

외상성 측두골 골절의 임상적 고찰

최세호 · 최윤석 · 전자호 · 권성우 · 손수준

A Clinical Study of Temporal Bone Fractures

Se Ho Choe, MD, Youn Seok Choe, MD, Ja Ho Jun, MD,
Seong Woo Kwon, MD and Soo Joon Sohn, MD

Department of Otolaryngology-Head & Neck Surgery, Fatima Hospital, Taegu, Korea

- ABSTRACT -

Background and Objectives : Temporal bone fracture secondary to head trauma is often not evaluated initially in the emergency room, resulting in various otologic and neurologic sequelae such as deafness, dysequilibrium, and facial paralysis. This study analyzed the clinical findings of 83 temporal bone fractures to establish an optimal evaluation and management criteria to reduce such serious sequelae. **Materials and Methods** : The medical records and radiographs of 83 patients with temporal bone fracture from February 1994 to August 1998 were analyzed retrospectively. **Results** : Of 83 temporal bone fractures, hearing loss in 34 cases (41%), vertigo in 2 cases (2.4%), facial paresis/paralysis in 17 cases (20.5%), and cerebrospinal fluid otorrhea in 8 cases (9.6%) were noticed at initial evaluation. Of 34 cases of hearing loss, 14 returned to normal hearing with medical treatment. Of 17 facial paresis/paralysis, 6 were evaluated after the nerve had lost electric responsiveness and 3 of them presented poor facial nerve function after 1 year. All 8 cerebrospinal fluid otorrhea stopped spontaneously. **Conclusion** : All patients with head trauma should be evaluated otologically at initial visit to emergency room to prevent permanent facial weakness. (J Clinical Otolaryngol 2000;11:46-52)

KEY WORD : Temporal bone fractures.

서 론

가

가 가

: 2000 2 1

: 2000 5 19

: , 701 - 600

302 - 1

대상 및 방법

: (053) 940 - 7350 ·

: (053) 954 - 7417

1994 2

1999 8

E - mail : mdjk@hitel.net

83

(7.7%) 가 4 (20.5%), 60 가 24.1% (Table 1). 가 19 (22.9%), 1 (1.2%) (Table 2). McHugh¹⁾ (Fig. 1), 가 (Fig. 2), (Fig. 3) 가 39 (87.2%), 2 (5.1%), 3

결 과

66 (79.5%), 17 (20.5%) 가 4 (20.5%), 60 가 24.1% (Table 1). 가 19 (22.9%), 1 (1.2%) (Table 2). McHugh¹⁾ (Fig. 1), 가 (Fig. 2), (Fig. 3) 가 39 (87.2%), 2 (5.1%), 3

Table 1. Age & sex distribution

Age	Male	Female	
1 - 10	15	2	17 (20.5)
11 - 20	5	3	8 (9.6)
21 - 30	15	5	20 (24.1)
31 - 40	11	2	13 (15.7)
41 - 50	11	2	13 (15.7)
51 - 60	4	3	7 (8.4)
61 -	5	-	5 (6.0)
Total%	66 (79.5)	17 (20.5)	83 (100.0)

Table 2. Causes of temporal bone fracture

Cause	No. %
Traffic accident	59 (71.1)
Fall down	19 (22.9)
Head down	1 (1.2)
Unknown	4 (4.9)
Total	83 (100.0)

(7.7%) (Table 3). 65 (78%) 가 , 43 (51.8%), 24 (28.9%), 17 (20.5%), 8 (9.6%), 4 (4.9%), 2 (2.4%) (Table 4).



Fig. 1. Longitudinal fracture. The fracture starts in the squamous portion and courses to the foramen lacerum through the middle ear.



Fig. 2. Transverse fracture. The fracture starts at the jugular foramen and courses to the petrous apex through the inner ear.



Fig. 3. Mixed fracture. The fracture starts in the squamous portion and courses to the petrous apex through the inner ear.

Table 3. Types of temporal bone fracture

Type	No. %
Longitudinal	34 (87.2)
Transverse	2 (5.1)
Mixed	3 (7.7)
Total	39 (100.0)

Table 4. Symptoms & signs (N = 83)

Sx. & signs	No. %
Ear bleeding	65 (78.0)
Hemotympanum	43 (51.8)
TM perforation	24 (28.9)
Facial palsy	17 (20.5)
CSF leak	8 (9.6)
EAC edema	4 (4.9)
Vertigo	2 (2.4)

Table 5. Symptoms & signs (N = 39)

Sx. & signs	Longitudinal	Transverse	Mixed	Total (%)
Ear bleeding	24	1	3	28 (71.8)
Hemotympanum	20	2	3	25 (64.1)
Hearing impairment	18	1	2	21 (53.8)
Facial palsy	10	-	1	11 (28.2)
TM perforation	8	-	-	8 (20.5)
CSF otorrhea	2	1	-	3 (7.7)
Vertigo	1	1	-	2 (5.1)

가 (Table 5).
 14 , 4 , 1 , 2
 (Table 6).
 12 (26.7%), 15 (33.3%) (60%)
 , 2 (4.4%) (Table
 7).
 9 , 5 가
 , 1
 9 , 6
 3 , 3 2 가
 3 1 , 1
 (89.7%) ,
 17
 (Fig 4)가 15 (38.5%) (Table 8).
 가 5 ,
 가 5 (Fig. 5), 가 3 (Fig. 6).
 가 17 , 가 10 ,
 가 7 , 24
 8 , 9 . 6
 90% 3
 2 - ,
 1 -

Table 6. Types of hearing loss

Type	Longitudinal	Transverse	Mixed	Total (%)
Conductive	14	-	-	14 (66.7)
Sensorineural	-	1	2	3 (14.3)
Mixed	4	-	-	4 (19.0)
Total	18 (85.7)	1 (14.8)	2 (9.5)	21 (100.0)

Table 7. Degree of hearing loss (N = 45)

Degree	No. (%)
Normal	11 (24.4)
Mild	12 (26.7)
Moderate	15 (33.3)
Mod. severe	3 (6.7)
Severe	2 (4.4)
Profound	2 (4.4)
Total	45 (100.0)

고 찰

70 80%

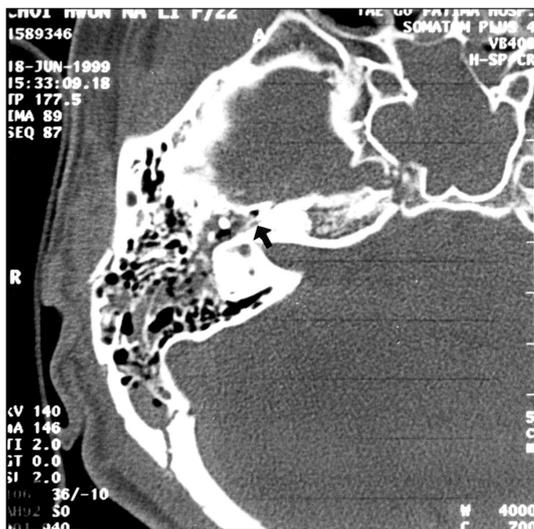


Fig. 4. Soft tissue density around the facial canal. Tympanic segment of facial canal is filled with soft tissue density (arrow).

³⁾ 20%

⁴⁾

가

가

Yeakley⁶⁾

가

20%

30 50%

가 ⁵⁾ Ghorayeb

7

1 14
 11 House - Brackmann grade²⁾
 3 2
 House - Brackmann grade²⁾ (Table 9).

1

가

:

Tos⁸⁾ 67% 가 3 , 3
59% , 4% ,
4% , 80%
Wennmo⁹⁾
가 가
34 17 가 13 2 , 가¹³⁾ 2
, 3 1 , 2 가 3 , 1
3
Y
Y¹⁰⁾ open 결 론
Y 가 Y
가
가
가⁴⁾¹¹⁾ 24 23 ,
가 가
18 14 가
4 2
11)
3 17 6
3
, Fisch¹²⁾
6
2 90% 중심 단어 :

REFERENCES

- 1) McHugh HE. *The surgical treatment of facial paralysis and traumatic conductive deafness in fractures of the temporal bone.* *Ann Otol* 1956;68:866-88.
- 2) House JW, Brackmann DE. *Facial nerve grading system.* *Otolaryngol Head and Neck Surg* 1985;93:146.
- 3) Cannon CR, Jahrsdoerfer RA. *Temporal bone fractures.* *Arch Otolaryngol* 1983;109:285-8.
- 4) Kinney SE. *Trauma to the middle ear and temporal bone.* *Otolaryngology Head & Neck Surgery 3rd Ed.*;1998. p. 3076-87.
- 5) Hough JVD, McGee M. *Otologic trauma.* *Otolaryngology* 1991;1137-60.
- 6) Ghorayeb BY, Yeakley JW. *Temporal bone fractures; Longitudinal or oblique? The case for oblique temporal bone fractures.* *Laryngoscope* 1992;102:129-34.
- 7) Goodwin WJ. *Trauma To The Head and Neck. The Otolaryngologic Clinics Of North America* 1983;16:651-9.
- 8) Tos M. *Prognosis of hearing loss in temporal bone fracture.* *J Laryngol Otol* 1971;85:1147.
- 9) Wennmo C. *Fractures of the temporal bone chain incongruencies.* *Am Otolaryngol* 1993;14:38.
- 10) Chun YM, Park KH, Shin SJ, Kim HJ. *Clinical values of HRCT for diagnosis of incus dislocations.* *Korean J Otolaryngol* 1997;40:1003-7.
- 11) Lambert PR, Brackmann DE. *Facial paralysis in longitudinal temporal bone fractures; A review of 26 cases.* *Laryngoscope* 1984;94:1022-6.
- 12) Fisch U. *Facial paralysis in fractures of the petrous bone.* *Laryngoscope* 1974;84:2141-54.
- 13) Gantz BJ, Rubinstein JT. *Intratemporal facial nerve surgery.* *Otolaryngology Head & Neck Surgery 3rd Ed.*;1998. p.2785-99.