



Adoption of a multi-electrode, phased radiofrequency ablation system for atrial fibrillation ablation by a single operator: outcomes and comparison to 3D mapping system guided, double trans-septal technique.

Murray S, Adam Z, Horne A,
Humphries V, Mahjid S.

James Cook University Hospital

Introduction

- AF ablation programme at JCUH commenced February 2006
- Single operator using double trans-septal technique along with Nav-X mapping; LACA, roof line and mitral line (latter stopped Dec 06)
- No CT/MRI imaging

- November 2007 switched to a novel multi-array catheter and ablation system (*Ablation Frontiers*)
- Single trans-septal puncture, imaging with venography only
- P-VAC only for PAF cases
- AF toolkit for persistent cases (P-VAC, MASC & MAAC)

Results

- **NAV-X based procedure:**
- 68% drug-free success rate in 38 patients [6/16 persistent AF and 32/47(PAF)]
- Further 2% maintaining long term sinus rhythm with AADs. 15% of patients had two or more procedures, with 4% undergoing more than two procedures.

Complications

- Serious complications were limited to tamponade, which occurred in 7%; 1 death from thrombo-embolic complication in a tamponade patient that subsequent night in hospital
- No stroke/MI/oesophageal fistula

Results with Ablation Frontiers catheters

- A total of 68 patients underwent RFA between Nov 07 to Sept 08
- 45 patients with PAF and 23 patients with persistent AF (mean age 57 years (SD 9.8))
- Mean flourosocopy time was 19 minutes in PAF & 28 minutes in persistent cases

Persistent AF Results

- 16/23 have >6 month data – off drug SR rate = 12/16
- Of 23 patients, 6 previously underwent a NavX based LACA or a surgical epicardial ablation; only 2 of these 6 remain in SR at 6 months
- 5/17 “virgin” cases have had a redo and 3/12 results from 3 awaited; 2 are in SR at 6 months

PAF results

- 45 patients underwent a PVAC PVI, with 8 previously having a NAVX based LACA
- 2/45 required a 2nd PVAC ablation
- At 3 months drug free asymptomatic patients were 29/31 (14 patients have not had 3/12 follow up)
- At 6 months 23/25 off drugs, asymptomatic

Complications

- 1 acute MI post procedure – primary PCI to LAD; 3VD also found including LMS disease – went to CABG; no post op AF, still in SR, no AADs.
- Nil else

Limitations

- Early days in terms of follow up
- Results assessed on symptoms not Holters uniformly (although most have had a 48 hour Holter)