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INTERVENTIONAL CARDIOLOGY CLINICS

Approaches to Left Atrial Appendage Exclusion

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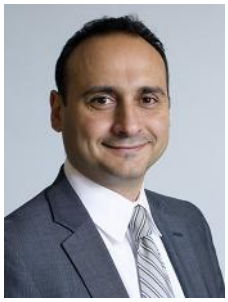
Preface

Approaches to Left Atrial Appendage Exclusion

Randall Lee, MD, PhD



Moussa C. Mansour, MD, FHRS, FACC

Editors

Atrial fibrillation is currently the most prevalent arrhythmia in the United States, and its prevalence is projected to increase significantly. The most severe consequence of atrial fibrillation is cardioembolic stroke. The mainstay of the prevention of stroke has been warfarin therapy. However, due to the difficulty of maintaining adequate anticoagulation levels, multiple interactions with food and other medications, and the risk of bleeding events, alternative therapies have been established. Despite the development of newer oral anticoagulation agents, problems with side effects, compliance, and bleeding still occur.

The left atrial appendage is a prominent source of cardioembolic stroke in patients with nonvalvular atrial fibrillation. This issue of *Interventional Cardiology Clinics* is dedicated to the role of catheter-based left atrial closure for the treatment of patients with nonvalvular atrial fibrillation who are at risk for cardioembolic events. Articles in this issue provide an overview of the magnitude of the problem of stroke in patients with atrial fibrillation, the role of the left atrial appendage in thrombus formation, and the rationale for exclusion of the left atrial appendage with devices. Different approaches for excluding the left atrial appendage, tips and tricks for successful left atrial appendage exclusion, and review of the clinical evidence for percutaneous left atrial appendage exclusion are discussed. Special attention is paid to the use of transesophageal echocardiography and how to obtain pericardial access as part of the procedure in performing left atrial appendage closure. Finally, a section is dedicated to prevention and management of complications. The editors would like to thank all the authors who contributed to this comprehensive overview of device therapy for left atrial appendage exclusion.

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Stroke and Bleeding Risks in Patients with Atrial Fibrillation

Abhishek Maan, MD, Jeremy N. Ruskin, MD,
E. Kevin Heist, MD, PhD*

KEYWORDS

• Atrial fibrillation • Anticoagulant therapy • Stroke

KEY POINTS

- Atrial fibrillation (AF) is associated with a substantially increased risk of thromboembolic stroke.
- Antiplatelet agents have some effect in reducing the stroke risk associated with AF but are less effective than anticoagulants, such as warfarin, in this regard.
- Newer oral anticoagulants (OACs)—dabigatran, rivaroxaban, and apixaban—are at least as effective as warfarin in reducing AF-associated stroke.
- Anticoagulants used for stroke prevention in AF cause an increased risk of bleeding. Scoring systems are available to better estimate an individual patient's bleeding risk.

INTRODUCTION

AF is the most common cardiac arrhythmia encountered in clinical practice.[1] The presence of this arrhythmia is an independent risk factor for stroke/thromboembolism and death, with an estimated 5-fold higher risk.[2,3] Anticoagulation with OACs and antiplatelet agents is the mainstay for stroke prophylaxis in patients with AF. A meta-analysis by Hart and colleagues[4] demonstrated that dose-adjusted warfarin resulted in 64% reduction of stroke and a 26% reduction in all-cause mortality compared with placebo, and antiplatelet therapy resulted in 22% reduction in stroke with no significant reduction in mortality. Recent conclusion of major clinical trials has led to the Food and Drug Administration approval of newer OACs, which has expanded the armamentarium of anticoagulation options for stroke prophylaxis in patients with AF.

Stroke risk is closely related to bleeding risk in AF patients.[5] Many risk factors for thromboembolism, such as advanced age, uncontrolled hypertension, ischemic heart disease, and cerebrovascular disease, have also been identified as risk factors for bleeding.[6,7] Bleeding risk is especially higher with the use of vitamin K antagonists (VKAs) due to their narrow therapeutic window and drug-drug and drug-food interactions.[8] This article reviews the risk of stroke and various risk-prediction schemes to predict stroke risk and bleeding complications in patients with AF and evaluates the role of OACs and antiplatelet agents for stroke prevention.

Dr E.K. Heist is the senior author in this article.

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