Abstracts

Method: We retrospectively reviewed all patients who underwent VT ablation at Wellington Regional Hospital over a three year period from December 2014. Results: 63 procedures were performed on 51 patients. 38 (75%) male, with an average age of 60 years. 31 (61%) were structural and 21 (39%) idiopathic. 15 (29%) had severely impaired LV function and 22 (43%) had an ICD in situ. Symptoms consisted of palpitations 49 (96%), syncope 18 (35%) and cardiac arrest 13 (25%). Medications included beta-blockers 41 (80%), CCBs 9 (18%) and Class 1 AAD 10 (20%). 14 (27%) procedures were emergent/acute and 2 (4%) performed under GA. The primary operator considered the procedure acutely successful for 45 patients (69%). 8 required multiple procedures to achieve this outcome. According to arrhythmia burden on holter monitor or implantable device at follow up, 18 (30%) had complete abolition and 18 (30%) partial improvement/modification. 38 patients (75%) reported symptomatic improvement and 8 were able to cease amiodarone. The LV EF improved in 4 patients. There were very few complications with 2 femoral haematomas, 1 femoral pseudoaneurysm and 2 pericardial effusions. All patients were alive at 30 days.

Conclusion: Radiofrequency ablation for VT is a safe procedure with reasonably efficacy, providing a viable treatment option for many patients with difficult to manage arrhythmias.

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Rate of Appropriate and Inappropriate Therapy in Patients with Non-Ischaemic Cardiomyopathy: A Comparison between Primary and Secondary Prevention

Implantable Cardioverter-Defibrillator Patients


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Implantable cardioverter-defibrillators (ICDs) have demonstrated favourable outcomes on survival in selected patients with cardiomyopathy. However, recent studies have questioned the protective role of ICD in Non-ischaemic Cardiomyopathy (NICM) for primary prevention. Aim: To investigate the differences in ICD therapy in primary and secondary prevention ICD patients. Between 2014-2017, 182 patients (male = 117, age = 63 ± 17 years, female = 65, age = 63 ± 17 years) had ICD for NICM. Patients were divided into primary prevention (n = 97) and secondary prevention groups (n = 85) based on implant indication. Left Ventricular Ejection Fractions (LVEF) were determined by transthoracic echocardiogram. ICD stored data of ICM and NICM patients were utilised. Cumulative first shock rate, type and appropriateness of therapy were determined. There was no significant difference in clinical characteristics between the primary prevention group and secondary prevention group. Mean follow-up was 30 months after implantation. Overall ICD therapy rate was 19%. Cumulative probability of a first appropriate shock was higher in the secondary prevention group (p = 0.03). Overall, ICD therapy was significantly more frequent in the secondary prevention vs primary prevention group (25% vs 13%, p = 0.02). Inappropriate device therapy rate was insignificantly higher in primary prevention group (23% vs 19% p = NS).

The rate of appropriate device therapy was significantly greater in secondary prevention group. Inappropriate device therapy was significantly high in both groups. Due to the inherent risks associated with ICD implantation, generator changes and inappropriate therapy, further risk stratification is required for risk of SCD.

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Recovery of Atrial Electrical and Structural Remodelling Following Successful Catheter Ablation for AF Mediated Cardiomyopathy: Long Term Follow Up from the CAMERA MRI Study

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Background & Objective: Catheter ablation (CA) is successful in restoring ventricular function in patients with atrial fibrillation and cardiomyopathy as shown in the CAMERA-MRI study. We sought to determine if recovery of LV function with the restoration of sinus rhythm was associated with improvements in atrial electrical changes in a subgroup from the CAMERA-MRI study.

Methods: Detailed electroanatomic (EA) mapping of the right atrium (RA) using force sensing catheter during CS pacing was performed at the time of initial CA. An elective RA EA map was performed in willing participants a minimum of 12 months following successful CA. Bipolar voltage, fractionation and conduction velocity were collected in 4 segments (Anterior, Lateral, Posterior and Septal) together with echo and cardiac MRI.

Results: Fifteen patients (mean age 59.1 ± 6.8 yrs with an average AF burden of 0.6% (range 0-3%) post CA underwent detailed RA EA mapping at the index procedure and at 23.4 ± 11.9 months following successful CA. LVEF improved from 32.6 ± 13.3% to 56.6 ± 7.8% (p < 0.001), RA area decreased from 28.4 ± 7.2 cm² to 20.6 ± 4.3 cm² (p < 0.001) and LA area decreased from 32.9 ± 8.2 cm² to 26.8 ± 5.2 cm² (p = 0.007). On EA mapping, RA bipolar voltage increased from 1.6 ± 0.1 mV at CA to 1.9 ± 0.1 mV (p = 0.04). Atrial low voltage areas decreased from 19.7 ± 11.8% to 14.2 ± 12.5% (p = 0.073) with a significant decrease in fractionation from 21.7 ± 13.7% to 8.3 ± 7.3% (p = 0.002).

Conclusion: Recovery of atrial electrical and structural changes was observed following restoration of sinus rhythm and recovery of LV function in patients undergoing CA for persistent AF and LV systolic dysfunction.

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