs—all large and high quality—found that an OAC plus SAPT provided protection against MACE, including MI and stroke, that was comparable to anticoagulation plus DAPT but with less major bleeding. This finding was affirmed by 4 similar, recently published meta-analyses (2-5).

Current evidence calls for a revised ACC/AHA/HRS recommendation for antithrombotic therapy: an OAC plus SAPT in patients with AF having PCI.

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References