Background: Permanent AF is occasionally observed in patients receiving ICDs. However, in some cases, AF could be terminated at DFTs. Benefit of dual chamber ICDs over single chamber ICDs in such patients is unclear.

Methods: The study subjects consisted of 50 VT/VF patients with perm-AF (41 males/9 females, 61±12 y.o.) including 16 ischemic heart disease, 19 cardiomyopathy. In all patients, single chamber ICDs were selected and DFTs were performed. We assessed the frequency of SR restoration and maintenance of SR during follow-up. Results: Perm-AF was terminated in 15 (30%) patients at DFT. Longevity of AF, usage of amiodarone, LVEF were not significantly different between patients with and without termination of AF. Univariate regression analysis revealed smaller LAD (47 ±3 v.s. 54±2mm, p=0.03) and larger fibrillatory-wave in V1 (0.13 v.s. 0.08mV, p=0.02) could be predictors for SR restoration. During follow-up, sustained AF recurred in 13/15 at one month and in 14/15 at one year. Conclusion: In patients with smaller LAD and larger fibrillatory-wave in V1, perm-AF were possibly terminated at DFTs. However, because maintenance of SR was almost impossible, atrial leads are unnecessary.

Keywords: ICD, DFT, atrial fibrillation