Contribution of the Posterior Left Atrium for the Maintenance of Atrial Fibrillation: Lessons from "Figure-of-Eight" Ablation

Motoki Hara1, Kazuo Matsumoto2, Ritsushi Kato2, Takeshi Tobiume2, Hitoshi Ishida2, Masahiro Uenishi2, Yoshiharu Sada1, Hikari Jo1, Yujiro Ono1, Kaoru Yanagihara1

1Department of Cardiology, Higashihiroshima Medical Center, Hiroshima, Japan, 2Department of Cardiology, Saitama Medical University, International Medical Center

We recently proposed “figure-of-eight” pulmonary vein isolation (PVI) with the common posterior ablation line used for left and right PVI, which isolates the entire posterior left atrium (LA) and PV. In this study, AF termination rate during PVI was compared between the small ostial PVI and figure-of-eight PVI, thus the contribution of the posterior LA for the maintenance of AF was examined.

Methods and Results: Small ostial PVI was performed in 69 paroxysmal (PAF), 37 persistent (PsAF) and 28 permanent AF (PmAF) patients. Figure-of-eight PVI was performed in 40 PAF, 27 PsAF and 9 PmAF patients. In PAF, sustained AF was terminated or organized in 46% by ostial PVI and 86% by figure-of-eight PVI (P<.05). The termination rate of PsAF was 19% by ostial and 49% by figure-of-eight PVI (P<.05). AF termination rate of PmAF was not significantly different between ostial (0%) and figure-of-eight PVI (11%). Conclusions: The posterior LA was important for the maintenance of AF in PAF and PsAF patients.

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