

EDITORIAL COMMENT

Real-World Data on Left Atrial Appendage Occlusion in Asia

Unresolved Issues and Challenges



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For patients with nonvalvular atrial fibrillation (AF) and unsuitable for long-term oral anticoagulation, percutaneous left atrial appendage (LAA) occlusion has been considered as an effective treatment strategy in reducing the risk of AF-related thromboembolic events.^{1,2} The efficacy and safety of WATCHMAN device for LAA occlusion have been demonstrated in PROTECT-AF (WATCHMAN Left Atrial Appendage System for Embolic Protection in Patients With Atrial Fibrillation) and PREVAIL (Evaluation of the WATCHMAN LAA Closure Device in Patients With Atrial Fibrillation Versus Long Term Warfarin Therapy).³ However, in these trials, the Asian population was under-represented, leaving questions about whether the effect of the WATCHMAN device would be preserved in Asian patients. Furthermore, there have been unresolved issues and challenges between clinical recommendations and real-world practice on LAA occlusion. First, although intraprocedural imaging guidance using transesophageal echocardiography or intracardiac echocardiography is recommended for LAA occlusion, a greater understanding of the anatomy and accumulation of experience have led to the question regarding the necessity of these imaging modalities.⁴ Second, although the combination procedure of catheter ablation during LAA occlusion lacks evidences in current guidelines, the high frequency of combining LAA occlusion and catheter ablation for AF into a single procedure have been noted in the previous report of RECORD (Registry to Evaluate Chinese Real-World Clinical Outcomes in Patients With AF Using the WATCHMAN Left Atrial

Appendage Closure Technology).^{1,2,5} Last, owing to a lack of evidence, selection criteria for the appropriate regimen and duration of antithrombotic treatment after LAA occlusion largely depends on the physician's choice based on the patients' risk for thromboembolic and bleeding events.⁶ Therefore, dedicated studies investigating the gap between the clinical recommendations and real-world data on LAA occlusion have been required.

In this issue of *JACC: Asia*, Gao et al⁷ reported 1-year clinical outcomes of the RECORD registry, which is a multicenter, prospective cohort study including 3,096 patients from 39 centers undergoing LAA occlusion in China. At the 1-year follow-up, the rate of the composite of death, stroke, or systemic embolism was 4.5% and any life-threatening, disabling, or major bleeding was 2.3% after implantation of WATCHMAN device.⁷ The use of intraprocedural imaging (transesophageal/intracardiac echocardiography vs fluoroscopy) did not impact the ischemic or bleeding events.⁷ Interestingly, a combination procedure of catheter ablation and LAA occlusion was performed in 42% of cases, and this strategy was associated with a significantly lower rate of death, stroke, or systemic embolism compared with LAA occlusion only procedure.⁷ Meanwhile, the most common antithrombotic regimen after LAA occlusion was oral anticoagulation monotherapy for 45 days followed by single/dual antiplatelet therapy.⁷ These outstanding results suggest that, although LAA occlusion in an Asian population is effective and safe, there is a discordance between clinical recommendations and real-world data regarding intraprocedural imaging guidance, the combination procedure of catheter ablation, and the postantithrombotic regimen in patients undergoing LAA occlusion. Although these results provide important clinical implications, there are some limitations to consider in the interpretation of these results. First, this study was not randomized, although the clinical events

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were adjudicated by central clinical endpoint committee. Second, the timing of the follow-up overlaps with the coronavirus disease-2019 pandemic, which may have led to an underestimation of clinical events. Third, only the WATCHMAN 2.5 device was included, instead of the latest version of WATCHMAN FLX or FLX Pro device. Last, the decision to perform catheter ablation in combination with LAA occlusion was at the operators' discretion. The ongoing OPTION (Comparison of Anticoagulation with Left Atrial Appendage Closure after AF Ablation; [NCT03795298](#)) trials, which aims to compare WATCHMAN FLX LAA closure to oral anticoagulation in patients undergoing catheter ablation for AF, is expected to report results soon.

To conclude, Gao et al⁷ have demonstrated the real-world data of LAA occlusion in an Asian population with its efficacy and safety and raised the issue

of the gap between the clinical recommendations and real-world data on LAA occlusion. Additional dedicated clinical trials are greatly expected regarding the necessity of intraprocedural imaging guidance, impact of combination procedure of catheter ablation, and optimal postantithrombotic regimen in patients undergoing LAA occlusion.

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