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Editorial

Role of Watchman Procedure in the Treatment of Nonvalvular Atrial Fibrillation

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Atrial fibrillation (AF) is one of the most common cardiac arrhythmias, with its prevalence increasing with age [1-3]. Its prevalence in United States is estimated to be 6 million and is projected to increase to 15.9 million by 2050 [4]. Its general prevalence is 1% but it increases drastically to 9% in population with age greater than 75 years [5]. Embolic stroke is one of the major complications of AF. It occurs in 5% of the patient who are not on anticoagulation therapy. Current therapies are directed towards rate and rhythm control as well as prevention of stroke [6]. There are several medication which have been in the armamentarium for rate control as beta blocker and calcium channel blockers. Rhythm control has been achieved via amiodarone, flecainide, encainide, cardioversion and atrial ablation therapy. The encainide and flecainide therapy has been complicated by higher mortality especially in patient after acute recurrent myocardial infarction due to shock [7]. The rate control medications are useful in elimination of symptoms as shortness of breath, tired, fatigue and palpitations but have not been of much help in preventing the thromboembolic complications of the atrial fibrillation [8]. Several studies have shown that majority of the thrombi (90% in nonvalvular and 57% in valvular AF) are in the left atrial appendage (LAA) [9,10]. Due to high risk of thrombus and increase risk of stroke, anticoagulation has been the first line of therapy in patient with AF.

Effort has been undertaken to come up with the devices to help prevent the propagation of thrombus from LAA. These devices include LARIAT Suture Delivery device by SentrelHEART inc, AtriClip LAA Occlusion System (epicardial surgical device) by AtriCure Inc as well as WATCHMAN Left Atrial Appendage Closure Device by Boston Scientific [10]. The PROTECT-AF randomized control trial using the WATCHMAN device showed non-inferiority of the LAA exclusion and even the superiority of LAA exclusion over the medical therapy with warfarin. The device was placed percutaneously via a transeptal approach. The patient was also given 6 weeks of anticoagulation therapy with warfarin to allow some time for the WATCHMAN device to get endothelialized and to prevent the formation of thrombus in the left atrium during this time [4,11]. The 5 year outcome of the PREVAIL trial along with the 5 year outcome of the patients in PROJECT-AF trial showed that LAA closure with WATCHMAN device was comparable to warfarin in the stroke prevention [12]. On the other hand, recent PREVAIL trial failed to show advantage of LAA occlusion device when compared to warfarin in preventing cardiovascular complications, death or systemic embolism at 18 month interval. The procedural complications though, was less than PROTECT-AF trial. It was also non-inferior to warfarin in preventing the stroke or systemic embolism but failed to have the non-inferiority outcome when it pertains to cardiovascular or unexpected death, stroke and systemic embolism at 18 months [13].

This new device does provide a solution in selected patients with nonvalvular AF as an alternative to warfarin therapy. The challenge still remains in anticoagulating those patients for 6 weeks (can be challenging especially in patients with recent intracranial bleed or massive gastrointestinal bleed). Moreover, with the newer oral anticoagulation (NOAC) may provide enhanced protection and lower risk of intracranial bleed. We suggest further study and trail using the NOAC and comparing it to watchman LAA occlusive device. While the verdict is in, the WATCHMAN LAA occlusion device being place percutaneously does offer hope and benefit for patients who are not a candidate for long term anticoagulation therapy.

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