

일측성 전정기능장애 환자에서의 온도안진검사, Velocity Step Test, 동적자세검사 사이의 상관관계

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Correlations of Caloric Test, Velocity Step Test and Posturography in Unilateral Peripheral Vestibulopathy

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— ABSTRACT —

Background and Objective : The advent of rotation test and computed dynamic posturography, along with the caloric test has endowed the physician with an amazing insight into the pathophysiology of the vestibular system. The purpose of this study is to investigate the relationship of the three vestibular function tests in unilateral peripheral vestibulopathy according to compensation. **Materials and Methods** : Among 612 patients who have received vestibular function test in Asan Medical Center, from January to December in 1998, this study was performed on 121 patients who showed canal paresis of 20% or more in caloric test. The patients who showed symmetry in SHA test (slow harmonic acceleration test) were defined as compensated group (n = 82), and the patients who showed asymmetry in SHA test were defined as uncompensated group (n = 39). To investigate the relationship of the three vestibular function tests, the canal paresis was used as parameter for the caloric test, the SCEP-DP (Slow cumulative eye position-directional preponderance) and Tc-DP (time constant-directional preponderance) for the velocity step test, and the equilibrium score of vestibular function for the posturography. **Results** : There were close relationships between canal paresis and SCEP-DP ($r=0.59$ in uncompensated group, $r=0.39$ in compensated group), between canal paresis and Tc-DP ($r=0.53$ in uncompensated group, $r=0.42$ in compensated group) and between SCEP-DP and Tc-DP ($r=0.83$ in uncompensated group, $r=0.49$ in compensated group). Equilibrium score of vestibular function showed a minute correlation with SCEP-DP in compensated group ($r=-0.2$) and no correlation with the others. There was a close relationship between SHA test and posturography in deciding compensation or not ($p<0.05$ by χ^2 -test). **Conclusion** : We have found a close relationship of canal paresis, SCEP-DP and Tc-DP regardless of compensation. Equilibrium score of vestibular function showed a minute correlation with SCEP-DP in compensated group and no correlation with the others. We have also found a close relationship between SHA test and posturography in deciding compensation or not. (**J Clinical Otolaryngol 2000;11:53-59**)

KEY WORDS : Unilateral peripheral vestibulopathy · Caloric test · Velocity step test · Posturography.

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서 론

가 54 (44.6%), 가 67 (55.4%)
 15 82
 54.4 /
 SHA test (symmetry)
 (asymmetry)
 가 121
 가 39 (32.2%) 82 (67.8%)
 82 71
 , 39 23
 velocity step test slow harmonic acceleration
 (SHA) test velocity step test
 slow cum - 35 , 15 50 가
 relative eye position(SCEP) 가 , 46 가
 8
 가 2 , 1
 가 14 (Table 1).

연구방법

가¹⁻⁴⁾
 가 121 Micromedical Co-
 가 mputerized Electronystagmogram 30
 30 44
 가 40
 ve -
 locity step test 5
 canal paresis Jonkee

대상 및 방법

연구대상 Velocity step test
 1998 1 1998 12 Micromedical System 2000
 612 100 / ,
 canal paresis가 20% 121 / 100 / 2 가 100
 dynamic phase
 100 / 2 st -

. Velocity Step Test.

Table 1. Disease entities of subjects

	Compensation	Non-compensation	Total
Vestibular neuronitis	35	15	50
Meniere's disease	32	14	46
Cholesteatoma	5	3	8
Sudden hearing loss	2	0	2
Acoustic neuroma	0	1	1
Others	8	6	14

opped phase 가 phase . Dy - . 3)
 namic stopped phase 가 가 가 . 4)
 가
 10 가 . 5)
 가
 6) 가
 .
 (center of gr -
 SCEP avity 100 , 6.25
 (slow phase velocity curve) 0) (EquiTest Ver 5.03, Ne-
 uroCom, Clackamas, Oregon, USA)
 37% , 5 1
 SCEP Tc=SC - (equilibrium score of
 EP/(initial velocity x correction factor) vestibular function)
 , correction factor 1.1 .
 (directional preponderance, DP) 통계분석
 dynamic phase stopped phase canal paresis velocity
 , stopped phase step test SCEP - DP Tc - DP,
 dynamic phase
 $100 \times \{(\text{dynamic ph -}$ Pearson correlation
 $\text{ase + stopped phase)} - (\text{dynamic phase +}$ test SHA test
 $\text{stopped phase})\} / (\text{dynamic phase +}$
 $\text{stopped phase + dynamic phase + stopped}$
 $\text{phase})(\%)$.

결 과

modified parachute harness
 , sensory organization test 각 지표 사이의 상관관계
 (SOT) . SOT 6가 Canal paresis SCEP - DP
 . 1) 가
 . 2) 가

($p < 0.05$).
 0.30 canal paresis SCEP - DP Tc - DP
 SCEP - DP (Fig. 1). 0.49 ($p < 0.05$). 0.83, SCEP - DP Tc - DP (Fig. 3).
 Canal paresis Tc - DP
 DP ($p < 0.05$). 0.42 canal paresis Tc - DP (Fig. 2). 0.53, ($p > 0.05$).

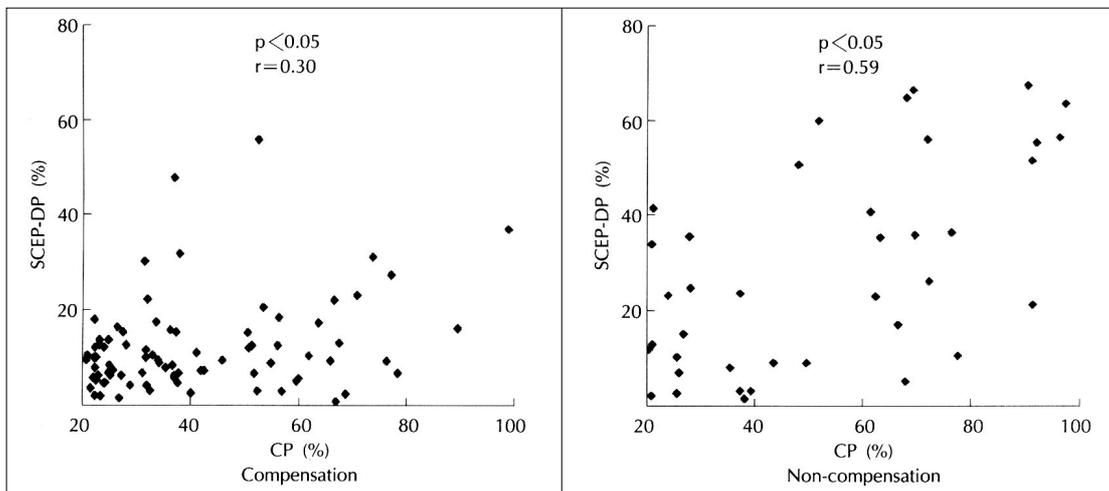


Fig. 1. Correlation between canal paresis and SCEP-DP.

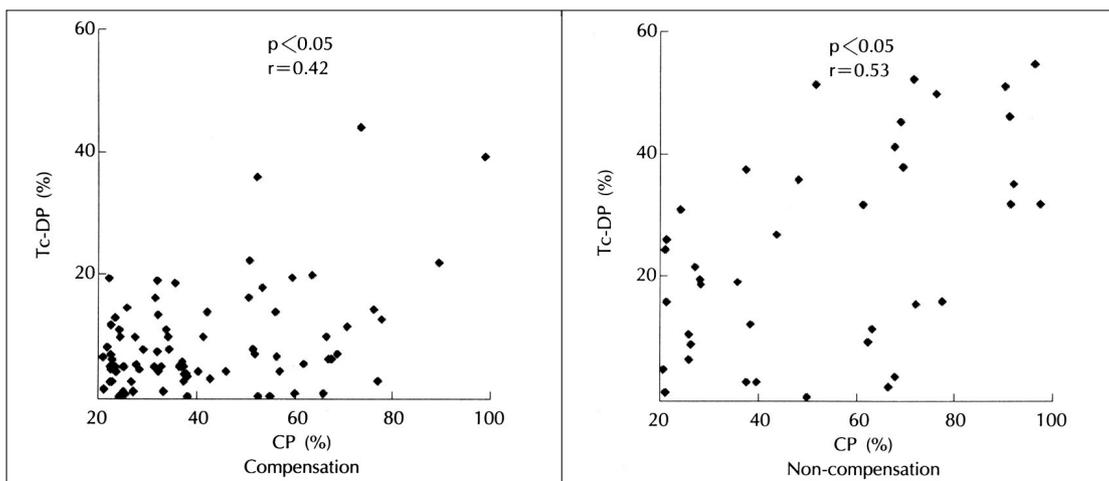


Fig. 2. Correlation between canal paresis and Tc-DP.

. Velocity Step Test.

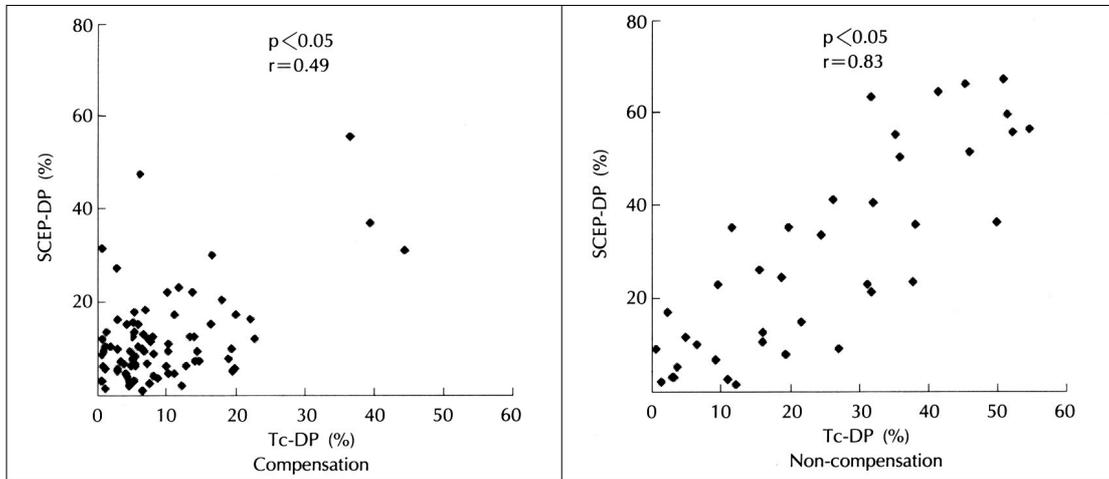


Fig. 3. Correlation between Tc-DP and SCEP-DP.

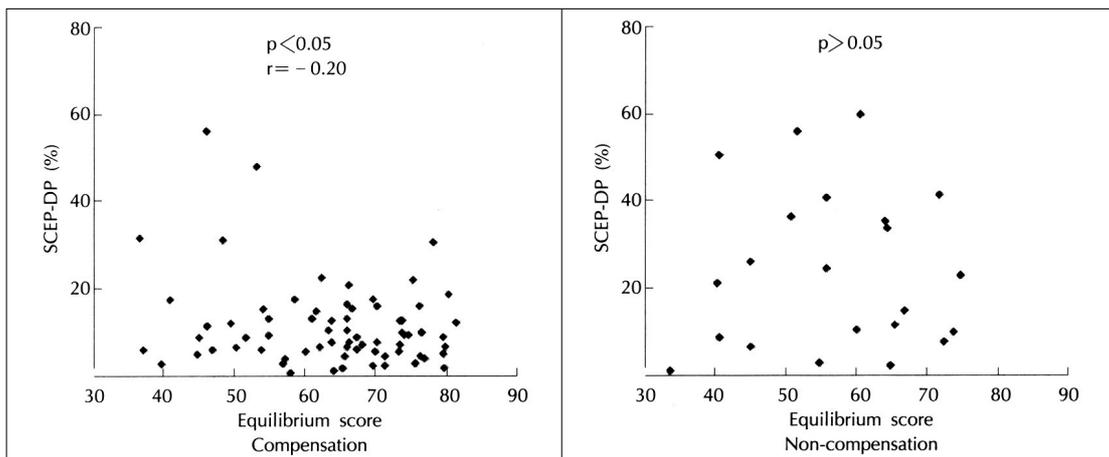


Fig. 4. Correlation between equilibrium score and SCEP-DP.

SCEP - DP

- 0.2

(Fig. 4).

Tc - DP

Table 2. Comparison between SHA test and posturography

	SHA test	
	Compensation	Non-compensation
Posturography Normal	59	13
Posturography Abnormal	12	10

$p < 0.05$ by χ^2 -test

59

가

12

SHA test

23

보상 여부에 따른 SHA test와 동적자세검사의 비교

SHA test

71

가

10

가 13 . step test canal paresis SCEP -
 SHA test 가 DP Tc - DP 가 .
 가 가 .
 ($p < 0.05$) (Table 2).
 가
 고 찰
 Jongkee canal paresis 가 가 가 .
 가 가 가 ,
 20% 30%
 8)9)
 SCEP - DP, Tc - DP가
 가 가
 5-7) canal pare -
 sis가 20% 가
 가 , metry가 0 가
 가 가 -0.2 SCEP - DP
 가 가 ve -
 가 locality step test 가 (ve -
 . stibulospinal tract) 가 1)10)11)
 가 가
 , 8) 가 3)4)
 가 가
 가
 Canal paresis가 20% SHA test
 velocity

SHA test
가 17%
SHA test
가 57%

. Velocity Step Test.

중심 단어 : . Ve-
locity step test .

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가
2-4)
결
분
Canal paresis가 20%
canal paresis SCEP - DP Tc - DP
가
가
SCEP - DP - 0.2
SHA test