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# Meta-Analysis of Real-World Use of Apixaban for Stroke Prevention

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**Summary By:** **Sherrie R. Webb, PA-C**

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## Study Questions:

In real-world use, how does apixaban compare with other oral anticoagulants for prevention of stroke in patients with atrial fibrillation (AF)?

## Methods:

This meta-analysis was designed to include observational studies of at least 3 months' duration with a minimum of 100 patients with established AF, of whom at least 50 were treated with apixaban. Outcomes for apixaban-treated patients were compared with those for patients treated with warfarin, dabigatran, or rivaroxaban.

## Results:

The meta-analysis included 16 studies that met study design specifications and included 170,814 patients treated with apixaban. Studies included 6 from the United States, 4 from Denmark, 2 from Sweden, and 1 each from the United Kingdom, Japan, Turkey, and Norway. All studies were published between 2015 and 2017. Study cohorts from Denmark, Turkey, and Norway originated from nationwide registries. One Swedish study cohort was from a regional registry. All US cohorts originated from insurance databases. The remaining studies were from single-center cohorts. Mean/median age was 70-76 years in most studies but was 68.5 years in one study and 83.9 years in another.

*Apixaban Versus Warfarin.* Overall warfarin and apixaban were equally effective in preventing stroke or any thromboembolic event. Warfarin was superior to low-dose apixaban in prevention of any thromboembolic event, but regular dose apixaban was superior to warfarin. Apixaban had an improved safety profile for major bleeding, gastrointestinal bleeding, any bleeding, intracranial hemorrhage, or hemorrhagic stroke. Meta-analysis for occurrence of all-cause death was not performed due to an extremely high level of statistical heterogeneity.

*Apixaban Versus Dabigatran.* Apixaban and dabigatran were equally effective in preventing stroke or any thromboembolic event. Low dose apixaban was superior to dabigatran in prevention of any thromboembolic event. Apixaban had an improved safety profile for any major bleeding, gastrointestinal bleeding, or any bleeding. No significant differences were found for intracranial hemorrhage or all-cause death.

*Apixaban Versus Rivaroxaban.* Rivaroxaban was superior to apixaban in the prevention of stroke or any thromboembolic event. However, apixaban had a superior safety profile overall for major bleeding, gastrointestinal bleeding, any bleeding, and intracranial hemorrhage and with reduced dose apixaban. No significant difference was found for hemorrhagic stroke. There was a significant reduction in all-cause death with apixaban in the regular dose group.

#### Conclusions:

This meta-analysis demonstrates that in real-world use, apixaban, warfarin, and dabigatran are equally effective for prevention of stroke or any thromboembolic event, and that rivaroxaban was more effective. However, apixaban has a superior safety profile compared with warfarin, dabigatran, or rivaroxaban. Low-dose apixaban use is associated with worse outcomes, but residual confounding may affect this analysis because these patients may be older and more fragile.

#### Perspective:

According to this meta-analysis, apixaban may represent the preferred oral anticoagulant for prevention of stroke in AF due to its balance of effectiveness and safety in comparison with other currently available oral anticoagulants.

**Clinical Topics:** Anticoagulation Management, Arrhythmias and Clinical EP, Anticoagulation Management and Atrial Fibrillation, Atrial Fibrillation/Supraventricular Arrhythmias

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