

POSTER PRESENTATION

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# The impact of mid-wall striate of LGE at interventricular septum to the beta-blocker (Carvedilol) titrating to the target dose and the improvement of cardiac function with DCM

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## Introduction

It was reported that mid-wall striate late gadolinium enhancement at interventricular septum (MWS-LGE) definite by CMR was strong predictor of prognosis including sudden death with dilated cardiomyopathy (DCM). On the other hand, randomized trial have shown that beta-blockers lead symptomatic improvement, reduced hospitalization and enhanced survival in many patients with heart failure.

## Purpose

The object of this study was to evaluate the impact of mid-wall striate of LGE(MWS-LGE) at interventricular septum to beta-blocker (Carvedilol) titrating to the target dose and improvement of cardiac function with DCM.

## Methods

Fifty-five patients with DCM examined by LGE-CMR were enrolled. They were treated with Carvedilol at higher dose as possible.

They were divided into two groups according to MWS-LGE positive or not.

The maximum dose of Carvedilol with each group at chronic stable condition(after 21.6 +/- 21.4 months later from initiation of Carvedilol) were compared. The improvement of UCG parameter of each group by Carvedilol therapy was examined.

## Results

1) The UCG parameters of all 55 DCM patients recorded just before initiation of Carvedilol were LVDd;  $65.2 \pm 7.5$ mm, LVDs;  $56.3 \pm 8.5$ mm, EF;  $28.2 \pm 8.1$ % and mean final dose of Carvedilol with all 55 DCM patients was  $11.5 \pm 5.5$ mg.

2) MWS-LGE was found in twenty patients of DCM (38.1%) with LGE-CMR.

3) There were no significant difference between two groups in LVDd, LVDs and EF( $P > 0.79$ ,  $P > 0.92$ ,  $P > 0.76$ , respectively) at first echocardiograph.

4) The final dose of carvedilol with MWS-LGE -positive group was lower than with MWS-LGE -negative group ( $9.2 \pm 5.4$  mg VS  $13.0 \pm 5.1$ mg, respectively).

5) The UCG parameter showed improvement at chronic stable phase compared to those had recorded at just before initiation of Carvedilol in the both groups, but especially in the MWS-LGE negative group showed a greater improvement than those of MWS-LGE positive group (Table 1).

## Conclusions

The relationship between the beneficial effect of Carvedilol with DCM and MWS-LGE defined by LGE-MRI was examined. The DCM patients with MWS-LGE negative showed higher maximum dose of Carvedilol and greater improvement of UCG parameters compared

**Table 1 The UCG parameters at chronic stable phase**

MWS-LGE	LVDd(mm)	LVDs(mm)	EF(%)
Negative	$54.4 \pm 7.7$	$39.8 \pm 9.9$	$52.3 \pm 14.2$
Positive	$63.1 \pm 10.9$	$52.4 \pm 14.8$	$36.2 \pm 18.1$
P-value	<0.02	<0.02	<0.01

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to those of patients with MWS-LGE positive. The MWS-LGE has a potential to have a strong worse impact to titrating and beneficial effect of Carvedilol with DCM.

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