Uninterrupted peri-procedural anticoagulation with new oral anticoagulants in atrial fibrillation ablation: insights from an updated meta-analysis

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Introduction: Current guideline suggests the uninterrupted new oral anticoagulants (NOACs) anticoagulation in AF ablation, however, evidence for some of NOACs were un-robust. Growing body of reports comparing the efficacy and safety outcomes between uninterrupted NOACs and vitamin K antagonists (VKA) strategy had been published in recent years.

Methods: This meta-analysis aimed at offering an update assessment on peri-procedural anticoagulation management in AF ablation. We searched in PUBMED, EMBASE, and Cochrane Library (inception to April 20, 2019) for eligible studies. Fixed-effects model was preferred in pooled analyses if $I^2 < 50\%$. Publication bias was also investigated.

Result: 21 studies including 10606 individuals were analyzed in this literature. Stroke/transient ischemic attack incidence was similar between uninterrupted NOACs and VKA groups (RR: 0.82, 95% CI:0.41-1.63, $P=0.57$, $I^2=0\%$). Significant lower major bleeding incidence was found in uninterrupted anticoagulation with NOACs instead of VKA (RR: 0.66, 95% CI:0.46-0.93, $P=0.02$, $I^2=0\%$). No difference was seen in silent cerebral embolism (RR: 1.06, 95% CI:0.80-1.41, $P=0.68$, $I^2=0\%$), minor bleeding complication (RR: 1.02, 95% CI:0.86-1.21, $P=0.86$, $I^2=0\%$), cardiac tamponade (RR: 0.95, 95% CI:0.63-1.42, $P=0.80$, $I^2=0\%$) between groups. Uninterrupted NOACs anticoagulation might be related to lower incidence of pericardial effusion but with no significance (RR: 0.75, 95% CI:0.56-1.00, $P=0.05$, $I^2=14\%$) versus VKA.

Conclusion: Uninterrupted NOACs anticoagulation is a feasible alternative to uninterrupted VKA in AF ablation, moreover, it allows significant lower major bleeding incidence and may be superior to uninterrupted VKA in reducing pericardial effusion risk.