

Implications for an Out-of-Range INR: Bleeding and Clotting Complications

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Warfarin is highly efficacious for the prevention and treatment of arterial and venous thromboembolic disease. The dose response of warfarin is highly variable which mandates frequent monitoring to maintain the therapeutic INR range. Precipitants of aberrant anticoagulation control have been identified. The most potent causes of excessive anticoagulation include amiodarone therapy, chemotherapy, decompensated heart failure, erratic vitamin K intake, and warfarin dosing errors. Acetaminophen is an under recognized cause of elevated INRs. INR values of 4.0 and greater have consistently been shown to increase the risk of major hemorrhage on warfarin. INR values less than 2.0 are also associated with adverse outcomes particularly in relation to stroke among patients with atrial fibrillation. Large population based studies in Canada and Norway have confirmed the association of an INR <2.0 on presentation with increased stroke severity and mortality among patients with atrial fibrillation related stroke.

References:

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