

The long-term efficacy and safety of combining ablation and left atrial appendage closure: A systematic review and meta-analysis

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Abstract

Background The long-term outcomes of this combined procedure remain elusive. This meta-analysis aimed to assess the long-term efficacy and safety of combined procedure. **Methods** PubMed, Embase, Cochrane Library, and Web of Science were systematically searched from the establishment of databases to 1 January 2021. Studies on the long-term (defined as a mean follow-up of approximately 12 months or longer) efficacy and safety outcomes of combined ablation and LAAC were included for meta-analysis. **Results** A total of 16 studies comprising 1,428 patients were included in the meta-analysis. The pooled long term freedom rate from atrial arrhythmia was 0.66 (95% confidence interval [CI], 0.59-0.71), long-term successful rate sealing of LAAC was 1.00 (95% CI, 1.00-1.00), and ischemic stroke/transient ischemic attack/systemic embolism during follow-up was 0.01 (95% CI, 0.00-0.02). Meanwhile, the rates of peri-procedural adverse events included phrenic nerve palsy, intracoronary air embolus, device embolization, peri-procedural death of 0.00 (95% CI, 0.00-0.00), procedure-related bleeding events of 0.03 (95% CI, 0.02-0.04), and pericardial effusion requiring or not requiring intervention of 0.00 (95% CI, 0.00-0.01). Moreover, the rates of long-term adverse events rate included device dislocation, intracranial bleeding, and pericardial effusion requiring or not requiring intervention, and all-cause mortality of 0.00 (95% CI, 0.00-0.00), device embolization of 0.01 (95% CI, 0.00-0.01), and other bleeding events of 0.01 (95% CI, 0.00-0.03). **Conclusion** This meta-analysis suggests that the strategy of combined atrial ablation and LAAC is effective and safe during long-term follow-up

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