11-year follow-up outcomes of catheter ablation of para-hisian accessory pathways

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Funding Acknowledgements: Type of funding sources: None.

Background: Ablation of para-hisian accessory pathways (APs) remains challenging due to anatomic characteristics and few studies have focused on the causes for recurrence of radiofrequency ablation of para-hisian APs.

Objective: This retrospective single center study was aimed to explore the risk factors for recurrence of para-hisian APs.

Methods: 113 patients who had a para-hisian AP with an acute success were enrolled in the study. In the 11-year follow-up, 15 cases had a recurrent para-hisian AP. Therefore 98 patients were classified into success group while 15 patients were classified into recurrence group. Demographic and ablation characteristics were analyzed.

Results: Gender difference was similar in two groups. The median age was 36.2 years old and was younger in recurrence group. Maximum ablation power was significantly higher in success group (29 ± 7.5 vs 22.9 ± 7.8, p < 0.01). Ablation time of final target sites was found to be markedly higher in success group (123.4 ± 53.1 vs 86.7 ± 58.3, p < 0.05). Ablation time less than 60 seconds was detected in 12 (12.2%) cases in success group and 7 (46.7%) cases in recurrence group (p < 0.01). Occurrence of junctional rhythm was significantly higher in recurrence group (25.5% vs 53.3%, p < 0.05). No severe conduction block, no pacemaker implantation and no stroke were reported. Junctional rhythm during ablation (OR = 3.833, 95%CI 1.083-13.572, p = 0.037) and ablation time <60s (OR = 5.487, 95%CI 1.411-21.340, p = 0.014) were independent risk factors for the recurrence of para-hisian AP.

Conclusions: Considering the long-term safety of ablation of para-hisian AP, proper extension of ablation time and increase of ablation power could be applied during operation.