

다변량 분석에 의한 돌발성 난청의 임상적 특징과 예후 요인

대구 파티마병원 이비인후과

문석진 · 전자호 · 박정엽 · 전병석 · 신종현 · 여창기

Clinical Characteristics and Prognosis of Patients with Sudden Deafness
by Multiple Logistic Regression AnalysisSeok Jin Moon, MD, Ja Ho Jun, MD, Jung Youp Park, MD,
Byoung Seok Jun, MD, Jong Heon Shin, MD, and Chang Ki Yeo, MD
Department of Otolaryngology, Fatima Hospital, Daegu, Korea

-ABSTRACT-

Sudden deafness is defined as an abrupt onset of sensorineural hearing loss which develops over a period of hours or a few days and is thought to be otologic emergency that may causes permanent hearing loss and psychologic sequelae if not promptly treated. To investigate the clinical characteristics and its prognostic factors, 95 patients with sudden deafness admitted at aegu Fatima Hospital from January 1995 to December 2001 were selected. Hearing recovery rate was better in the ascending (81.8%) audiogram patterned group than in flat (61.5%), descending (37.5%) and deaf (8.3%) audiogram patterned group, and better in the age group below 59 (61.6%) than above 60 (23.1%), and better in the group without vertigo (68.1%) than with vertigo (23.1%). But there was no statistically significance in hearing recovery rate between the group treated within 1 week from onset of symptom and that group after 1 week. In multiple logistic regression analysis with age, the degree of hearing loss, the pattern of audiogram, the onset of treatment and vertigo, those variable significantly associated with negative prognosis were the descending audiogram pattern, late treatment and vertigo. (J Clinical Otolaryngol 2003;14:249-255)

KEY WORDS : Sudden deafness · Prognosis.

서 론

(sudden deafness)

. 10 5~20
,¹⁾ 32~65% .²⁾

가

3-6)

: 2003 6 15

: 2003 11 6

: , 701 - 600

302 - 1

: (053) 940 - 7350 · : (053) 954 - 7417

E - mail : niseman721@hanmail.net

가

가 가 , 40 mg 1 2 . Carbogen
 CO₂ 5% O₂ 95% 가 1 6 30
 가 1 1
 Dextran(12 500 mg)
 500, 1000, 2000 Hz 3 3
 가 6
 Siegel (Table
 , Carbogen 1)
 (mild, 26~
 40 dB), (moderate, 41~55 dB), (mo-
 derate - severe, 56~70 dB), (severe, 71~90 dB)
 가 (profound, 91 dB)
 가 가
 가 가
 가 91 dB

대상 및 방법

1995 1 2001 12

chi - square test

95

3 3 30 dB

6

Prednisolone

Table 1. Siegel's classification

| Type | Hearing recovery |
|-------------------|--|
| Complete recovery | Patients whose final hearing level was better than 25dB regardless of the size of gain |
| Partial recovery | Patients who showed more than 15 dB of gain and whose final hearing level was between 25 and 45 dB |
| Slight recovery | Patients who showed more than 15 dB of gain and whose final hearing level was poorer than 45 dB |
| No improvement | Patients who showed less than 15 dB of gain or whose final hearing level was poorer than 75 dB |

:

5 (5.2%) (Table 3).

결 과

가 41 (43.2%), 가 54 (56.8%)
 46.5 9 ,
 76 . 50 가 25 (26.3%) 가
 60 , 40 , 20 , 30 (Ta-
 ble 2). 93 (97.9%)
 51 (53.7%), 42 (44.2%) ,
 2 (2.1%) .
 26 (27.4%), 24 (25.3%), 가 24 (25.3%),
 21 (22.1%) (Table 2).
 33 (34.7%),
 26 (27.4%), 24 (25.3%),
 12 (12.6%) ,
 27 (28.4%), 26 (27.4%),
 19 (20.0%), 18 (19.0%),

Table 2. Clinical manifestations of sudden deafness

| Clinical manifestation | No. of patient (%) |
|------------------------|--------------------|
| Sex | |
| Male | 41 (43.2) |
| Female | 54 (56.8) |
| Age | |
| - 9 | 1 (1.1) |
| 10 - 19 | 3 (3.1) |
| 20 - 29 | 15 (15.8) |
| 30 - 39 | 13 (13.7) |
| 40 - 49 | 16 (16.8) |
| 50 - 59 | 25 (26.3) |
| 60 - | 22 (23.2) |
| Side | |
| Unilateral right | 42 (44.2) |
| Unilateral left | 51 (53.7) |
| Bilateral | 2 (2.1) |
| Season | |
| Spring | 24 (25.3) |
| Summer | 21 (22.1) |
| Autumn | 24 (25.3) |
| Winter | 26 (27.4) |

가

Table 3. Audiologic factors of sudden deafness

| Audiologic factor | No. of patient (%) |
|--------------------------------|--------------------|
| Initial type of audiogram | |
| Ascending | 33 (34.7) |
| Flat | 26 (27.4) |
| Descending | 24 (25.3) |
| Profound | 12 (12.6) |
| Initial degree of hearing loss | |
| Mild | 5 (5.2) |
| Moderate | 19 (20.0) |
| Moderate-severe | 27 (28.4) |
| Severe | 26 (27.4) |
| Profound | 18 (19.0) |

Table 4. Recovery rate according to clinical manifestation

| Clinical manifestation | No. of patient () | No. of recovered patient () | Recovery rate (%) |
|------------------------|--------------------|------------------------------|-------------------|
| Sex | | | |
| Male | 41 | 26 | 63.4 |
| Female | 54 | 27 | 50.0 |
| Age | | | |
| - 49 | 48 | 31 | 64.6 |
| 50 - 59 | 25 | 14 | 56.0 |
| 60 - | 22 | 8 | 36.4 |
| Age group | | | |
| 40 | | | |
| 40 - | 63 | 34 | 55.6 |
| - 39 | 32 | 19 | 59.4 |
| 50 | | | |
| 50 - | 47 | 22 | 46.8 |
| - 49 | 48 | 31 | 64.6 |
| 60* | | | |
| 60 - | 22 | 8 | 36.4 |
| - 59 | 73 | 45 | 61.6 |
| Side | | | |
| Unilateral right | 42 | 19 | 45.2 |
| Unilateral left | 51 | 34 | 66.7 |
| Bilateral | 2 | 0 | 0.0 |

* : p<0.05 by chi-square test

chi - square test

95 53

55.8% 63.4%가

95 50.0%가 (p=0.1922).

40 40

55.6%, 39 59.4% (p=0.616), 50

50 46.8%, 49 가

64.6% 57.0% (p=0.081), 60 (p=0.5023),

60 36.4%, 59 61.6% 가 63.6%

(p=0.036). 45.2% (ESR) 54.8% (p=0.7499).

66.7% 56.6% (p=0.6657) (Table 6).

(p=0.4231) (Table 4).

61.5%, 21.4% 80%, 8.3%

(p=

0.0005). 62.7%, 57.7%

33.3% (p=

0.2788) (Table 5).

59.3%가

Table 5. Recovery rate according to audiologic factor

| Audiologic factor | No. of patient () | No. of recovered patient () | Recovery rate (%) |
|--------------------------------|--------------------|------------------------------|-------------------|
| Initial type of audiogram* | | | |
| Ascending | 33 | 27 | 81.8 |
| Flat | 26 | 16 | 61.5 |
| Descending | 24 | 9 | 37.5 |
| Profound | 12 | 1 | 8.3 |
| Initial degree of hearing loss | | | |
| - Moderate to severe | 51 | 12 | 62.7 |
| Severe | 26 | 15 | 57.7 |
| Profound | 18 | 6 | 33.3 |

* : p<0.05 by chi-square test

35.7%가 (p=0.101).

23.1%

68.1% (p=0.00008),

53.7%

69.2% (p=0.29356).

44.4% 가

57.0% (p=0.5023),

63.6%

54.8% (p=0.7499).

가 50.0%

56.6% (p=0.6657) (Table 6).

가

Table 6. Recovery rate according to other factor

| Other factor | No. of patient () | No. of recovered patient () | Recovery rate (%) |
|----------------------|--------------------|------------------------------|-------------------|
| Onset of treatment | | | |
| - 7 days | 81 | 48 | 59.3 |
| 8 days - | 14 | 5 | 35.7 |
| Accompanying symptom | | | |
| Vertigo* | | | |
| With | 26 | 6 | 23.1 |
| Without | 69 | 47 | 68.1 |
| Tinnitus | | | |
| With | 82 | 44 | 53.7 |
| Without | 13 | 9 | 69.2 |
| Underlying disease | | | |
| Diabetic mellitus | | | |
| With | 9 | 4 | 44.4 |
| Without | 86 | 49 | 57.0 |
| Hypertension | | | |
| With | 11 | 7 | 63.6 |
| Without | 84 | 46 | 54.8 |
| ESR | | | |
| Increased | 12 | 6 | 50.0 |
| Normal | 83 | 47 | 87.4 |

* : p<0.05 by chi-square test

Table 7. Odds ratio about prognostic factor of sudden deafness by multiple logistic regression analysis

| Factor | Odds ratio | 95% confidence interval |
|--|------------|-------------------------|
| Age | | |
| Age 1 (50 - 59/ - 49) | 0.51 | 0.14 - 1.84 |
| Age 2 (60 - / - 49) | 0.27 | 0.07 - 1.03 |
| Initial degree of hearing loss | | |
| Hearing 1 (severe/ - moderate to severe) | 0.32 | 0.08 - 1.27 |
| Hearing 2 (profound/ - moderate to severe) | 0.34 | 0.06 - 2.07 |
| Initial type of audiogram | | |
| Audiogram 1 (flat/ascending) | 0.47 | 0.12 - 1.83 |
| Audiogram 2 (descending/ascending)* | 0.12 | 0.03 - 0.49 |
| Audiogram 3 (profound/ascending) | 0.00 | 0.00 - 8.78 |
| Onset of treatment* (8day - / - 7 day) | 0.14 | 0.03 - 0.71 |
| Vertigo* (With/Without) | 0.17 | 0.04 - 0.67 |

가

(95% : 0.03~0.49)

가 0.14(95% : 0.03~

0.71)

가 0.17(95% : 0.04~0.67)

(Table 7).

고 찰

:

가

,

3

30 dB

, Anderson

2.8%

10)

0.14%

Shaia Sheehy, Mattox

Simmons²⁾

Meyerhoff,⁸⁾

,¹¹⁾

¹²⁾

가

가

Meyerhoff⁸⁾가

40

, Shaia, Sheehy

40

가 0.12

75%

, Tieri 9

1.2%

(95% : 0.03~0.49)

46.5

10

1.1%

40

66.3%

가 0.14(95% : 0.03~

0.71)

가 0.17(95% : 0.04~0.67)

Fowler

,¹¹⁾

, Hallberg,

Mattox²⁾

Shaia 4%, Jaffe⁷⁾

17%

¹²⁾ 5%,¹¹⁾

25.5%

2.1%

¹³⁾

11

2

44%

가

2

28%

가

Wilson 40
 Byl¹⁾ 50
 Sheehy
 Byl¹⁾ 15)
 Simmons⁶⁾
 Membrane break
 membrane break
 가 가 가 가
 40 50 50 60
 가 가 가 가
 가 가 가 가
 0.12 (95%
 : 0.03~0.49),
 가 0.14
 (95% : 0.03~0.71),
 가 0.17 (95% :
 Byl¹⁾ 가 0.04~0.67) 가

요약 및 결론

Sheehy 81.8%, 61.5%, 37.5%,
 8.3%
 , Simmons⁶⁾ 59
 가 가 61.6% 60 36.4%
 3 68%가 1 68.1%
 11% 23.1%
 Siegel

Nakashima

중심 단어 :

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