REVIEW

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Misconceptions and Facts About Atrial Fibrillation

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ABSTRACT

Atrial fibrillation is an increasingly common arrhythmia associated with substantial but largely preventable risk of ischemic stroke. There has been an exponential increase in research related to atrial fibrillation in recent years, resulting in some major advances in the therapeutic management. Novel oral anticoagulant agents have become available and require thorough assessment of risk-to-benefit ratio. While the knowledge is rapidly accumulating, the basic principles of atrial fibrillation management remain proper recognition, risk stratification, and appropriate prevention of thromboembolic complications. This review highlights some common misconceptions about atrial fibrillation.

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Atrial fibrillation is a common arrhythmia, especially in elderly patients with a lifetime risk of approximately 25%.[1,2] Overall burden of the disease in the community is high, making it a common clinical encounter for a practicing physician. While the association of atrial fibrillation with stroke is well known, this relationship is complex, and it is modified by various clinical risk factors.[3] There has been an explosion of research in recent years related to pathophysiology, risk stratification, and clinical management of atrial fibrillation patients, making it difficult for clinicians to navigate through the field. This article reviews and clarifies some common misconceptions about atrial fibrillation, aiming to improve the treatment of this growing patient population at increased risk of severe complications.

MISCONCEPTION #1: PHYSICAL ACTIVITY IS A RISK FACTOR FOR ATRIAL FIBRILLATION

Facts

Some studies suggested that physical activity, especially high-intensity exercise, may be linked to a higher risk of atrial fibrillation. Exercise is mentioned also as a clinical risk factor in recent American College of Cardiology/American Heart Association atrial fibrillation guidelines.[4] In one study, 107 consecutive patients younger than age 65 years without major comorbidities seen in the emergency department with atrial fibrillation were compared with healthy volunteers matched for age and sex.[5] On multivariate analysis, physical activity remained an independent predictor of atrial fibrillation. However, a meta-analysis of large studies that compared extreme groups of physical activity (maximum vs minimum amount of physical activity) found no association between regular physical activity and increased incidence of atrial fibrillation.[6] Some other studies, mainly among elderly individuals, even suggested an inverse relationship between leisure-time activity and atrial fibrillation risk.[7] Thus, while high-intensity exercise may increase atrial fibrillation risk, there is no good reason to deprive patients with or without atrial fibrillation from the benefits of a moderate physical exercise regimen.

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MISCONCEPTION #2: ONLY LARGE AMOUNTS OF ALCOHOL ARE RELATED TO ATRIAL FIBRILLATION OCCURRENCE

Facts

Case series 30-40 years ago have documented that patients who come to the emergency department with alcohol intoxication have an increased risk of having atrial fibrillation.[8,9] Since then, many studies have shown that regular consumption of at least 2 alcoholic drinks per day confers an increased risk of developing atrial fibrillation.[10-12] In the context of these studies, many believed that light-to-moderate alcohol consumption is safe.[11,12] However, a recent large prospective study with 859,420 person-years of follow-up demonstrated that even light-to-moderate alcohol consumption increases the risk of atrial fibrillation, a finding that was confirmed by an accompanying meta-analysis of prospective studies.[13] Because the atrial fibrillation risk related to consuming low-to-moderate amounts of alcohol (ie, < 2 drinks per day) is small, these data in isolation should not discourage individuals from safely consuming and enjoying such modest amounts of alcohol.[14]

CLINICAL SIGNIFICANCE

- The term "valvular" atrial fibrillation appears misleading because in practice it does not apply to the majority of valvular disease patients.
- CHA_2DS_2-Vasc score has several caveats and provides less-than-optimal overall guidance.
- Current evidence clearly suggests that aspirin should no longer be used for stroke prevention in patients with atrial fibrillation.
- Atrial fibrillation pattern should not influence the decision to use oral anticoagulation for stroke prevention.

MISCONCEPTION #3: NOVEL ORAL ANTICOAGULANTS SHOULD NOT BE USED IN ATRIAL FIBRILLATION PATIENTS WITH VALVULAR DISEASE

Facts

The terms "valvular" atrial fibrillation and "nonvalvular" atrial fibrillation are used commonly in clinical practice and treatment guidelines.[15] In recent years the interest in these definitions reemerged, not only to underscore some differences in pathophysiology, but mostly to guide appropriate treatment decisions.[16] Novel oral anticoagulants have been deemed appropriate for "nonvalvular atrial fibrillation," while warfarin therapy has remained the only alternative for "valvular atrial fibrillation." While seemingly obvious, the definition of "valvular atrial fibrillation" as it relates to the thromboembolic risk and treatment choices is somewhat misleading. Rheumatic heart disease with accompanying mitral stenosis (uncommon in Western nations) carries a very high risk of thromboembolic events, markedly exceeding that for the highest risk categories of "nonvalvular" atrial fibrillation.[17] However, patients with significant mitral stenosis were excluded specifically from the novel oral anticoagulant trials and therefore, international normalized ratio-guided warfarin therapy should be used in these patients. Contrary to this relatively uncommon clinical scenario, atrial fibrillation patients with valvular diseases typical for the Western population (such as degenerative mitral regurgitation, aortic stenosis, and aortic regurgitation) do not carry a different risk of thromboembolic events compared with "nonvalvular" atrial fibrillation patients.[16] In fact, according to some reports, mitral regurgitation may be protective of stroke in patients with atrial fibrillation.[18,19] Most large trials of novel oral anticoagulant agents allowed patients with nonrheumatic valvular disease. For example, 26% of patients in the Apixaban for Reduction in Stroke and Other Thromboembolic Events in Atrial Fibrillation (ARISTOTLE) study and 14% of patients in the Rivaroxaban Once Daily Oral Direct Factor Xa Inhibition Compared with Vitamin K Antagonism for Prevention of Stroke and Embolism Trial in Atrial Fibrillation (ROCKET AF) study had significant nonrheumatic valvular disease, and the evidence suggests no major differences in outcomes with novel agents in this subgroup compared with the rest of the patients.[16,20]

Warfarin is currently the only oral anticoagulant for patients with mechanical valve disease because the available evidence with dabigatran suggests an increased risk of adverse events as compared with traditional international normalized ratio-guided warfarin therapy.[21] Interestingly, patients with bioprosthetic valves and valve repairs were allowed in some of the novel oral anticoagulant trials, and limited evidence suggests that these drugs are safe in patients who do not need specific anticoagulation for their valve or device.[16]

In conclusion, the term "valvular" atrial fibrillation appears misleading because in practice it does not apply to the majority of valvular disease patients, but rather, it is restricted to patients with mechanical valves and those with significant rheumatic mitral valve disease.[16]

MISCONCEPTION #4: ASPIRIN IS A REASONABLE ALTERNATIVE TO ORAL ANTICOAGULATION IN ATRIAL FIBRILLATION PATIENTS WITH LOW CARDIOEMBOLIC RISK OR HIGH BLEEDING RISK

Facts

The proportion of cardioembolic strokes appears to be increasing, probably due to the aging population with a higher prevalence of atrial fibrillation.[22] While most cardioembolic strokes are disabling or fatal, several studies have