

Outcome of High-power Short-duration Radiofrequency Ablation in Combination with Half-Normal Saline Irrigation for the Treatment of Atrial Fibrillation

Abhishek Maan¹, Weeranun Bode¹, E. Heist¹, Grace Ha¹, Anthony Carnicelli², Kathryn Slattery¹, Michael Fitzsimons³, Jeremy Ruskin¹, and Moussa Mansour¹

¹Massachusetts General Hospital

²Duke University

³Massachusetts General Hospital

April 27, 2020

Abstract

ABSTRACT Background: Data regarding the use of high-power short-duration (HPSD) radiofrequency (RF) in combination with half-normal saline irrigation for catheter irrigation is limited. Objectives: This study investigated the safety and efficacy of using HPSD RF ablation in combination with half-normal saline irrigation for the treatment of AF. Methods: One hundred consecutive patients with AF underwent RF ablation using HPSD combined with half-normal saline for catheter irrigation. In addition, the following ablation strategies were used: 1 mm tags for the display of ablation lesions on the mapping system, high-frequency jet ventilation (HFJV), low contact force, pacing after ablation to verify areas of noncapture, atrial/ventricular pacing at 500 to 700 ms to aid in catheter stability, use of two skin electrodes to reduce impedance, and post-ablation adenosine infusion. Power was started at 40-45 W and was modulated manually based on impedance changes. Results: The average age of patients was 65.2 years and 70% were male. Forty-seven percent had paroxysmal AF and the average CHA2DS2-VASc score was 2.1 ± 1.6 . The average power and lesion duration were 38.1 ± 3.3 W and 8.1 ± 2.3 seconds, respectively. During a median follow-up period of $321 + 139$ days, 89% of the patients remained free from any atrial arrhythmias after a single RF ablation procedure. No procedure-related death, stroke, pericardial effusion, or atrioesophageal fistula occurred during follow-up. Conclusions: Catheter ablation using HPSD RF lesions in combination with half-normal saline irrigation and is safe and effective, and results in high rate of freedom from AF.

Hosted file

HPSD JCE version AM Apr 24th 2020 .doc available at <https://authorea.com/users/315723/articles/446023-outcome-of-high-power-short-duration-radiofrequency-ablation-in-combination-with-half-normal-saline-irrigation-for-the-treatment-of-atrial-fibrillation>



