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A Bridge Too Far? Risks and Benefits of Perioperative Bridging Therapy

Jordan Buchholz

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Abstract

➢ The long-term use of oral anticoagulants is common among high-risk patient populations for the prevention of thromboembolic events such as stroke, pulmonary embolism, etc. It is estimated that 15-20% of chronically anticoagulated patients will undergo a surgery or procedure that will require anticoagulation interruption annually. During this interruption period, “bridging” anticoagulant therapy is often utilized with unfractionated heparin or low-molecular weight heparin to ensure adequate anticoagulation is achieved. However, there has been an ongoing debate whether or not the benefits of perioperative anticoagulant bridging therapy outweigh its risks. This literature review focuses on whether or not forgoing anticoagulant bridging therapy increases the risk of peri/postoperative thromboembolic events. It also focuses on the whether or not initiating bridging therapy places patients at a higher risk for postoperative bleeding. Finally, it focuses on the current recommendations and whether or not utilization of individualized risk assessment tools increases efficacy and safety in regards to determining appropriate bridging therapy. The results of this literature review conclude that risk patients have sufficient evidence to support that non-bridging therapy is non-inferior to bridging therapy in the prevention of peri/postoperative thromboembolic events. There is also evidence to support that anticoagulant bridging therapy may place low-risk patients at a significantly higher risk for peri/postoperative bleeding events. Finally, there appears to be sufficient evidence to support the use of individualized risk assessment tools to help guide clinicians in their decisions regarding anticoagulant bridging therapy.

Introduction

➢ Oral anticoagulants are commonly used long-term in patients with atrial fibrillation, a history of a mechanical heart valve, or a recent history of thromboembolic events.

➢ It is estimated that 15-20% of chronically anticoagulated patients will undergo an elective or emergent surgery or procedure that will require anticoagulation interruption annually (Garwood et al., 2017).

➢ During this interruption period, “bridging” anticoagulant therapy is often utilized with unfractionated heparin or low-molecular weight heparin to ensure adequate anticoagulation is achieved and to reduce the risk of the thromboembolic event perioperatively (Ayoub et al., 2016).

➢ Current debate whether thromboembolic events caused by perioperative anticoagulant interruption posts a larger risk for patients than intra/postoperative bridging for those who initiate bridging therapy (Dokukis et al., 2015).

Statement of the Problem

➢ There is currently a lack of updated evidence-based guidelines and recommendations in regards to indications for perioperative bridging therapy.

➢ The most recent antithrombotic guidelines come from the American College of Chest Physicians (ACCP) in 2012.

➢ Current guidelines are a low-level recommendation (Level 2-C).

➢ To date, there remains to be an anticoagulant bridging therapy that is universally accepted which tailors an individual’s thromboembolic risk factors (Pengo et al., 2009).

➢ There is a need for additional high-level studies, and evidence-based guidelines to help guide clinicians.