



# Single-centre experience: Comparing recurrence rates and clinical characteristics in atrial fibrillation patients undergoing wide-area circumferential ablation (WACA) versus WACA plus adjunctive ablation

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<https://doi.org/10.1016/j.ijcard.2024.132764>

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## Background

Catheter ablation has emerged as effective therapy for patients with symptomatic atrial fibrillation (AF), especially in those refractory or intolerant to medical therapy. Conventional technique used is wide area circumferential ablation (WACA). Adjunctive ablation techniques such as performing additional linear lesion or targeting complex fractionated atrial electrogram (CFAE) are still area of ongoing research. There is least amount of literature in this area published in Malaysia.

## Objective

To describe the demographic, clinical characteristics and outcome of symptomatic AF patients undergoing catheter ablation in the only tertiary cardiology centre providing cardiac electrophysiology service in East Malaysia.

## Materials & methods

This was a single centre, observational study involving 77 patients (40 males,  $60.3 \pm 10.4$  years) with paroxysmal AF (51) and persistent AF (26) between January 2019 to February 2023 undergoing WACA (71.4%) or WACA with adjunctive ablation techniques (28.6%) with Medtronic Cryoballoon System, Biosense Webster 3D CARTO System and Abbott 3D EnSite System. Mean follow up was  $27 \pm 14.6$  months. The outcome measure at 1 year follow up is the occurrence of AF as documented by electrocardiogram or holter. Multivariate regression analysis was performed to examine the factors associated with AF recurrence.

## Results

Mean CHA<sub>2</sub>DS<sub>2</sub>-VASc was higher for WACA plus group, 2.5 vs 2.3 in WACA group ( $p=0.76$ ). The recurrence rate was 31.5% in WACA group vs 27.3% in WACA plus group ( $p=0.71$ ). Although there was trend towards reduction in outcome, the observed change did not reach statistical significance. Our cohort showed that age ( $p=0.04$ ) and LA dimension ( $p=0.07$ ) were significant predictors of AF recurrence. Mean procedural duration was longer in WACA plus group,  $192 \pm 45$  min vs  $171 \pm 60$  min in WACA group. Mean left ventricular ejection fraction change post ablation was  $9.48\% \pm 14$ .

## Conclusion

Ablation techniques beyond conventional WACA exhibited trend towards reduction in AF recurrence. The observation underscores the complexity of AF management and the importance of tailored treatment approach based on patient characteristics and disease profile. We highlight the need for continued innovation in cardiac electrophysiology field in Malaysia to optimize treatment strategy and improve long term outcome for patients with AF.

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