

원저

Cross-sectional Study on Recurrence of Bell's Palsy

Jae-Soo, Kim · Ji-Hoon, Kim · Yong-Suk, Kim · Hyung-Kyun, Koh
Sung-Keel, Kang · Chang-Hwan, Kim

Department of Acupuncture & Moxibustion, College of Oriental
Medicine, Kyung Hee University

국문초록

안면마비 재발환자에 대한 단면적 분석연구

김재수 · 김지훈 · 김용석 · 고희균 · 강성길 · 김창환

경희대학교 한의과대학 침구학교실

이 연구는 안면마비의 재발환자에 대한 한의학적인 원인 및 발생빈도, 나이분포, 재발기간, 가족력, 당뇨와의 관계를 파악하고자 한 것이다. 안면마비는 한방병원을 찾는 환자의 주요한 질환의 하나로서 침치료에 의해 좋은 효과를 보여왔으며 이에 대한 많은 연구가 있었으나 그 재발율에 대한 구체적인 연구는 없었다. 이에 본 연구에서는 경희의료원 한방병원 침구과에 내원한 안면마비 외래환자를 대상으로 초발, 동측재발, 대측재발로 나누어 단면적 분석연구를 시행하였다. 통계 처리는 SPSS 8.0를 이용하였으며 chi-square test를 시행하였다.

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· 교신저자 : 김재수, 서울 동대문구 회기동 1번지 경희대학교 부속한방병원 침구과 (Tel.02-958-9198)

544명의 외래환자중 7.4%의 재발율을 나타냈으며 동측재발과 건측재발은 통계상 유의성은 없었다. 또한 재발환자의 남녀비에 대한 비율은 통계상 유의성이 없었다. 재발된 환자의 평균나이는 46.8세 이었고 재발기간은 8.74년이었다. 재발된 확률은 40세에서 59세 까지 높게 나타났다. 재발된 원인으로는 과로가 가장 높은 빈도를 보였으며 풍한, 정신적인 원인, 음주순으로 나타났다. 안면마비가 재발된 환자중에 당뇨병의 기왕력이 있는 자는 22.5%였으며 안면마비의 가족력은 42.5%의 높은 비율을 나타내었다.

Key words : recurrence, Bell's palsy, subjective cause, facial paralysis

I. INTRODUCTION

Bell's palsy is an acute idiopathic lesion that occurs unilaterally. Occasionally, Recurrent Bell's palsy patients was reported. but no clear definition, classification, or quantitative measurement of recovery has been presented. In Oriental medicine, cause and prognosis of Bell's palsy was related to the condition of patient and environmental factors. so we studied relation between subjective cause and recurrences. Also we report incidence and characteristics of recurrences, affected side, age distribution, interval between recurrences, diabetes mellitus, family history, and discussion of recurrent Bell's palsy.

II. MATERIALS AND METHODS

We studied 544 outpatients with Bell's palsy from May 2000 to July 2000 in department of acupuncture

and moxibustion, hospital of Oriental medicine, KyungHee University Medical Center. These patients were classified the recurrent type; nonrecurrent, ipsilateral and contralateral. We also checked family history and complications; diabetes mellitus.

Subjective cause of Bell's palsy was divided into exposure to chill, fatigue, stress, and drinking. One oriental medical doctor evaluated the subjective cause of recurrent patients. data were analyzed by SPSS 8.0.

For statistics, the interval between episodes was recorded in years. When the day of the month was not known, dates of recurrence were recorded as the 15th day of the month. When the month was not known, June was recorded. Chi-square tests were used for calculations of significance.

III. RESULTS

1. Incidence and Characteristics

Of 544 patients with Bell's palsy, 40 patients(7.4%) had at least one recurrence and 3 patients(0.6%) had two recurrences. This study was performed by cross-

sectional method. The ratio of male and female patients of recurrences was not statistically significant($p>0.05$). The mean age at onset of patients with Bell's palsy was 46.8 years(range, 4 to 84 years) and that of recurrent patients was 48.23 years. The age of 1st recurrent patients was 49.54(range, 10 to 78 years) years and that of 2nd recurrent patients was 32 years(range, 20 to 53 years). 2nd recurrent patients were just three. Totally, mean age of recurrent patients were older than nonrecurrent patients with bell's palsy.(Table I)

Table I. The Characteristics of Study Group

	No.(%) total patients	No.(%) patients M/F	age(years)
total patients	544	240/304(44.1/55.9)	46.8
total recurrence	40(7.4)	16/24(6.7/7.9)	48.23
1st recurrence	37(6.8)	15/22(6.3/7.2)	49.54
2nd recurrence	3(0.6)	1/2(0.4/0.7)	32

2. Affected side of Recurrent Bell's palsy

Of 40 recurrent patients, 18 patients were ipsilateral side and 22 patients were contralateral side affected. No statistical difference was seen in either groups. ($p>0.05$) Affected side of one patient with primary Bell's palsy was bilateral side.

3. Age distribution

From 40 to 59 years, Recurrent probability was showed highly. There were no patients under 9 and rare cases beyond 70 years. There was no statistical difference in each groups($p>0.05$)(Table II)

Table II. Age Distribution

	Age in years							
	0~9	10~19	20~29	30~39	40~49	50~59	60~69	70~
primary	2	19	45	101	107	118	86	26
1st recurrence	0	1	2	5	12	11	7	2
2nd recurrence	0	0	2	0	0	1	0	0
recurrent probability(%)	0	5.3	8.9	5	11.2	10.2	8.1	7.7

4. Interval between Recurrences

A mean interval of 8.74 years(range, 1.6 month to 45.1 years) was seen between the primary onset and first recurrence of Bell's palsy. A mean of 2.77 years(range, 1.25 year to 4.05 years, only three cases) was seen between a first and second recurrence.(Table III)

Table III. Interval between Recurrences of Bell's palsy

	Mean interval(year)	Range(year)
primary onset and first recurrence	8.74	0.14-45.1
first and second recurrence	2.77	1.25-4.05

5. Subjective Cause and Recurrences

Fatigue was shown as subjective cause in 40%(20 patients) of recurrent patients, exposure to chill 25%(10 patients), stress 22.5%(9 patients), drinking 2.5%(1 patient). In oriental medicine, cause of Bell's palsy was related to the condition of patient and environmental factors.(Table IV)

Table IV. Subjective Cause of Recurrent Patients

	No. (%) patients
exposure to chill	10(25)
stress	9(22.5)
fatigue	20(40)
drinking	1(2.5)
total	40(100)

6. Diabetes Mellitus and Recurrences

9 patients(22.5%) of 40 patients with recurrent Bell's palsy were found to have diabetes.(Table V)

Table V. Diabetes Mellitus, Family History of Bell's palsy and Recurrences.

	No.(%) patients with DM	No.(%) patients with family history(%)
negative	31(77.5)	23(57.5)
positive	9(22.5)	17(42.5)

7. Family History of Bell's palsy and Recurrences

17 patients(42.5%) of 40 patients with recurrent Bell's palsy had associated family history.(Table V)

IV. DISCUSSION

The incidence of recurrent Bell's palsy ranges from 3.0% to 15.2%.^{1,2,3,4,5,6,7,8,9,10} Most of all, retrospective and prospective analyses were done in use of chart. But in this report, cross-sectional study was done. 544 outpatients in our hospital were analyzed for three months. 40 patients(7.4%) had at least one recurrence and 3 patients(0.6%) had two recurrences. The ratio of

male and female patients of recurrences was not statistically significant. The mean age at onset of patients with Bell's palsy was 46.8 years and that of recurrent patients was 48.23 years. The age of 1st recurrent patients was 49.54 years and that of 2nd recurrent patients was 32 years. 2nd recurrent patients were only three, too small group, it's the reason that age of 2nd recurrent patients were younger than that of 1st recurrent patients. So much more cases were needed. Totally, Mean age of recurrent patients were older than nonrecurrent patients with bell's palsy.

Yanagihara, et al.⁷ classified into five categories; unilateral nonrecurrent, unilateral recurrent(recurrence on the same side), simultaneous bilateral(rapid recurrence on contralateral side), alternating bilateral(recurrence on contralateral side after the opposite side has recovered), and recurrent bilateral(recurrence occurs independently on each side) type. In this study, there were no cases of simultaneous bilateral and recurrent bilateral type. So we classified into three groups, which are nonrecurrent(primary), ipsilateral recurrent and contralateral recurrent groups. There was no statistical difference between ipsilateral recurrent and contralateral recurrent groups. In the prognosis, Ralli, et al.⁸ advocated that the ipsilateral recurrent(unilateral recurrent) palsies showed a worse prognosis when compared with the non-recurrent palsies. In contrast, the recurrent attacks involving the contralateral facial nerve (bilateral alternating palsies) presented a better facial recovery. But Hallmo, et al.⁶ and Pitts, et al.⁹ advocated that there was no statistical difference between ipsilateral recurrent group and contralateral recurrent group. In this point, more study is needed.

In the age distribution, recurrent patients who were age from 40 to 59 years showed high recurrent probability. In old patients were not high recurrent probability. It may be caused by rare cases beyond 70 years. In each groups, there was no statistical dif-

ference.

In interval between recurrences, Pitts, et al.⁹⁾ advocated there was no statistical difference between interval between the primary onset and first recurrence, and interval between a first and second recurrence. But in this study, mean interval between the primary onset and first recurrence of Bell's palsy was longer than interval between a first and second recurrence. It was because 2nd recurrent group was too small.

In oriental medicine, cause of Bell's palsy was related to the condition of patient and environmental factors. As recent reports^{11,12)}, Cause of Bell's palsy was classified into several parts; fatigue, stress, exposure to chill, trauma, drinking, phlegm, stagnated blood etc. In this study, fatigue was shown as subjective cause in 40% of recurrent patients, exposure to chill 25%, stress 22.5%, drinking 2.5%. Fatigue was main cause of recurrence of Bell's palsy.

Hallmo, et al.⁶⁾ reported an 8% incidence of diabetes in their recurrent Bell's palsy patients. Pitts et al.⁹⁾ reported a 31.3% and advocated that patients with recurrent Bell's palsy were 2.5 times more likely to have diabetes than were patients with nonrecurrent Bell's palsy. Of our patients with recurrent patients 22.5% were found to have diabetes.

Amos¹⁶⁾ reported a 66% incidence of diabetes in patients with primary Bell's palsy. But it had many adverse criticisms. Choi¹⁰⁾ reported a 13.5%, Aminoff, et al.¹³⁾ reported a 6%. Houser, et al.¹⁴⁾ reported a 10%, Jacob, et al.¹⁵⁾ reported a 26.6% incidence of diabetes in patients with primary Bell's palsy. Pitts et al.'s opinion that patients with recurrent Bell's palsy were more likely to have diabetes than were patients with nonrecurrent Bell's palsy.

About family history of Bell's palsy, Adour, et al.⁵⁾ reported 8% of 1000 consecutive cases of Bell's palsy. Pitts, et al.⁹⁾ reported 21% of patients with recurrent Bell's palsy which had family history of the condition.

Also, he advocated that 2.5 times more patients with recurrent Bell's palsy had a family history of the disease than did patients with nonrecurrent Bell's palsy. Stone¹⁷⁾ reported multiple attacks facial paralysis in a man and his three sons. Michael et al.¹⁸⁾ reported the father and 7 of his 10 children have had a total of 20 episodes of Bell's palsy. Benlyazid et al.¹⁹⁾ reported 5 cases of recurrent facial palsy (1 case of familial recurrent facial palsy) and 1 case of non recurrent familial facial palsy. In our study, 42.5% of 40 recurrent patients had associated family history. Of these patients, 35.3% had both risk factors, diabetes and family history. Family history had close relation with recurrence of Bell's palsy. Both risk factors of recurrence of Bell's palsy, diabetes and family history have to be studied more.

V. CONCLUSION

It was revealed that 7.4% had recurrence of Bell's palsy through a cross-sectional study among 544 outpatients with Bell's palsy in Department of Acupuncture and Moxibustion, KyungHee Medical center from May 2000 to July 2000. The frequency of ipsilateral recurrence was statistically equal to that of contralateral recurrence. There was no significant difference between the recurrent rate and the affected side. The mean age at the first onset of Bell's palsy was 46.8 years; 8.74 years later, Bell's palsy was recurred. There was no statistical difference between the recurrent rate and the sex.

Recurrent probability was showed highly on 40 to 59 years old, but there was no statistical difference in each groups. There were no patients under 9 and rare cases beyond 70 years old. Fatigue was shown in 40% of recurrent patients, exposure to chill 25%, stress

22.5%, drinking 2.5%. 22.5% of recurrent patients were found to have diabetes. 42.5% had associated family history.

VI. REFERENCES

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