

[gw22-e0115]

THE EVALUATION OF IRRIGATING ABLATION CATHETER IN THE TREATMENT FOR SEVERELY SYMPTOMATIC PREMATURE VENTRICULAR CONTRACTIONS

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10.1136/heartjnl-2011-300867.536

Introduction Radiofrequency catheter ablation (RFCA) of symptomatic ventricular premature contractions has been reported to be a safe and effective treatment option, and may be considered in patients with extremely symptomatic or incapacitating cases who do not respond to medications. Some patients with asymptomatic ventricular premature contractions request RFCA. This research is to explore the efficiency and safety of radiofrequency catheter ablation (RFCA) methods in eliminating frequent premature ventricular contraction (PVCs) in severely patients with symptoms using different catheters: ordinary catheter and saline irrigating catheter.

Methods 70 patients with severely symptomatic PVCs were enrolled, aged 18–60. The patients included 28 males and 42 females and were divided into two groups randomly: Group A: Ablation using ordinary catheter, Group B: ablation using irrigating catheter. The mean frequency of PVCs was 19125+8847/24 h in group A and 22231+10270/24 h in group B were documented by Holter ECG before RFCA. The origin of PVCs was inferred from 12-lead surface ECG before RFCA, and the site of origin was mapped both by activation-mapping and pace-mapping before RFCA. The ablation site was at least 20 ms earlier than that of the onset of 12-lead ECG while activation-mapping, or the site produced the same morphology at least in 11-lead ECG as that of PVCs while pace-mapping.

Results RFCA was successful in 30 out of 35 in group A and in 33 out of 35 in group B immediately after ablation (success rate is 85.7% in group A and 94.3% in group B). After a mean follow-up of 6 months, RFCA was successful in 28 (80.0%) out of 35 patients in group A and 31 (88.5%) out of 35 in group B,

and there were no severe complications. Ablation by irrigating catheter involved less x-ray exposure ($p<0.01$), low recurrence and higher operation cost ($p<0.01$).

Conclusion RFCA is an effective and safe treatment method for severely symptomatic PVCs and 12-lead surface ECG is very helpful in localising the origin of PVCs. Irrigating catheter is more effective than ordinary catheter, irrigating catheter can be the first choice for PVCs ablation.