

## 심장신경성 실신 환자에서 장기간 추적 관찰시 치료 유무에 따른 재발률의 비교 연구

안석진 · 김준수 · 하경원 · 홍선희 · 조옥현 · 이상철 · 박승우  
권현철 · 김덕경 · 이상훈 · 홍경표 · 박정의 · 서정돈 · 이원로

### Long-term Follow-up in Patients with Neurocardiogenic Syncope with or without Therapy

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#### ABSTRACT

**Background and Objectives** : Neurocardiogenic syncope is the major type of syncope and beta-blocker is initial drug of choice. However, the data generated from the studies so far could not represent the beneficial effects of beta-blocker, and the recurrence rate in the long term was not established. This study examined the long-term follow-up in patients with neurocardiogenic syncope with or without therapy and compared among the therapeutic strategies in preventing the relapse of syncope. **Materials and method** : Among the 197 patients with neurocardiogenic syncope or presyncope, who underwent head-up tilt test (HUT) from Oct. 1994 to Sep. 1996, we investigated 125 patients (59 males and 66 females). They were either interviewed on the phone or answered the questionnaire. The mean age was  $39 \pm 16$  years old and the mean duration of follow-up was  $19 \pm 5.9$  months. **Results** : Out of the 125 patients, 85 patients (68%) turned out to be HUT-positive and 40 patients (32%), negative. In the course of the follow-up in the HUT-positive patients, the symptoms recurred in 2 (10%) of the 20 patients who continued medication, 4 (25%) of the 16 patients who had no medication, and 11 (22.4%) of the 49 patients who discontinued medication on the way. Out of the 20 HUT-positive patients who continued medication, the symptom recurred in 1 (7.1%) of the 14 patients who received head-up tilt guided therapy, and 1 (16.1%) of the 6 patients in empirical therapy group. **Conclusion** : The outcome of the group who had gone through the long-term treatment of neurocardiogenic syncope, was found to be more favorable than the one of no therapy group, and this implies that the tilt-guided therapy may be more effective than the empirical therapy in order to prevent neurocardiogenic syncope. However, there would be more randomized, placebo-controlled and larger scale research to be desired at this point. (**Korean Circulation J 1998;28(9):1502-1508**)

**KEY WORDS** : Neurocardiogenic syncope · Head-up tilt test · Long-term follow-up.

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서 론

(neurocardiogenic syncope)

(head -

up tilt test)

1-3)

가 가

가

4-8)

Cox

9)

70

30 2

10

. 30

70

isoproterenol provocation

. Isoproterenol provocation

isop -

roterenol 1 µg/min

3

9)10-14)

1 µg/min 가 5 µg/min

Isoproterenol provocation 1

isopr -

oterenol 가

(1) , (2) isoprot -

가

erenol intolerance , (3) heart rate > 150

/ , (4) isoproterenol 5 µg/min

5

대상 및 방법

3)

대상환자

1994 10 1996 9 24

, 가

(1) (vasodepressive ty -

pe) - 80 mmHg (2)

259

(cardioinhibitory type) - 3

가 45 ,

197

isoproterenol 60

(3) (mixed type) -

가 가 125

가

진단목적의 기립경사 검사

치 료

atenolol 25 75 mg ( )  
 propranolol ) atenolol 가  
 theophylline 100 130 mg 12

(tilt - guided therapy)  
 (empirical therapy)

추적조사

(syncope)  
 (presyncope)

통 계

±  
 SPSS for Window(version 7.5)  
 Fisher's exact test, Student t - test,  
 one - way ANOVA test . p 0.0  
 5

결 과

대상환자의 특성  
 125 39 ± 16 ( : 15  
 79 ) , 59 , 66  
 19 ± 5.9 . 125  
 85 (68%),  
 40 (32%) (Table 1).

37

32

16

Table 1. Clinical characteristics of patients

	Positive head up tilt test (n=85)	Negative head up tilt test (n=40)	p-value
Male/female	40/45	19/21	NS
Age (years)	39 ± 14	40 ± 19	NS
Follow-up (months)	20.7 ± 5.7	18.2 ± 5.9	NS
Syncope episodes before follow-up	5.2 ± 4.6	3.6 ± 3.2	p<0.05

Mean ± S.D., NS : not significant

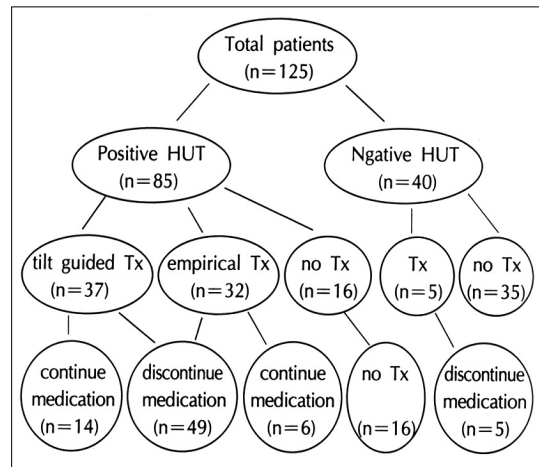


Fig. 1. Patients distribution. HUT : head-up tilt test, Tx : treatment.

40 35

, 가

5

5

(Fig. 1).

각군간의 재발률

20 2 (10%), 16 4 (2  
 5%), 49 11 (22.4%)

(Table 2, Fig. 2).

(tilt - guided therapy) 37

14

1 (7.1%)

(atenolol)

(empirical therapy) 32

**Table 2.** Comparison of recurrence rate among "continue medication" group, "no treatment" group, and "discontinue medication" group in positive HUT

	Continue medication (n=20)	No treatment (n=16)	Discontinue medication (n=49)	p-value
Mean age (years)	40 ± 14	36 ± 16	40 ± 14	NS
Male/female	8/12	7/9	25/24	NS
Mean follow-up (months)	19.2 ± 6.7	19.8 ± 5.9	21.6 ± 5.2	NS
Syncope episodes before follow-up	7.3 ± 6.9	2.9 ± 2.1	4.5 ± 2.8	NS
Recurrence	2 (10%)	4 (25%)	11 (22.4%)	NS

HUT : head-up tilt test Tx: treatment

**Table 3.** Comparison of recurrence rate in patients with positive head-up tilt test who had continued to take medication

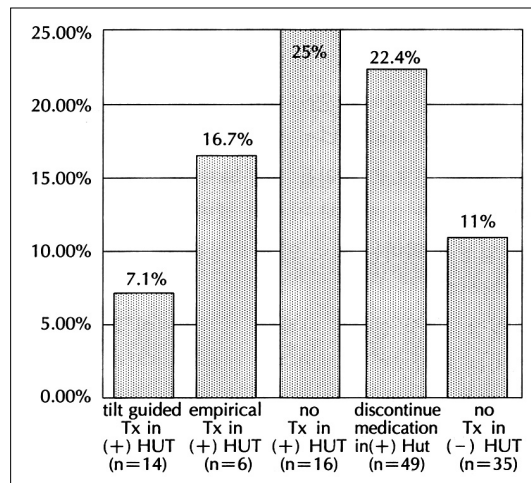
	tilt-guided therapy (n=14)	empirical therapy (n=6)	p-value
Age (years)	38 ± 13	46 ± 13	NS
Male/female	4/10	4/2	NS
Follow-up (months)	19.6 ± 5.9	18.3 ± 8.7	NS
Syncope episodes before follow-up	6.9 ± 6.1	1.7 ± 0.7	p<0.05
Recurrence	1 (7.1%)	1 (16.7%)	NS

Mean ± S.D., NS : not significant

**Table 4.** Comparison of recurrence rate between no treatment patients in positive HUT and negative HUT

	no Tx in (+) HUT (n=16)	no Tx in (-) HUT (n=35)	p-value
Age (years)	36 ± 16	40 ± 19	NS
Male/female	7/9	17/18	NS
Follow-up (months)	19.8 ± 5.9	18.2 ± 5.8	NS
Recurrence	4 (25%)	4 (11%)	NS

Mean ± S.D., HUT : head-up tilt test, Tx : treatment, NS : not significant



**Fig. 2.** Comparison of recurrence rate among treatment modalities.

. Tilt - guided therapy

가 6.9 ± 6.1 , empirical therapy

1.7 ± 0.7 tilt - guided therapy

가 (p<0.05) (Table 3, Fig. 2).

6  
1 (16.7%) tilt - guided therapy empi -  
irical therapy

. Tilt - guided therapy

37 10

theophylline

3

7

가 2

27 가 11

1

,

16 6

.

16 4 (25%)

4 (11%)

(Table 4, Fig. 2).

고 찰

postural tone

. Day 15)



Natale <sup>11)</sup> 2.8 ± 1.8 197  
 tilt guided therapy 220 12 (6%), emp-  
 irical therapy 44 16 (36%),  
 49 33 (67%) 19.9 ± 5.9 39 ± 16 ,  
 가 . 125 ,  
 (P<0.05). tilt - guided 85 (68%), 40 (32%)  
 therapy empirical therapy .  
 가 , 37  
 32 .  
 37  
 Cox <sup>9)</sup> - 14 1 (7.  
 (28 ± 11 ) . - 1%) . 32  
 6  
 10%, - 1 (16.7%) .  
 23%, tilt - guided therapy 49 11 (22.4%) .  
 42% 16 4 (25.  
 (p<0.05). 0%) .  
 tilt - guided 40 35 4 (11.  
 therapy 가 4%) .  
 가 tilt - guided th -  
 erapy em -  
 pirical therapy 가 가 . 가  
 tilt - guided therapy 가 .

요 약

서 론 :

중심 단어 :

감사문 \_\_\_\_\_

1997

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