

# 허혈성 확장형 심근증과 특발성 확장형 심근증환자에서 QT 간격분산의 차이

홍그루 · 전대진 · 배준호 · 석준호 · 박종선 · 신동구 · 김영조 · 심봉섭

## Difference of QT Dispersion between Patients with Ischemic and Idiopathic Dilated Cardiomyopathy

Gue Ru Hong, MD, Dae Jin Jun, MD, Jun Ho Bae, MD, Jun Ho Suk, MD,  
Jong Seon Park, MD, Dong Gu Shin, MD, Young Jo Kim, MD and Bong Sup Sim, MD

Department of Internal Medicine, Division of Cardiology, Yeungnam University Hospital, Taegu, Korea

### ABSTRACT

**Background and Objectives :** QT dispersion (QTd) is defined as the difference between the maximum and minimum QT interval in any of the 12 leads of the surface ECG. QTd has been shown to reflect regional variations in ventricular repolarization. Ischemic dilated cardiomyopathy (DCM) may lead to more spatial and temporal dispersion in ventricular repolarization than idiopathic DCM. The purpose of this study was to determine the difference of QTd between patients who had ischemic and idiopathic DCM. **Materials and Methods :** The study population included 30 patients with ischemic DCM and 30 with idiopathic DCM. All standard 12-lead ECGs were examined prospectively by two observers who were unaware of the patient's details. **Results :** QTd in ischemic DCM was significantly higher than that in idiopathic DCM ( $63 \pm 32$  vs.  $44 \pm 26$  msec,  $p = 0.012$ ) and JTd in ischemic DCM was significantly higher than that in idiopathic DCM ( $48 \pm 21$  vs.  $36 \pm 22$  msec,  $p = 0.036$ ). Results did not change when Bazett's QTc and JTc was substituted for QT (QTcd :  $69 \pm 33$  vs.  $52 \pm 28$  p = 0.039) and JT (JTcd :  $56 \pm 21$  vs.  $41 \pm 25$  p = 0.043). **Conclusion :** Ischemic DCM has increased spatial inhomogeneity of repolarization probably due to more regional myocardial damages compared with idiopathic DCM. The value of QT dispersion as an easily accessible, non-invasive method in predicting the risk of life threatening arrhythmia and overall mortality in patients with dilated cardiomyopathy must be confirmed in prospective trials. (Korean Circulation J 1999;29(5):492-497)

**KEY WORDS :** QT dispersion · Dilated cardiomyopathy · Heart failure.

### 서 론

QT	12	QT	
: 1999 1 25			1-2)
: 1999 5 7			
: , 705 - 035		317 - 1	3-4)
: (053) 620 - 3830 ·		(053) 654 - 8386	
E - mail : pjs@medical.yeungnam.ac.kr		가	QT

1985 Mirvis<sup>5)</sup> , 방 법

QT JT , 12 50 mm/sec QT

6-7) JT , RR digitizer 가

8-10) (PTCA) , Bazett ( $QT_c = QT/RR^{1/2}$ )<sup>15-16)</sup> JT

11-14) QT (corrected QT interval) JT QT (corrected JT interval) , JT

가 12) QT (QTd) = QT - QT JT (JTd) = JT - JT QTc (QTcd) = QTc - QTc JTc (JTcd) = JTc - JTc

QT JT T T 가 (iso - electric line) , U 가 T

QT

대상 및 방법

통계 분석 SPSS/PC<sup>+</sup> Student's t - test . p 0.05 , p 0.05 0.09

대 상

30 (ejection fraction), , NYHA class 30

50% 1 63 , 61 가 , NYHA class, 가 , QT , QT amiodarone, sotalol (Table 1).

4)

**Table 1.** Baseline characteristics in ischemic and idiopathic DCM

	Ischemic DCM (n=30)	Idiopathic DCM (n=30)	p value
Age (yrs)	63 ± 10	61 ± 12	NS
Sex (M/F)	16/14	14/16	NS
NYHA class			NS
	6	5	
	24	25	
Ejection fraction	0.37 ± 0.12	0.37 ± 0.11	NS
S-Sodium (mEq/L)	140 ± 4.5	141 ± 5.2	NS
Medication			NS
Inotropic agents	25	26	
Vasodilators	23	25	
Diuretics	27	28	
DM	7	8	NS
Hypertension	9	8	NS

DCM : Dilated cardiomyopathy, NYHA : New York Heart Association, DM : Diabetes mellitus

**Table 2.** Comparison of various parameters representing repolarization inhomogeneity between ischemic and idiopathic DCM

	Ischemic DCM (n=30)	Idiopathic DCM (n=30)	p value
QT dispersion (msec)	63 ± 32	44 ± 26	0.012
QTc dispersion (msec)	69 ± 33	57 ± 28	0.039
JT dispersion (msec)	48 ± 21	36 ± 22	0.036
JTc dispersion (msec)	56 ± 21	44 ± 25	0.043
RR interval (msec)	690 ± 70	720 ± 90	NS

DCM : Dilated cardiomyopathy

## 각군간의 비교 (Table 2)

### QT

63 ± 32 msec,

44 ± 26 msec

가 (p=0.012). JT

48 ± 21 msec,

36 ± 22 msec

가 (p=0.036, Fig. 1). QT

RR QT (QTcd)

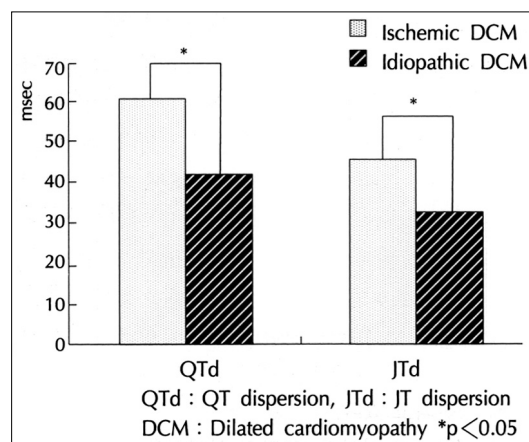
69 ± 33 msec

52 ± 28 msec

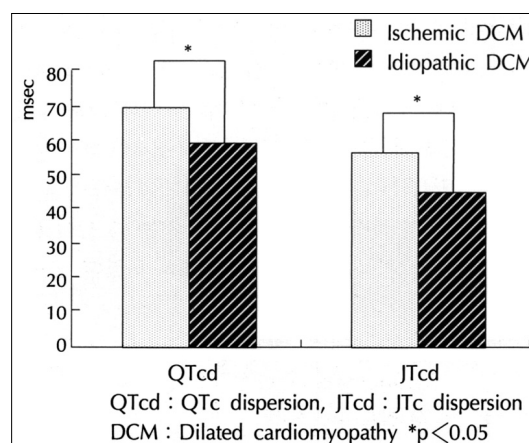
(p=0.039), JT

(JTcd) ] 56 ± 21 msec,

41 ± 25 msec



**Fig. 1.** Comparison in QTd and JTd between patients with ischemic DCM and patients with idiopathic DCM.



**Fig. 2.** Comparison in QTcd and JTcd between patients with ischemic DCM and patients with idiopathic DCM.

(p=0.043, Fig. 2).

## 고찰

QT 12

QT

. QT 1985 Mirvis<sup>5)</sup>

, 1990 Day<sup>7)</sup>

12

QT

Higham<sup>17-18)</sup>

MAP(monophasic action potential)

가 12 QT

495



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