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Atrial Fibrillation: Case Studies and Treatment

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Atrial Fibrillation: Case Studies and Treatment

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I. INTRODUCTION

Atrial fibrillation (AF) is both a common and complex clinical problem. The first part of this review (“Management of Atrial Fibrillation” in the *Hospital Physician Cardiology Board Review Manual*, Volume 7, Part 3) gave an overview of epidemiology, pathophysiology, and special comorbid disease states. In this second part, we review features associated with increased risk of thromboembolism; results of the major anticoagulation trials; and treatment including rate control, antiarrhythmic therapy, cardioversion, and ablation. Several case presentations are provided to highlight important principles of the management of patients with AF.

II. ANTICOAGULATION AND THROMBOEMBOLIC RISK

Patients with AF represent a spectrum of risk for thromboembolic events differentiated by age and comorbid disease, echocardiographic findings, history of thromboembolic events, and duration of the arrhythmia (Table 1).¹⁻¹⁸ The clinician must consider cerebrovascular accident (CVA) risk stratification before choosing

the most efficacious course of therapy. In general, patients who risk stratify to a 2% or less annual risk of stroke while on aspirin will not have a significant decrease in CVA risk while on warfarin; it would be necessary to treat 200 patients for a year to prevent one disabling CVA. In contrast, review of the Cochrane databases demonstrates that for patients with higher risk features, the annual stroke rate is approximately 4%. For every 1000 patients treated with warfarin in this higher risk group, 25 cerebrovascular events and 12 disabling or fatal cerebrovascular events are prevented. Statistical review of this database also shows a 64% reduction in recurrent CVA for those patients with AF and prior transient ischemic attack or CVA (95% confidence intervals [CIs], odds ratio 0.22 to 0.58). There was no statistically significant increase in intracranial hemorrhage, but the rarity of these events produces wide confidence intervals.

Several treatment algorithms are proposed based on the large randomized, multicenter prospective trials summarized in Table 2. Features favoring use of adjusted-dose warfarin based on the meta-analysis of the American College of Chest Physicians, Stroke Prevention in Atrial Fibrillation (SPAF), and the Atrial Fibrillation Investigators are presented in Table 3.^{2,3,7,8,11,12,16,19} To better understand these features, the clinician should initially