

Early Discontinuation of Antithrombotic Therapy Following Left Atrial Appendage Closure: A Systematic Review and Meta-analysis

Authors

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Background and Rationale

Left atrial appendage closure (LAAC) is an established therapeutic option for the prevention of thromboembolic events in patients with non-valvular atrial fibrillation who are unsuitable for long-term anticoagulation (1). Post-procedural management after LAAC generally includes oral anticoagulation and/or antiplatelet therapy to prevent device-related thrombosis (DRT). Current practice guidelines recommend an initial period of 3–6 months of combined antithrombotic therapy, typically followed by lifelong single antiplatelet therapy. However, extended exposure to antithrombotic agents is associated with a substantial risk of bleeding (2), and the net clinical benefit of indefinite treatment remains uncertain (3). Emerging observational evidence indicates that early discontinuation of antithrombotic therapy may be safe and could mitigate bleeding complications (4,5), yet data on early discontinuation (<6 months) and its long-term safety profile is scarce, heterogeneous, and fragmented. This systematic review will synthesize existing data on early cessation of all antithrombotic therapy after LAAC.

Objectives

Primary Objective:

To assess the safety and clinical outcomes associated with early complete discontinuation of all antithrombotic therapy (antiplatelet and/or anticoagulant) in patients undergoing LAAC.

Secondary Objectives:

- To compare outcomes (stroke, transient ischemic attack [TIA], bleeding, and mortality) between early cessation vs. continued therapy.
- To evaluate procedure-specific risks and benefits of early cessation strategies.
- To identify gaps in the evidence base and inform future clinical research.

Eligibility Criteria

Study Types: Randomized clinical trials (RCTs), prospective and retrospective observational studies, cohorts, and registries.

Population: Adults (≥ 18 years) undergoing LAAC.

Intervention: Early complete cessation of all antithrombotic therapy (within 6 months post-procedure, or no therapy at discharge).

Comparator: Any antithrombotic therapy continued beyond 6 months (single/dual antiplatelet, or anticoagulation).

Outcomes: Stroke or TIA, Major bleeding (per BARC criteria or equivalent), any bleeding, All-cause and cardiovascular death, Device-related thrombosis, Myocardial infarction, Hospitalizations at a minimum of 6 months follow-up.

Exclusion: Case reports, reviews, studies without clear definition of early cessation, pediatric populations, non-transcatheter procedures.

Information Sources

Databases: PubMed (MEDLINE), Scopus

Time Frame: 1 September 2025 - 1 December 2025

Language: English

Search Strategy**Procedures:**

- “left atrial appendage occlusion” OR “LAAO/LAAC” OR Watchman OR Amplatzer

Exposure:

- “early cessation” OR “early discontinuation” OR “no antithrombotic” OR “antithrombotic withdrawal”

Therapies:

- “antiplatelet” OR “anticoagulation” OR “antithrombotic therapy”

Outcomes:

- “stroke” OR “TIA” OR “bleeding” OR “mortality” OR “device thrombosis” OR “myocardial infarction” OR “clinical outcomes”

Study Selection and Data Extraction

Screening: Two reviewers will independently screen titles/abstracts and full texts.

Disagreements: Resolved by consensus or third reviewer.

Data Extraction Form: Includes study characteristics, population, intervention/comparator, timing of cessation, outcomes, follow-up, and risk of bias.

Risk of Bias Assessment

Observational studies: Newcastle–Ottawa Scale

Data Synthesis

Narrative synthesis for all included studies.

If homogeneous, meta-analysis using random-effects models.

Subgroup analyses by antithrombotic therapy and discontinuation timing if possible.

Dissemination

Results will be submitted to peer-reviewed journals and presented at cardiology meetings.

References

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