Introduction

Atrial fibrillation (AF) is the most frequent arrhythmia in clinical practice and is the strongest independent risk factor for stroke (***Wolf et al., 1991)***. Approximately 50% of all cardiogenic and systemic emboli occur in individuals with AF. Atrial fibrillation occurs in <1% of individuals below 50 years of age, increasing to up to 10% in people over 75 years of age ***(Albers et al., 2001).***

AF is accounting for approximately one third of hospitalizations for cardiac rhythm disturbances. An estimated 2.3 million people in North America and 4.5 million people in the European Union have paroxysmal or persistent AF ***(Go AS et al., 2001)***.

Stroke occurs in approximately 5% of the nonvalvular AF (NVAF) patient population in the range of two to seven times that of people without AF, but this figure increases to 12% if the patient has had a previous stroke or transient ischemic attack (TIA) ***(Wolf et al., 1991),*** also it is reported that risk of stroke increased 17 folds in valvular AF ***(Bungard et al., 2000).***

There are three potential therapeutic goals of treatment for patients with AF ***(Prystowsky, 2000)***. These include restoration and maintenance of sinus rhythm, rate control during AF, and prevention of thromboembolism.

In patients with atrial fibrillation, warfarin prevents 64% of strokes ***(Hart et al., 2007).***Thus; warfarin has become the recommended treatment for candidates for anticoagulation therapy who have atrial fibrillation and at least one additional risk factor for stroke ***(Fuster et al., 2007).***

Despite clear and consistent recommendations ***(Singer et al., 2008)*** warfarin is prescribed to only two thirds of appropriate candidates ***(Birman et al., 2006).*** Several factors contribute to suboptimal use of warfarin therapy: drug and dietary interactions, inconvenience of monitoring the international normalized ratio (INR), risk of hemorrhage, and concerns about real-world effectiveness, which averages 35%. ***(Birman et al., 2006).*** Thus, new oral anticoagulants are needed.