Optimal Anticoagulation Strategy after Atrial Fibrillation Ablation in Patients with Prior Left Atrial Appendage Closure

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Abstract

Background: A significant knowledge gap exists in the optimal anticoagulation strategy for patients with a history of left atrial appendage (LAA) closure undergoing atrial fibrillation (AF) ablation. The increasing prevalence of AF and the use of catheter-based AF ablation (CA) and left atrial appendage closure (LAAC) highlight the urgency of addressing this issue. Despite these developments, there is no consensus on anticoagulation management for this specific patient population. Non-valvular AF, the most common arrhythmia, carries a high risk of stroke, systemic embolism (SE), heart failure (HF), and mortality. Treatments like CA and LAAC are crucial in AF management. LAAC, particularly, has shown noninferiority to traditional Vitamin K antagonists (VKAs) and novel oral anticoagulants (NOACs) in stroke prevention. However, the integration of CA and LAAC, often a one-stop procedure, raises questions about optimal sequencing and anticoagulation management, especially in patients at high bleeding risk or with a history of thromboembolic or major bleeding incidents. Clinical guidelines advise against discontinuing long-term oral anticoagulation in high-stroke-risk patients post-CA. Alternative approaches, like LAAC with devices like Watchman, offer options for patients accepting procedural risks. Studies, including data from EVOLUTION and WASP registries, demonstrate the effectiveness of combining CA and LAAC in reducing stroke and late bleeding events. A retrospective observational study also highlighted the efficacy of thoracoscopic LAA occlusion in ischemic stroke prevention, with post-procedure reintroduction of OACs. However, practices vary widely, with some patients receiving warfarin or NOACs post-procedure, and others on dual antiplatelet therapy. Despite these insights, research on anticoagulation management post-AF ablation and LAA closure remains limited. This lack of comprehensive data is a significant barrier to forming evidence-based guidelines for this patient group. To address this gap, we propose a randomized controlled trial (RCT) to investigate the optimal duration of post-AF ablation anticoagulation in patients with a history of LAA closure. This RCT, utilizing the PICO framework, would explore different anticoagulant strategies versus no anticoagulation. Primary outcomes would include thromboembolic events, bleeding complications, and overall thromboembolic risk management. The RCT would involve a large cohort of patients with a history of LAA closure post-AF ablation. The intervention group would receive specific anticoagulant strategies post-combined ablation and closure procedure, compared with a control group on different anticoagulation approaches or no anticoagulation. Efficacy and safety measures would be the primary focus, offering a detailed understanding of the risks and benefits associated with each anticoagulant strategy. Conclusion: The current lack of consensus on anticoagulation strategies in patients post-LAA closure and AF ablation necessitates dedicated research. An RCT focusing on these patients could fill this critical knowledge gap, potentially leading to evidence-based guidelines for their management. We recommend the initiation of

an RCT to comprehensively address this knowledge gap, aiming to establish evidence-based guidelines for the management of these patients.

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We recommend the initiation of an RCT to comprehensively address this knowledge gap, aiming to establish evidence-based guidelines for the management of these patients.

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