

## 비판막성 심방세동으로 인한 빈맥성 심근병증에서 Amiodarone의 효과

염혜정 · 박성훈 · 전성희 · 장지은

### Efficacy of Amiodarone in Tachycardia Induced Cardiomyopathy due to Non-Valvular Atrial Fibrillation

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#### ABSTRACT

**Background and Objectives** : Drug therapy to treat atrial fibrillation has been achieved unsatisfactory results due to the frequent failure to maintain a sinus rhythm as well as the occurrence of adverse side effects. This study investigated the efficacy of amiodarone for the treatment of tachycardia-induced cardiomyopathy due to non-valvular atrial fibrillation. **Subjects and Methods** : We treated twenty-seven patients with tachycardia-induced cardiomyopathy due to non-valvular atrial fibrillation with amiodarone in order to convert to and maintain the sinus rhythm. We followed up and compared the functional status, electrocardiography and parameters of echocardiography before and after treatment with amiodarone. **Results** : Patients treated with amiodarone showed cardiac functional improvement based on New York Heart Association classification. Eighteen patients (66.7%) out of the total 27 converted to sinus rhythm. The pulse rate decreased from  $109.0 \pm 34$  bpm (beats per min) before the administration of amiodarone to  $70.3 \pm 13.0$  bpm after medication. The size of the left atrium decreased from  $50.7 \pm 6.7$  (mm) to  $46.9 \pm 5.6$  (mm). The ejection fraction (EF) improved from  $36.2 \pm 14.9$  (%) to  $51.2 \pm 17.7$  (%). **Conclusion** : Amiodarone is effective in the conversion to sinus rhythm as well as ventricular rate control in patients with atrial fibrillation induced cardiomyopathy. The cardiac functional status and the echocardiographic parameters of left ventricular function in patients with tachycardia-induced cardiomyopathy due to atrial fibrillation improved with amiodarone therapy. (**Korean Circulation J 2001;31(12):1305-1310**)

**KEY WORDS** : Atrial fibrillation ; Tachycardia ; Myocardial diseases ; Amiodarone ; Echocardiography.

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class I 4 (14.8%), class II 7

(25.9%), class III 13 (48.1%), class IV 3 (11.1%)

, class I 17 (63.0%),

class II 8 (29.6%), class III 2 (7.4%), class IV 0

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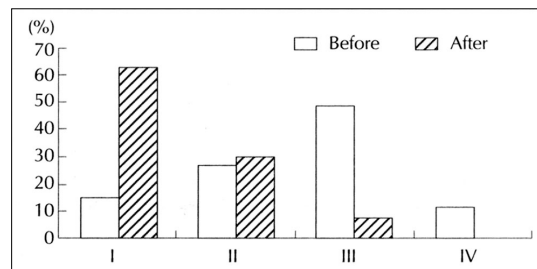
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**Fig. 1.** Changes in functional status based on New York Heart Association (NYHA) in 27 atrial fibrillation patients before and after amiodarone treatment.

me : DT) 9 (33.3%) 2.3

49.5 ± 14.6(mm), 41.8 ± 15.1(mm), 7.7 ± 10.6(mm) (1 9 ) 36.2 ± 14.9(%) 51.2 ± 17.7(%) 가 50.7 ± 6.7(mm) 46.9 ± 5.6(mm) 63.5 ± 8.8 bpm , 79.1 ± 13.3 bpm 1.0 ± 0.2(m/sec) 0.7 ± 0.2(m/sec) 231.6 ± 70.3 msec 155.6 ± 41.9 msec 160.2 ± 45.6 msec 206.9 ± 72.9 msec 가 (Table 1). (Table 2). 109.4 ± 34.3 /min , 70.3 ± 13.0 /min 고 찰 27 18 (66.7%)

**Table 1.** Changes in echocardiographic variables observed in 27 atrial fibrillation patients during follow-up with amiodarone treatment

	Before amiodarone treatment	After amiodarone treatment	p
LVEDD (mm)	61.3 ± 12.5	60.0 ± 12.1	NS
LVESD (mm)	49.5 ± 14.6	41.8 ± 15.1	.00
EF (%)	36.2 ± 14.9	51.2 ± 17.7	.00
LA (mm)	50.7 ± 6.7	46.9 ± 5.6	.00
E (cm/sec)	1.0 ± 0.2	0.7 ± 0.2	.00
DT (msec)	155.6 ± 41.9	206.9 ± 72.9	.00

LVEDD : left ventricular end diastolic diameter, LVESD : left ventricular end systolic diameter, EF : ejection fraction, LA : left atrium, E : peak mitral flow velocity of the early rapid filling wave, DT : deceleration time

**Table 2.** Comparison of pulse rate and parameters of echocardiography between normal sinus rhythm group and atrial fibrillation group after amiodarone therapy

	NSR Group (N=18) Mean ± SD	AF Group (N=9) Mean ± SD	p
PR (bpm)	63.5 ± 8.8	79.1 ± 13.3	.01
LVEDD (mm)	55.4 ± 6.1	66.9 ± 16.1	NS
LVESD (mm)	36.1 ± 8.5	50.8 ± 19.1	NS
EF (%)	55.9 ± 15.2	43.4 ± 18.9	NS
LA (mm)	46.5 ± 5.7	46.9 ± 5.7	NS
E (cm/sec)	0.7 ± 0.2	0.8 ± 0.3	NS
DT (msec)	231.6 ± 70.3	160.2 ± 45.6	.02

NSR : normal sinus rhythm, AF : atrial fibrillation, PR : pulse rate, LVEDD : left ventricular end diastolic diameter, LVESD : left ventricular end systolic diameter, EF : ejection fraction, LA : left atrium, E : peak mitral flow velocity of the early rapid filling wave, DT : deceleration time

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109.4 ± 34.3 /min 70. 3 ± 13.0 /min 18)19) 1 Rhythm 27 가 . 9 (33.3%), 18 (66.7%) . 1 300 J 가 가 20)21)

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36.2 ± 14.9(%) 51.2 ± 17.7(%) 가 1.0 ± 0.2(m/sec) 0.7 ± 0.2(m/sec) 155.6 ± 41.9(msec) 91 mm, 22% 13 amio - 206.9 ± 72.9(msec) 가 63 mm, 42% 23)24) am - iodarone 1 amiodarone 400 mg 1 2 200 mg 1 2 가 T3 95.1 ng/dL(80 200), T4 4.5 µg/dL(4.5 12.5), TSH 54.2 mU/L(0.4 5.0) 가 200 mg 1 1 가 . Amiodarone digoxin 19 0.125 0.25 mg digoxin amiodarone digoxin 24 cou - 가 가 24 cou - 가가 madine 2 mg amiodarone

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