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Concomitant anti-platelet therapy in warfarin-treated patients undergoing cardiac rhythm device implantation: a secondary analysis of the BRUISE CONTROL trial

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On behalf: BRUISE CONTROL Investigators

Topic(s):
Device Complications and Lead Extraction

Citation:

Funding Acknowledgements:
Supported by an operating grant from the Canadian Institutes of Health Research (CIHR)

Background: Concomitant anti-platelet therapy is commonly used in patients receiving oral anticoagulation and may increase bleeding risk among patients undergoing cardiac implantable electronic device (CIED) surgery.

Purpose: To assess the proportion of patients undergoing CIED surgery who are receiving anti-platelet therapy, the proportion in whom usage is guideline-indicated, and the risk of clinically significant hematoma (CSH).

Methods: A secondary analysis of the Bridge or Continue Coumadin for Device Surgery Randomized Controlled Trial (BRUISE CONTROL). Patients who were receiving warfarin, had an annual predicted risk of thromboembolism of 5% or more and were scheduled to receive undergo non-emergent CIED surgery (implantation of a new device, pulse-generator change, lead replacement, or pocket revision) were included. Participants were randomized to continued warfarin versus heparin bridging. In the current analysis, patients were divided into those receiving anti-platelet therapy and those not receiving anti-platelet therapy. The proportion of patients on unnecessary and potentially interruptible antiplatelet therapy was estimated. Unnecessary (not indicated) concomitant antiplatelet therapy was defined as the absence of a percutaneous coronary intervention (PCI) or coronary artery bypass grafting (CABG) within the preceding 12 months, as well as the absence of any mechanical valves. The incidence of CSH was compared in both groups and within the randomization sub-groups.

Results: All 681 patients enrolled in BRUISE CONTROL were included, of whom 280 received and 401 did not receive anti-platelet therapy. Anti-platelet therapy increased the risk of CSH (relative risk, 1.72; 95% confidence interval (CI), 1.09 to 2.72; P=0.02). Regarding anti-platelet therapy, most patients were receiving aspirin (268; 95.7%), including 18 (6.4%) who were receiving dual anti-platelet therapy (DAPT), while the remaining 12 were receiving clopidogrel alone. There were no patients receiving ticagrelor or prasugrel. Of the 280 patients receiving anti-platelet therapy, 97 (34.6%) had no guideline indication for concomitant anti-platelet therapy and an additional 146 (52.1%) were on anti-platelet therapy that could potentially have been interrupted around CIED surgery.

Conclusions: Concomitant anti-platelet therapy in patients receiving anticoagulation is associated with a significant risk of CSH. The majority of concomitant anti-platelet therapy is unnecessary or interruptible.
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