

Approach to Anticoagulation Therapy in Patients with Combined Atrial Fibrillation and Coronary Artery Stents: A Review of the Literature

Benjamin Borokhovsky¹, MD

¹Lehigh Valley Health Network, Allentown PA

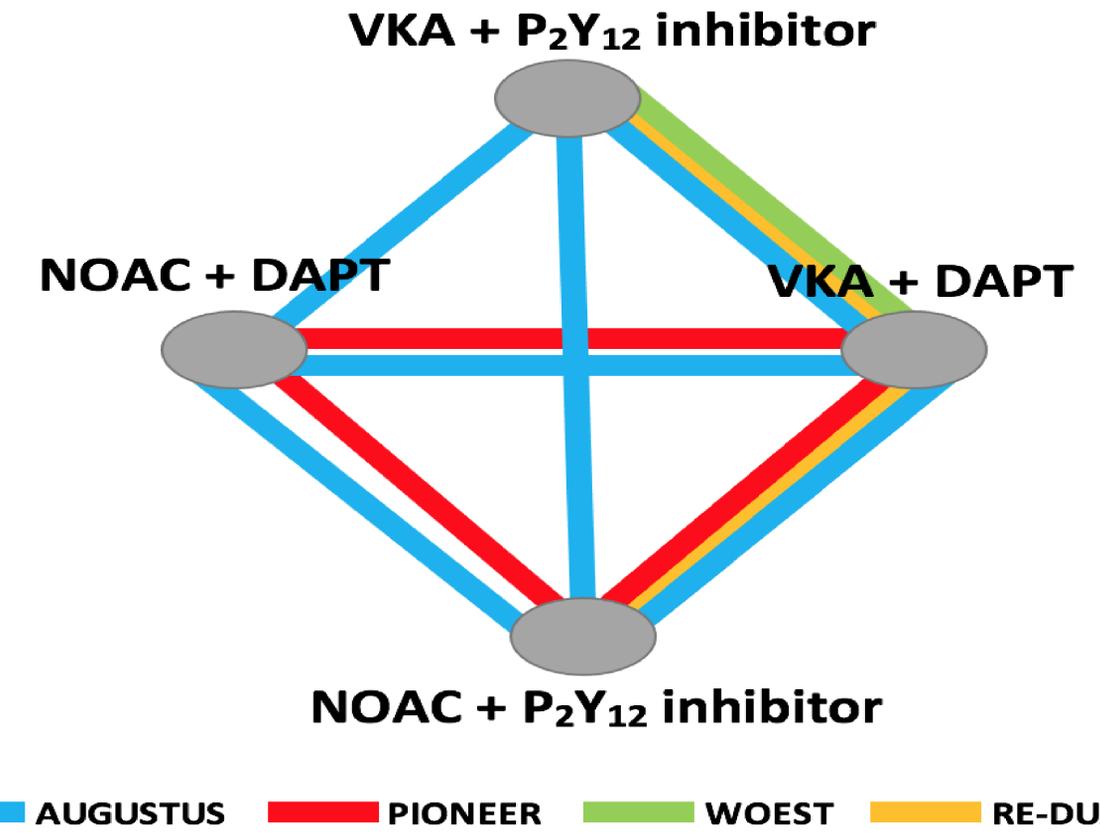
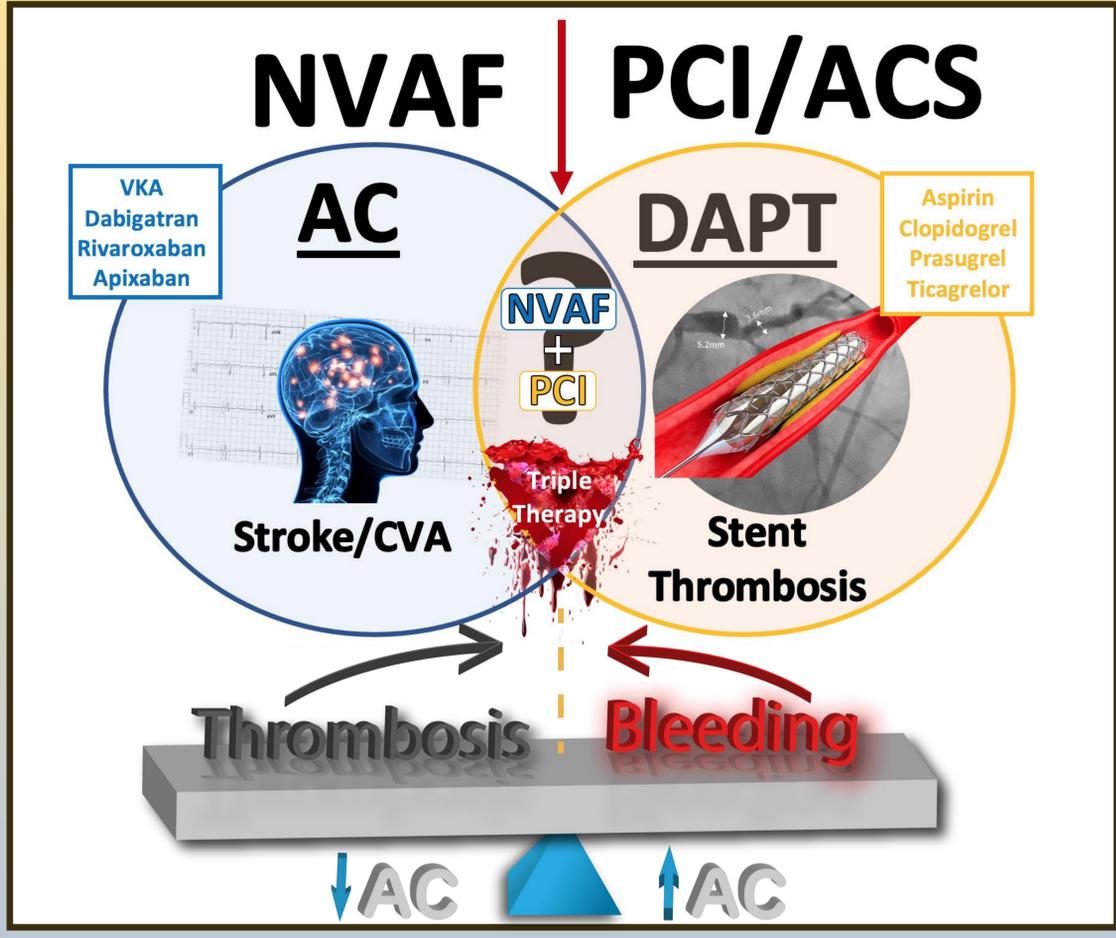


Introduction

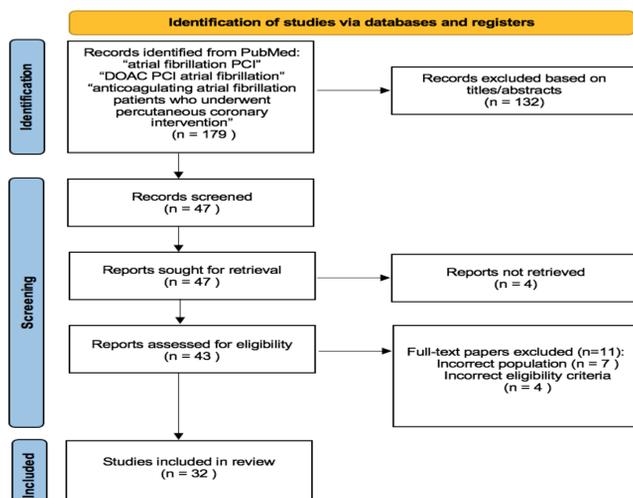
- The most common cardiac arrhythmia is AF and it is estimated that 2.2-5 million Americans experience AF, which is an irregularly irregular heart beat characterized by lack of synchrony of atrial cells due to disorganized atrial electrical activity.
- The most common thromboembolic event in AF is stroke and 36% of all strokes in 80-89yo are attributed to AF, as AF is associated with a 5-fold increase in risk of CVA and 2-fold increase in all-cause mortality.
- Furthermore, patients with coronary artery disease (CAD) who undergo percutaneous coronary intervention (PCI) and placement of an intracoronary stent also need to prevent pathologic thrombus formation.
- Interventional cardiologists devised therapies to prevent thrombus formation on stents after successful PCI by using DAPT; however, DAPT increases the risk of systemic bleeding.
- Patients with AF on oral AC therapy may require PCI with use of DAPT
- 1/3 of AF patients will undergo PCI and 10% of PCI patients also have underlying AF.
- Combined antithrombotic therapy with oral AC plus DAPT puts the patient at increased risk of bleeding while subtherapeutic regimens increase the risk of ischemic events.
- Since these patients have 2 conditions requiring different anticoagulation strategies, should they be on a merged regimen of the two scenarios above called triple therapy (TT) with ASA, P₂Y₁₂ inhibitor, and DOAC?

Objectives

Current guidelines state that for thrombosis prevention in patients who underwent PCI, DAPT therapy is indicated with ASA and a P₂Y₁₂ inhibitor. However, for stroke prevention in patients with AF, the recommended form of anticoagulation is with DOACs. The question now remains **what anticoagulation is required for patients who have AF and also have a recently placed coronary artery stent.** Since these patients have 2 conditions requiring different anticoagulation strategies, should they be on a merged regimen of the two scenarios above called triple therapy (TT) with ASA, P₂Y₁₂ inhibitor, and DOAC?



Methods



Trial Results

- WOEST – P₂Y₁₂i + P₂Y₁₂i + ASA, addition of ASA associated ↑ bleeding
- PIONEER – (R + P₂Y₁₂i)/(R + DAPT) > VKA + DAPT, R + P₂Y₁₂i/DAPT ↓ bleeding
- RE-DUAL – (Dab + DAPT) > TT w/warfarin, Dab + DAPT ↓ bleeding
- AUGUSTUS – Apix + P₂Y₁₂i > VKA + P₂Y₁₂i ± ASA, Apix w/o ASA ↓ bleeding

Conclusion

The combination of VKA with DAPT had a significantly increased amount of bleeding. The combination of a DOAC with SAPT demonstrated the lowest risk of bleeding with no significant increase in MACE. In other words, triple anticoagulant therapy can be streamlined by dropping aspirin and patients with AF and PCI can be safely managed with **DOAC plus a P₂Y₁₂ inhibitor** alone.

References + Acknowledgements

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NVAF: non-valvular atrial fibrillation, AF: atrial fibrillation, PCI: percutaneous coronary intervention, DAPT: dual anti-platelet therapy, ASA: aspirin, R: Rivaroxaban, Dab: Dabigatran, A: Apixaban, AC: anticoagulation, VKA: vitamin K antagonist, N/DOAC: novel/direct oral anticoagulation, MACE: major adverse cardiac events, SAPT: single anti-platelet therapy