



RACP Foundation Research Awards

FINAL REPORT

Project / Program Title	CAPLA study: Catheter Ablation for persistent atrial fibrillation: A Multicentre randomised study of Pulmonary vein antral isolation (PVAI) alone vs PVAI with posterior Left Atrial wall isolation (PWI)	
Name	Dr Hariharan Sugumar	
Award Received	2017 RACP NHMRC JJ Billings Scholarship	
Report Date	8 March 2020	
Chief Investigator / Supervisor	Professor Peter Kistler	
Administering Institution	Alfred & Baker IDI	
Funding Period	Start Date:	1 February 2017
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PROJECT SUMMARY

Atrial fibrillation (AF) is a modern epidemic. It is the most common arrhythmia worldwide with a lifetime risk of 23% and estimated prevalence of 2% worldwide. There is significant hospitalisation and associated healthcare burden. Rhythm control has been shown to improve hospitalisation and quality of life. Recent trials (CATLE-AF) has shown mortality improvement with AF ablation and maintenance of sinus rhythm in a specific group of patients. Persistent AF is more difficult to control with ablation than paroxysmal AF. Evidence of ablation strategy in paroxysmal AF is limited with suggestion that posterior wall isolation may improve outcomes and translate to clinical benefit both subjectively and in terms of health care burden.

Hence the CAPLA trial was designed to assess the efficacy of adding posterior wall isolation (PWI) in improving arrhythmia outcomes. Patients undergoing AF ablation for persistent AF will be equally split into two groups. Group 1 will receive the basic standard ablation / pulmonary vein Isolation (PVI) and group 2 will receive PWI in addition to PVI.

PROJECT AIMS / OBJECTIVES

Multicentre RCT evaluating effect of pulmonary vein isolation (PVI) to PVI + posterior wall isolation (PWI) for

1. arrhythmia recurrence,
2. quality of life,
3. hospitalisation and
4. medication use.

SIGNIFICANCE AND OUTCOMES

Our study hopes to demonstrate that the addition of PWI to routine PVI will improve longer term success of remaining arrhythmia free. In doing so, we will improve patients' quality of life and decrease health care burden. For example, Atrial fibrillation (AF) patients were hospitalised for cardiovascular problems four times more often than people without AF, and were more likely (8x) to have multiple hospital admissions. Given that AF has been described as an emerging epidemic with estimated lifetime risk of about 23%, our research is very relevant to current issues facing the cardiovascular community and patients in Australia and worldwide with improved outcomes for patients, health care providers and the health system.

PUBLICATIONS / PRESENTATIONS

- Reversal of HFpEF with AF ablation in people with comorbid AF-HFpEF Sugumar H et al
Catheter Ablation Versus Medical Rate Control in Atrial Fibrillation and Systolic Dysfunction: Long term follow-up of the CAMERA-MRI Study. Sugumar H et al.
- JASPER: Junctional Arrhythmia in Slow Pathway ablation: End points and Response.
Sugumar H et al.
- Arrhythmia recurrence is more common in females undergoing multiple catheter ablation procedures for persistent atrial fibrillation: Time to close the gender gap.
Sugumar H, Nanayakkara S, Chieng D, Wong GR, Parameswaran R, Anderson RD, Al-Kaisey A, Nalliah CJ, Azzopardi S, Prabhu S, Voskoboinik A, Lee G, McLellan AJ, Ling LH, Morton JB, Kalman JM, Kistler PM.
Heart Rhythm. 2019 Dec 19. pii: S1547-5271(19)31121-X. doi: 10.1016/j.hrthm.2019.12.013. PMID: 31866381
- Atrial Remodeling Following Catheter Ablation for Atrial Fibrillation- Mediated Cardiomyopathy: Long-Term Follow-Up of CAMERA-MRI Study.
Sugumar H, Prabhu S, Voskoboinik A, Young S, Gutman SJ, Wong GR, Parameswaran R, Nalliah CJ, Lee G, McLellan AJ, Taylor AJ, Ling LH, Kalman JM, Kistler PM.
JACC Clin Electrophysiol. 2019 Jun;5(6):681-688. doi: 10.1016/j.jacep.2019.03.009. Epub 2019 May 1. PMID: 31221354
- AF-HFpEF. The Comorbid Conundrum. Review.
Sugumar H et al.
Under Consideration
- Pathophysiology of Atrial Fibrillation and Heart Failure: Dangerous Interactions.
Sugumar H, Nanayakkara S, Prabhu S, Voskoboinik A, Kaye DM, Ling LH, Kistler PM.
Cardiol Clin. 2019 May;37(2):131-138. doi: 10.1016/j.ccl.2019.01.002. Epub 2019 Feb 20. Review. PMID: 30926014
- Arrhythmia induced cardiomyopathy.
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J Arrhythm. 2018 Jul 20;34(4):376-383. doi: 10.1002/joa3.12094. eCollection 2018 Aug. PMID: 30167008
- How to perform posterior wall isolation in catheter ablation for atrial fibrillation.
Sugumar H, Thomas SP, Prabhu S, Voskoboinik A, Kistler PM.
J Cardiovasc Electrophysiol. 2018 Feb;29(2):345-352. doi: 10.1111/jce.13397. Epub 2017 Dec 26. PMID:29178497