



Q/ Does left atrial appendage closure reduce stroke rates as well as oral anticoagulants and antiplatelet meds in A-fib patients?

EVIDENCE-BASED ANSWER

A/ **YES.** Left atrial appendage closure (LAAC) with the Watchman device is noninferior to vitamin K antagonists (VKAs) and non-VKA oral anticoagulants (NOACs) for adults with nonvalvular atrial fibrillation (NVAF) and 1 additional stroke risk factor (strength of recommendation

[SOR]: **A**, multiple meta-analyses).

LAAC has consistently been shown to be superior to antiplatelet therapy (SOR: **A**, single meta-analysis). One randomized controlled trial (RCT) demonstrated superiority of LAAC to VKA (SOR: **B**, single RCT).

Evidence summary

A 2017 network meta-analysis included 19 RCTs and 87,831 patients receiving anticoagulation, antiplatelet therapy, or LAAC for NVAF.¹ LAAC was superior to antiplatelet therapy (hazard ratio [HR]=0.44; 95% confidence interval [CI], 0.23-0.86; *P*<.05) and similar to NOACs (HR=1.01; 95% CI, 0.53-1.92; *P*=.969) for reducing risk of stroke.

LAAC and NOACs found “most effective”

A network meta-analysis of 21 RCTs, which included data from 96,017 patients, examined the effectiveness of 7 interventions to prevent stroke in patients with NVAF: 4 NOACs, VKA, aspirin, and LAAC; the analysis compared VKA with the other interventions.² The 2 trials that investigated LAAC accounted for only 1114 patients.

When the 7 interventions were ranked simultaneously on 2 efficacy outcomes (stroke/systemic embolism and all-cause mortality), all 4 NOACs and LAAC clustered together as “the most effective and lifesaving.”

Fewer hemorrhagic strokes with LAAC than VKA

A 2016 meta-analysis of 6 RCTs compared risk of stroke for adults with NVAF who received LAAC, VKA, or NOACs.³ No significant differences were found between NOACs and VKA or LAAC and VKA. The LAAC group had a significantly smaller number of patients.

A 2015 meta-analysis of 2406 patients with NVAF found that patients who received LAAC had significantly fewer hemorrhagic strokes (HR=0.22; *P*<.05) than patients who received VKA.⁴ No differences in all-cause stroke were found between the 2 groups during an average follow-up of 2.69 years.

LAAC found superior to warfarin for stroke prevention in one trial

A 2014 multicenter, randomized study (PROTECT-AF) of 707 patients with NVAF plus 1 additional stroke risk factor compared LAAC with VKA (warfarin).⁵ LAAC met criteria at 3.8 years for both noninferiority and superiority in preventing stroke, based on 2.3 events per 100 patient-years compared with 3.8 events per 100 patient-years for VKA.

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The number needed to treat with LAAC was 67 to result in 1 less event per patient-year.

A 2014 RCT (PREVAIL) evaluated patients with NVAF plus 1 additional stroke risk factor. LAAC was noninferior to warfarin for ischemic stroke prevention.⁶

Recommendations

The American College of Cardiology (ACC) recommends LAAC for patients with NVAF who are not candidates for long-term anticoagulation.⁷ Similarly, the 2016 European Society of Cardiology guidelines issued a Class IIb recommendation for LAAC for stroke prevention in those with contraindications for long-term anticoagulation.⁸ Lastly, in a 2014 guideline, the American Heart Association, ACC, and the Heart Rhythm Society issued a Class IIb recommendation for surgical excision of the left atrial appendage in patients with atrial fibrillation undergoing cardiac surgery, but did not provide recommendations regarding LAAC.⁹ **JFP**

References

1. Sahay S, Nombela-Franco L, Rodes-Cabau J, et al. Efficacy and safety of left atrial appendage closure versus medical treatment in atrial fibrillation: a network meta-analysis from randomised trials. *Heart*. 2017;103:139-147.
2. Tereshchenko LG, Henrikson CA, Cigarroa J, et al. Comparative effectiveness of interventions for stroke prevention in atrial fibrillation: a network meta-analysis. *J Am Heart Assoc*. 2016; 5:e003206.
3. Bajaj NS, Kalra R, Patel N, et al. Comparison of approaches for stroke prophylaxis in patients with non-valvular atrial fibrillation: network meta-analyses of randomized clinical trials. *PLoS One*. 2016;11:e0163608.
4. Holmes DR Jr, Doshi SK, Kar S, et al. Left atrial appendage closure as an alternative to warfarin for stroke prevention in atrial fibrillation: a patient-level meta-analysis. *J Am Coll Cardiol*. 2015;65: 2614-2623.
5. Reddy VY, Sievert H, Halperin J, et al. Percutaneous left atrial appendage closure vs warfarin for atrial fibrillation: a randomized clinical trial. *JAMA*. 2014;312:1988-1998.
6. Holmes DR Jr, Kar S, Price MJ, et al. Prospective randomized evaluation of the Watchman Left Atrial Appendage Closure device in patients with atrial fibrillation versus long-term warfarin therapy: the PREVAIL trial. *J Am Coll Cardiol*. 2014;64:1-12.
7. Panaich S, Holmes DR. Left atrial appendage occlusion: Expert analysis. <http://www.acc.org/latest-in-cardiology/articles/2017/01/31/13/08/left-atrial-appendage-occlusion>. Accessed April 5, 2018.
8. Kirchhof P, Benussi S, Kotecha D, et al. 2016 ESC guidelines for management of atrial fibrillation developed in collaboration with EACTS. *Europace*. 2016;18:1609-1678.
9. January CT, Wann LS, Alpert LS, et al. 2014 AHA/ACC/HRS guideline for the management of patients with atrial fibrillation: executive summary. *JACC*. 2014;64:2246-2280.

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