Superiority of Contact Force Catheter for Ablation of Outflow Tract Ventricular Arrhythmia

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Introduction: Poor catheter to myocardium contact may lead to ineffective ablation lesions and suboptimal outcome. Contact Force (CF) Ablation catheter provides promising way to overcome this problem. Data on use of Contact Force (CF) ablation catheters in ventricular arrhythmia (VA) is limited. We evaluated safety and efficacy of CF ablation of Outflow Tract VA.

Methods: All patients with outflow tract VA, who were subjected to Radio Frequency Ablation (RFA) over a period of 2 years using irrigated catheter with or without contact force formed the study population. They were grouped into CF or Non CF group according to the type of catheter used. All patients were followed up with clinically and by Holter monitoring for 6 months after the procedure.

Result: Forty patients underwent RFA for outflow tract VA between May 2017 to April 2019. In 20 patients (CF group) irrigated ablation catheter with CF was used for RFA (Tacticath™, St Jude Medical)(40W,40°C,17ml/cc,10-30gm) and 20 patients (NCF group) underwent RFA with irrigated catheter without contact force sensing (Flexibility, SJM 40W,40°C,17ml/cc).Baseline characteristics and results are shown in table. All patients in both the groups underwent successful RFA of VT defined as non inducibility at the end of procedure. There were no procedural complications and no in-hospital recurrence of arrhythmia. Total 7 patients in NCF group and 1 patient in CF group had recurrence of VA for which they required hospitalization and repeat procedure. Four patient in NCF group and zero in CF group were detected to have asymptomatic recurrence of VPC's on Holter (>10% VPC burden) (p<0.05).

Conclusion: Use of CF sensing catheter is safe and effective in the RF ablation of outflow tract VT. It can be an effective tool to prevent recurrence of arrhythmia in this subgroup of patients.