

## Factors Influencing the Changes of BAEPs in Vertebrobasilar Transient Ischemic Attacks

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### - Abstract -

**Background and Purpose** : Brainstem auditory evoked potentials(BAEPs) are responses of the brainstem by auditory stimulation. Vertebrobasilar transient ischemic attacks is the disease that occurs by insufficient circulation in the region of brainstem. The purpose of this study is to know the factors influencing the changes of BAEPs in vertebrobasilar transient ischemic attacks. **Methods** : The subject of study was 96 patients diagnosed as vertebrobasilar transient ischemic attacks. Patients were divided into two groups according to the BAEPs findings. Their age, sex, presence of hypertension, diabetes, hyperlipidemia, heart disease, neurologic findings, previous stroke, previous vertebrobasilar transient ischemic attacks, smoking and alcohol drinking, and time period between symptom onset and testing were compared. **Results** : There were no significant differences in age, sex, and presence of hypertension, diabetes, hyperlipidemia, heart disease, previous stroke history, previous vertebrobasilar transient ischemic attack, smoking, and alcohol drinking between two groups. The presence of abnormal neurologic findings in the first examination and time period between symptom onset and testing were significantly different between normal BAEPs group and abnormal BAEPs one( $P<0.05$ ). **Conclusions** : The factors influencing the changes of BAEPs were presence of abnormal neurologic findings and time period between symptom onset and testing. These findings suggest that BAEPs test should be performed in acute stage of ischemic attack.

**Key Words** : Brainstem auditory evoked potentials, Vertebrobasilar transient ischemic attacks, Risk factors

가 .

가

가

1.

가

1,2

53%

3

65

1

48

Counterpoint MK2(Dantec)  
20 ~ 24

(Fz)

(Cz)

5k

100 ~ 2,000Hz

60dB  
가

10

(rarefaction stimulation) 가

2,000

40

3

1.

96

24

가 가

40

2

3.

SPSS(version 9.0)

t-test

Chi-square test

2.

1.

40

12

28

160mmHg, 90mmHg

18 ~ 65

35.5±12.2

2

140mg/dL, 200mg/dL

96

250mg/dL

49

47

, 41 ~ 86

59.8±

10.4

Table 1

2.

가

60

36

, 37.5%

II

가

III

3.59±0.20msec,

3.79±0.66msec

(P<0.001), V

5.51±0.22msec,

5.78±0.95msec (P<0.001).

I-III

2.17±0.19msec,

2.36±0.47msec

(P<0.001), III-V

1.93±0.16msec,

2.01±0.46msec

(P<0.01), I-V

4.12±0.30msec,

4.35±0.73msec (P

<0.001, Table 2).

36

I

2

, II

4

, III

17

V

23

I-III

10

, III-V

11

I-

V

7

V

, I-III

, I-V

III

,

III-V

3.

가

가

57.4±9.6

62.3±11.4

가

31:29,

18:18

가

60

21

,

36

21

가

(P<0.05).

48

가

가

가

60

21

36

20

(P<0.05, Table 3).

Table 1. Results of BAEPs in VB TIA patients and control subjects

	VB TIA(n=96)	Control(n=40)
Absolute latency(msec)		
I	1.43±0.21	1.45±0.16
II	2.48±0.33	2.54±0.16
III	3.67±0.45	3.62±0.16
V	5.62±0.63	5.47±0.20
Interpeak latency(msec)		
I-III	2.24±0.34	2.17±0.19
III-V	1.96±0.31	1.84±0.17
I-V	4.21±0.52	4.01±0.24

Plus-minus values are mean±SD

VB TIA; verterobasilar transient ischemic attacks

24

4.

Table 2. Results of BAEPs in two groups of VB TIA patients

	Group with normal BAEPs(n=60)	Group with abnormal BAEPs(n=36)	P values
Absolute latency(msec)			
I	1.42±0.16	1.44±0.27	NS
II	2.47±0.19	2.49±0.47	NS
III	3.59±0.20	3.79±0.66	<0.001
V	5.51±0.22	5.78±0.95	<0.001
Interpeak latency(msec)			
I-III	2.17±0.19	2.36±0.47	<0.001
III-V	1.93±0.16	2.01±0.46	<0.01
I-V	4.12±0.30	4.35±0.73	<0.001

Plus-minus values are mean±SD

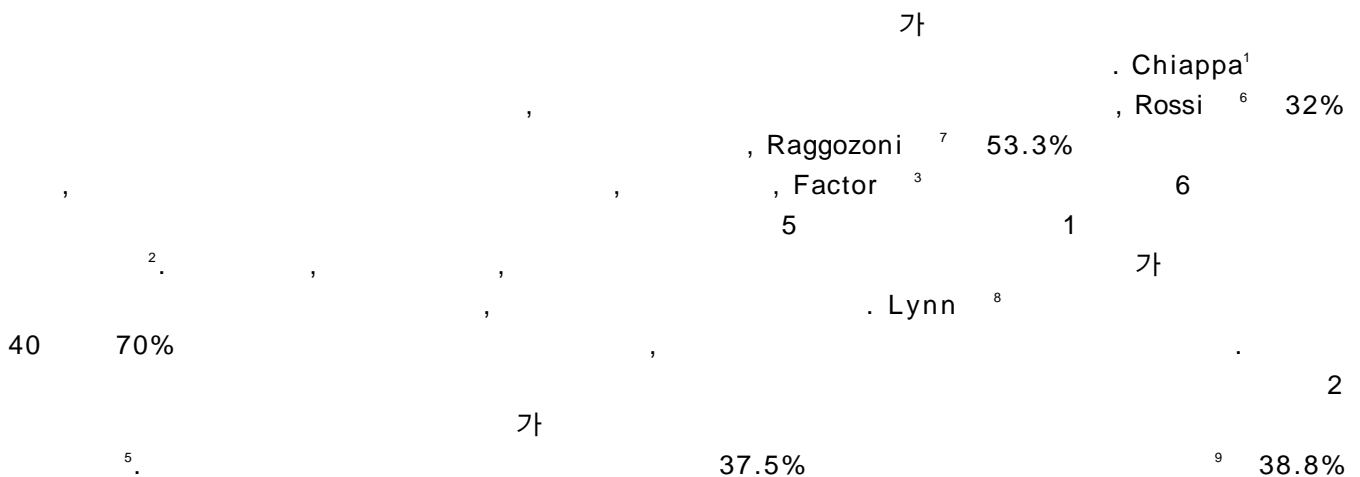
NS denotes not significant

VB TIA; verterobasilar transient ischemic attacks

**Table 3.** Comparison of various factors in VB TIA patients showed normal and abnormal BAEPs

		BAEPs finding		P values*
		Normal(n=60)	Abnormal(n=36)	
Age(years)	65	12	11	0.241
	< 65	48	25	
Sex	male	31	18	0.874
	female	29	18	
Focal neurologic deficit	+	21	21	0.026
	-	39	15	
Hypertension	+	29	16	0.712
	-	31	20	
Diabetes mellitus	+	4	3	0.82
	-	56	33	
Hyperlipidemia	+	26	14	0.669
	-	34	22	
Previous stroke history	+	2	3	0.286
	-	58	33	
Previous VB TIA history	+	13	9	0.707
	-	47	27	
Heart disease	+	2	2	0.598
	-	58	34	
Period between symptom onset and testing(hrs)	48	21	20	0.049
	> 48	39	16	
Smoking	+	15	9	1.000
	-	45	27	
Alcohol	+	13	7	0.795
	-	47	29	

+ ; positive findings, - ; negative findings  
 VB TIA; verterobasilar transient ischemic attacks  
 \* Chi-square test





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