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Bridging Anticoagulation in Patients with Atrial Fibrillation Associated with More Cardiovascular Events and Bleeding

Clinical Question

Does bridging anticoagulation during a procedure improve or worsen patient-oriented outcomes?

Bottom Line

This study provides more evidence that bridging in patients with nonvalvular atrial fibrillation does not improve outcomes, and is actually associated with a higher risk of bleeding complications and cardiovascular events. (Level of Evidence = 2b)

Synopsis

Bridging anticoagulation substitutes an anticoagulant that is slower to reverse (such as warfarin [Coumadin]) with one that is easily reversed in case of emergency (heparin) in patients undergoing a surgical procedure. But does all that hassle really improve outcomes? A recent randomized trial in patients undergoing placement of a pacemaker found that bridging anticoagulation led to worse outcomes (<http://www.essentialevidenceplus.com/content/poem/150701> [subscription required]).

In the current study, researchers used a large registry that follows patients who receive anticoagulation for nonvalvular atrial fibrillation. The registry has data on 10,132 patients; after excluding those not using an oral anticoagulant, there were 7,372 in the study population who underwent 2,803 interruptions. The most common indications were for noncardiac surgery (27%), endoscopy (18%), and other procedures (25%). Approximately three-fourths did not use bridging anticoagulation, whereas the remainder did. The CHA₂DS₂-VASc score was similar between groups. Bridging was more often used for patients undergoing cardiac procedures and less often for those undergoing dental procedures or endoscopy. Although the patients who bridged were generally similar to those who did not in terms of demographics, they did have a higher likelihood of previous cerebrovascular event (22% vs. 15%; $P < .001$), heart failure, significant valve disease, coronary artery disease, and prior mechanical valve replacement. In the adjusted analysis, the 30-day likelihood of a cardiovascular event was higher in the bridged patients (4.6% vs. 2.5%; adjusted odds ratio = 1.6; 95% confidence interval, 0.95 to 2.8; number needed to treat to harm = 47), as were bleeding events (5.0% vs. 1.3%; adjusted odds ratio = 3.8; 95% confidence interval, 2.1 to 7.1; number needed to treat to harm = 27). There was no difference in the risk of stroke or thrombotic events.

Study design: Cohort (prospective)

Funding source: Industry plus government

Setting: Population-based

Reference: Steinberg BA, Peterson ED, Kim S, et al. Use and outcomes associated with bridging during anticoagulation interruptions in patients with atrial fibrillation: findings from the Outcomes Registry for Better Informed Treatment of Atrial Fibrillation (ORBIT-AF). *Circulation*. 2015;131(5):488-494.

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