

**CARDIAC DEVICE
IMPLANTATION RISKS**

Many patients referred for implantation of a cardiac pacemaker or implantable cardioverter-defibrillator (ICD) also receive antiplatelet or anticoagulation therapy.

To investigate the influence of these therapies on bleeding complications at the time of device implantation, investigators from the Johns Hopkins Hospital in Baltimore, MD, USA conducted a retrospective chart review.

Significant bleeding complications occurred in 71 of the 1,388 patients assessed, and were more likely in those taking combined aspirin and clopidogrel treatment than in those receiving neither of these medications.

Many clinicians halt warfarin therapy in the periprocedural period. However, no difference in significant bleeding complications was observed between patients in whom warfarin was discontinued until the INR was <1.5 and those taking warfarin with an INR ≥ 1.5 . Furthermore, only a nonsignificant trend toward increased significant bleeding was observed in the latter group of patients compared with those receiving no anticoagulation therapy at the time of referral.

In patients in whom warfarin therapy is withheld in the periprocedural period but who are considered to be at high risk of thromboembolic events, clinicians often instigate heparin 'bridging'. However, in this study, patients taking periprocedural heparin had increased significant bleeding compared with those in whom warfarin was simply discontinued until the INR was <1.5 and those who were receiving no anticoagulation therapy at the time of referral.

On the basis of their findings, the researchers conclude that "patients at greatest risk for thrombotic events off anticoagulation therapy can be safely continued on warfarin, rather than transitioning to heparin, whereas patients at low risk should have warfarin [with]held without instigating heparin 'bridging'."

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Original article Tompkins, C. *et al.* Dual antiplatelet therapy and heparin "bridging" significantly increase the risk of bleeding complications after pacemaker or implantable cardioverter-defibrillator device implantation. *J. Am. Coll. Cardiol.* 55, 2376-2382 (2010)