Catheter Ablation for Atrial Tachycardia Which Re-Entrant Circuit Involves Inter-Atrial Septum

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Catheter ablation of atrial tachycardias (ATs) involving inter-atrial septum is particularly challenging. We examined 3-cases undergoing ablation for AT with septal involvement. An irrigation-tip catheter was used in all cases. Case1 was 77 year-old male with mitral valve replacement. Post pacing intervals (PPIs) at the bi-atrial septum were concordant with AT cycle length (CL). The AT-CL prolonged during ablation by 60ms without any change of AT circuit. The AT was successfully terminated by ablation to the bi-atrial septum. Case2 was 60 year-old male with mitral valve plasty. Ablation was repeated with high power setting of 50W and the AT-CL gradually prolonged by 40ms during ablation without any change of AT circuit. Case3 was 74 year-old male with previous myocardial infarction. The gradual prolongation of ATCL from 240 to 390ms was followed by AT termination during ablation to the right atrial septum. In general, a jump-up of AT-CL during ablation suggests an abrupt transition of the re-entrant circuit. It was noteworthy that the re-entrant circuit itself was not changed despite the significant prolongation of AT-CL in this series. This suggests the difficulty of creating the transmural block at the inter-atrial septum. Aggressive energy delivery with an irrigation-tip catheter from bi-atria may be necessary for improving outcomes after ablation for AT with septal involvement.

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