

돌발성 난청에서의 Ginkgo-Extract의 정맥주사 요법에 의한 청력개선

박기현 · 박홍준 · 전영명 · 신지철

Hearing Improvement by Intravenous Therapy of Ginkgo-Extract on Sudden Deafness

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ABSTRACT

Sudden sensorineural hearing loss is not rare but its pathophysiology has not been fully determined and treatment is controversial at present. Many treatment protocols about this disease have been introduced until now, but they did not make us satisfied. Recently, ginkgo - extract has been introduced, which rationale is maintenance of vascular tone and arterial relaxant effect and repair the impaired cerebral metabolism. The purpose of this study is to analyse clinical result of ginkgo - extract intravenous therapy comparing with that of anticoagulant therapy and to provide the basic data for application of this therapy as an alternative treatment modality on sudden deafness. In this study, 34 patients were treated with ginkgo - extract therapy, and 49 patients were treated with anticoagulant therapy as control. Both groups were combined with steroid therapy. Hearing result of the therapy of ginkgo - extract was similar to that of anticoagulant therapy on sudden deafness. So, this therapy can be an alternative treatment modality on sudden deafness. (3(2) : 160-165, 1999)

KEY WORDS : Sudden deafness · Ginkgo - extract · Heparin.

서 론

21

Wilson¹⁾ Moskowitz²⁾
가

heparin Bolognesi³⁾가

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5

, Kallinen⁴⁾ heparin
가

가

Witt⁵⁾ Oliver⁶⁾ ginkgo 2, 20 mg/d 2, 10 mg/d 1
 biloba
 가
 heparin 500 Hz, 1000 Hz, 2000 Hz Siegel⁸⁾ 25dB
 7) : 15 dB
 가 25 45 dB
 Heparin : 15 dB
 45 dB : 15 dB
 dB 75 dB
 Pearson Chi - square test t - test

연구대상 및 방법

결 과

1998 1 1999 12 2
 , ginkgo - extract 1 40
 83 , 4.9 , heparin 2 41 ,
 4.3 (Table 1).
 1 75.9 dB, 2 83.1 dB
 가 (Table 1).
 99 1 99 12 1 Ginkgo - extract 1
 34 37 tanamin (ginkgo - extract) 가 , , , ,
 35 mg 3 10 , 3, 8, 8, 7, 11 (37)
 98 1 98 12 1 가 ,
 49 50 heparin 10,000 unit bolus , , , ,
 , 10,000 unit 9 가 12 (32.4%), 5 (13.5%), 3
 10 (8.1%), 17 (46.0%) 가
 , prednisolone 60 mg/d 5 , 40 mg/d

Table 1. Comparison of variables between two groups

	Mean of Group 1*	Mean of Group 2**	p value (t-test)
Age (years)	39.6	41.2	0.626
Time to Tx. (days)	4.9	4.3	0.550
Initial H.L. (dB)	75.9	83.1	0.179
Patient (cases)	37	50	

*Group 1 : patients treated with tanamin (ginkgo-extract)
 Tx : treatment

**Group 2 : patients treated with heparin
 H.L. : hearing loss

Ginkgo - Extract

Table 2. Recovery rates according to initial hearing loss in tanamin treated group

Hearing loss	Complete* (%)	Partial** (%)	Slight*** (%)	No.**** (%)	Total
Mild	2 (66.7)			1 (33.3)	3
Moderate	4 (50.0)		1 (12.5)	3 (37.5)	8
Moderate-severe	4 (50.0)		1 (12.5)	3 (37.5)	8
Severe	1 (14.3)	4 (57.1)		2 (28.6)	7
Profound	1 (9.1)		2 (18.2)	8 (72.9)	11
Total (%)	12 (32.4)	5 (13.5)	3 (8.1)	17 (46.0)	37

Pearson Chi-Square p = 0.023

* "Complete recovery" group : patients whose final hearing level was better than 25 decibels regardless of the size of gain

** "Partial recovery" group : patients who showed more than 15 decibels of gain whose final hearing level was between 25 and 45 decibels

*** "Slight recovery" group : patients who showed more than 15 decibels of gain whose final hearing level was poorer than 45 decibels

**** "No improvement" group : patients who showed less than 15 decibels of gain

Table 3. Recovery rates according to initial hearing loss in heparin treated group

Hearing loss	Complete* (%)	Partial** (%)	Slight*** (%)	No.**** (%)	Total
Mild	4 (100.0)				4
Moderate				5 (100.0)	5
Moderate-severe	2 (40.0)			3 (60.0)	5
Severe	5 (31.3)	3 (18.7)	4 (25.0)	4 (25.0)	16
Profound	1 (5.0)	1 (5.0)	6 (30.0)	12 (60.0)	20
Total (%)	12 (24.0)	4 (8.0)	10 (20.0)	24 (48.0)	50

Pearson Chi-Square p = 0.003

(72.9%)
 (Table 2, p=0.023).
 Heparin 2 14
 가 , , , 가
 4, 5, 5, 16, 20 (50) (Table 4 and 5).
 , , , (hearing gain) , ginkgo - extract
 가 2 12 (24.0%), 4 1
 (8.0%), 10 (20.0%), 24 (48.70) 50.3 dB 25.6 dB
 가 , heparin 2
 , 57.1 dB 26.0 dB
 가 (Table 3, p=0.003). (Table 6).
 7 가 ginkgo - extract
 1 30 (81.1%), 2 45 (90.0%) 가 ,
 , 8 14 1 6 , 2 2 34
 . 2
 7 1 30 .

Table 4. Recovery rates according to duration in tanamin treated group

Duration (day)	Complete (%)	Partial (%)	Slight (%)	No. (%)	Total
Under 7	10 (33.3)	5 (16.7)	3 (10.0)	12 (40.0)	30
8 - 14	2 (33.3)			4 (66.7)	6
Over 14				1 (100.0)	1
Total	12 (32.4)	5 (13.5)	3 (8.1)	17 (46.0)	37

Pearson Chi-square p = 0.707

Table 5. Recovery rates according to duration in heparin treated group

Duration (day)	Complete (%)	Partial (%)	Slight (%)	No. (%)	Total
Under 7	11 (24.4)	4 (8.9)	10 (22.2)	20 (44.5)	45
8 - 14	1 (50.0)			1 (50.0)	2
Over 14				3 (100.0)	3
Total	12 (24.0)	4 (8.0)	10 (20.0)	24 (48.0)	50

Pearson Chi-square p = 0.589

Table 6. Comparison of hearing improvement between two groups

	Mean of Group 1*	Mean of Group 2**	p value (t-test)
Initial H.L. (dB)	75.9	83.1	0.179
Final H.L. (dB)	50.3	57.1	0.348
Hearing gain (dB)	5.6	26.0	0.948

*Group 1 : patients treated with tanamin (ginkgo-extract)

**Group 2 : patients treated with heparin

H.L. : hearing loss

Dishoeck Bierman¹⁴⁾

, Jaffe¹⁰⁾

가

, Snow¹⁵⁾

, Gussen¹³⁾

. Jaffe¹⁰⁾

가

1944 De Kleyn⁹⁾

Wilson¹⁾

30 dB

, Jaffe¹⁰⁾

24 48

Byl¹¹⁾

가

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가

Wilson¹²⁾

가 가

, Van

eroid)

Wilson,¹⁾

Moskowitz²⁾

(st-

Ginkgo - Extract

16) Darmstadt²⁰⁾
steroid ginkgo - extract
steroid 가 12 (32.4%), 5 (13.5%),
st - 3 (8.1%), 17 (46.0%) (Table 2 and⁴⁾, he -
hi - parin 2 12 (24.0%), 4 (8.0%),
stamine phosphate, nicotinic acid, nylidrin hydroc - 10 (20.0%), 24 (48.0%)(Table 3 and⁵⁾
hloride, papaverine hydrochloride , Siegel⁸⁾ , 50%
carbogen inhalation, , 1/3 , 1/3 , 1/3
dextran, prostaglandin E,
urograffin hypaque , 가 46% 48%
ATP ginkgo - extract 32.4%
heparin Bolognesi가 heparin 24% ginkgo -
extract가 ginkgo -
, Takayuki¹⁷⁾ extract steroid
, viremia defibrinogenation
가 Kallinen he -
parin 가 가
가 ginkgo - extract
heparin , 2 가
³⁾⁴⁾ heparin steroid
, 가
(repair
mechanism) ginkgo extract , Table 2
Table3
Coles,¹⁸⁾ 가 가 (p=0.023 vs p=0.003). ,
Ernst ¹⁹⁾ ginkgo extract
Ginkgo biloba ginkgo - extr - 가 2
act flavonoid ginkgolides bilobalides
ginkgo - extract (anti - 가 (Table 4 and
ischaemic), (antioedema), (anti - hy - 5) 가 가
poxic) radical scavenging , PAF - anta -
gonist 가 steroid placebo
가

placebo

요 약

1998 1 1999 12 2

83 , 1 99 1 99 12

1 34 37

tanamin(ginkgo - extract) 35 mg 3 10

2 98 1 98 12

1 49 50

heparin

ginkgo - extract

가 heparin

가 , ginkgo - extract

가

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