The Influence and Safety of Oral Amiodarone Discontinuation on Appropriate and Inappropriate Shock After Implantation of Implantable Cardioverter Defibrillator

Masato Hachisuka
Hiroshi Hayashi
Toshiki Arai
Kakeru Ishihara
Rei Mimuro
Yuji Maru
Yuhi Fujimoto
Eiichiro Oka
Kanako Hagiwara
Hiroshige Murata
Teppei Yamamoto
Akinori Sairaku
Kenji Yodogawa
Yu-ki Iwasaki
Wataru Shimizu

Introduction: Amiodarone is often prescribed in patients with implantable cardioverter defibrillator (ICD) to prevent life-threatening ventricular tachyarrhythmia. Although discontinuation and reduction of amiodarone is desired because of life-threatening side effect such as interstitial pneumonia and liver dysfunction, the influence and safety of AMD discontinuation on incidence of appropriate and inappropriate ICD shock has not been fully elucidated. The present study aimed to evaluate the clinical outcomes and safety of oral amiodarone discontinuation on appropriate and inappropriate therapy in patients who underwent ICD or cardiac resynchronization therapy defibrillator (CRTD) implantation.

Methods: One-hundred fourteen consecutive patients (96 men, age 65±12 years) who underwent ICD (n=77) or CRTD (n=37) implantation from 2011 to 2017 were enrolled in the study. The clinical parameters and outcomes were compared between the patients who discontinued or reduced amiodarone and who did not.

Result: Among the 114 consecutive patients, 56 (49%) patients were under amiodarone therapy at the time of implantation. These 56 patients had lower left ventricular ejection fraction (LVEF) (28±12% vs. 35±15% P=0.01) and had higher prevalence of chronic kidney disease (30% vs. 13% P=0.03) compared to patients without amiodarone. During 36±25 months of follow-up, amiodarone was discontinued in 9 (7%) patients and a significant reduction of amiodarone was observed in 24 (21%) patients (196±61 mg/day vs. 94±27 mg/day P<0.01) (AMD-withdrawal group; n=33). The remaining 24 patients continued 156±64 mg/day of amiodarone (AMD-continue group). Compared the AMD-withdrawal group and AMD-continue group, there was no difference in patient characteristics including age, gender, LVEF, number of patients with AF and primary prevention between the two groups. The incidence of appropriate shock (30% vs. 30% Log-rank P=0.56) and inappropriate shock (13% vs. 18% Log-rank P=0.96) were similar between the two groups. The cause of inappropriate ICD shock was due to false interpretation of tachycardiac atrial fibrillation (62%) and atrial tachycardia (37%).
Conclusion: The discontinuation and reduction of amiodarone is safe and did not increase the incidence of both appropriate and inappropriate therapy in patients after ICD/CRTD implantation.