

이명 환자의 심리 검사

정윤주 · 윤명인 · 이종담 · 김선우 · 이영진 · 고의경* · 전경명*

= Abstract =

A Psychologic Study in Tinnitus Disorder : CMI and SCL-90-R

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It has been assumed that tension and anxiety serve to induce or exacerbate tinnitus through increasing muscle tension or alteration in blood flow to the cochlear region. And it is also possible that psychological distress may be a result of tinnitus, or that awareness of tinnitus may be greater during environmental stress. So tinnitus patients need psychologic consideration in their diagnosis and treatment.

Purpose of this study is to evaluate the degree and characteristic of the psychologic factors in tinnitus disorder.

Cornell Medical Index(CMI), Fukamachi's Discriminative chart and Symptom Check List-90-Revision(SCL-90-R) were examined in tinnitus patients and control group.

The results were as follows.

1) According to the Fukamachi's Discriminative Chart using CMI, the tinnitus group showed higher incidence than normal healthy adults group in class III or IV region which is regarded as neurosis.

2) The tinnitus group showed higher score than normal healthy group in all 9 sections of SCL-90-R.

3) The group which has long duration of tinnitus was related to high scores of interpersonal sensitivity, depression, anxiety, and the group which has not history of otologic surgery was related to high scores of depression, phobic anxiety ($p < 0.01$). (**Korean J Otolaryngol 40 : 3, 1997**)

KEY WORDS : Tinnitus · CMI · SCL-90-R.

: 1996 11 6
: 1996 12 31

가 54 , 가 51 , 19
73 45.3 .
서 론
가 , X -
(pitch match test)
가 , Crown -
Crisp experimental Index 20 60
32)39) . Tyler Baker⁴⁰⁾ 50 50 (Table 1).
36.1%가

2. 정신 심리 검사

가 , CMI 12
(Cornell Medical Index ; CMI)⁵⁾⁶⁾⁹⁾¹⁰⁾¹⁵⁾²¹⁾²²⁾ (A - L) 6 (M - R) 195
Fukamachi⁸⁾¹⁸⁾¹⁹⁾ ,
(Table 2).
Symptom Check List - 90 - Revision
(SCL - 90 - R)²⁾³⁾⁴⁾¹⁴⁾ , C, I, J
가 , M - R (線型
判別函數法)
, III, IV
Fukamachi (Fig. 1)¹⁸⁾¹⁹⁾.
SCL - 90 - R 9 , 90
7 가

대상 및 방법

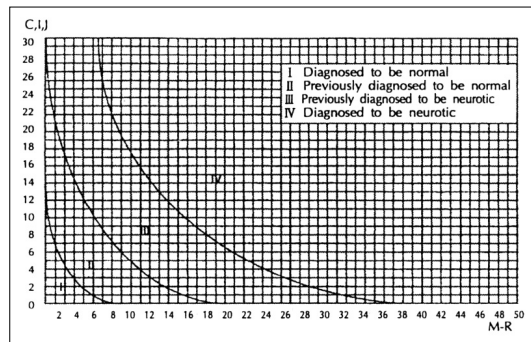
1. 대 상
1994 11 1995 11
105 T 가 50

Table 1. Age and gender distribution

Age(Yrs.)	Tinnitus			Normal		
	Male	Female	Total(%)	Male	Female	Total
10 - 19	0	1	1(0.9)	0	0	0
20 - 29	10	6	16(15.2)	7	8	15
30 - 39	12	9	21(20.0)	17	16	33
40 - 49	15	12	27(25.8)	19	21	40
50 - 59	8	14	22(20.9)	5	4	9
60 - 69	7	5	12(11.5)	2	1	3
70 - 79	2	4	6(5.7)	0	0	0
Total	54	51	105	50	50	100

Table 2. Items of CMI

Sections	Items	No
Somatic complaints(12 Items)		
A	Eyes and ears	9
B	Respiratory system	18
C	Cardiovascular system	13
D	Digestive tract	23
E	Musculoskeletal system	8
F	Skin	7
G	Nervous system	18
H	Genitourinary system	11
I	Fatigability	7
J	Frequency of illness	9
K	Miscellaneous disease	15
L	Habitus	6
Psychic complaints(6 Items)		
M	Inadequacy	12
N	Depression	6
O	Anxiety	9
P	Sensitivity	6
Q	Anger	9
R	Tension	9
Total		195

**Fig. 1.** Fukamachi's discriminative chart.

3. 통계적 분석 방법

analysis of variance, X^2 method

. SCL - 90 - R

, , (4 , 4),
(26dB , 27 40dB, 41 55dB

Table 3. Items of SCL-90-R

Symptom dimension	No
Somatization(SOM)	12
Obsessive-Compulsive(O-C)	10
Interpersonal sensitivity(I-S)	9
Depression(DEP)	13
Anxiety(ANX)	10
Hostility(HOS)	6
Phobic anxiety(PHOB)	7
Paranoid ideation(PAR)	6
Psychoticism(Psy)	10
Additional items	7
Total	90

Table 4. Causative diseases of tinnitus

Diseases	No.(%)
Presbycusis	25(23.8)
Noise induced hearing loss	10(9.5)
Sudden deafness	7(6.8)
Ménière's disease	4(3.8)
Chronic otitis media	35(33.4)
Chronic serous otitis media	1(0.9)
Salpingitis	1(0.9)
Head injury	3(2.9)
Idiopathic	19(18.0)
Total	105(100.0)

),

결 과

1. 유인 질환별 빈도

Table 4

105 46 (43.9%),
37 (35.2%), 3 (2.9%) ,
35 (33.4%), 2
5 (23.8%), 10 (9.5%)
19 (18.0%) .

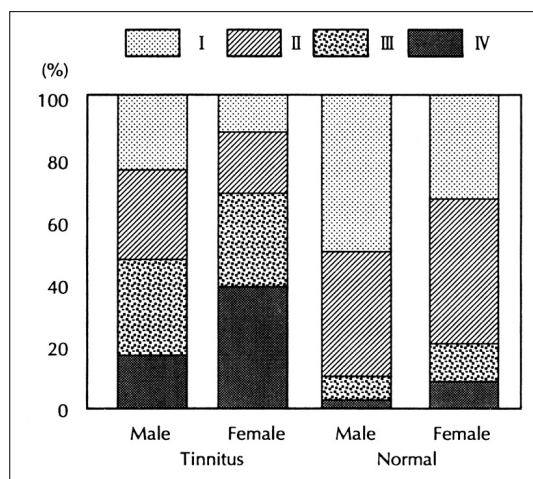
2. 이명 검사 결과

Table 5

pitch match, lo -

Table 5. Pitch match and loudness balance test

Loudness(dBSL)	5	10	15	20	25	Total
Frequency(Hz)						
125	3	2				5
250	5	3				8
500	5	4	1			10
1k	6	3	1	1		11
2K	8	6	2	1		17
4K	31	17	4	2	1	55
8K	15	5	1		1	22
Total	73	40	9	4	2	128

**Fig. 2.** Results of Fukamachi's discriminative chart.**Table 6.** Results of SCL-90-R

Dimension	Tinnitus		Normal	
	Male	Female	Male	Female
Somatization	48.9 ± 7.8	49.1 ± 8.9	40.0 ± 1.7	41.4 ± 5.7
Obsessive-compulsive	46.1 ± 9.4	45.6 ± 9.1	36.7 ± 4.8	40.1 ± 5.7
Interpersonal sensitivity	46.4 ± 8.7	44.6 ± 8.6	39.1 ± 3.4	41.8 ± 6.2
Depression	48.1 ± 8.5	47.9 ± 9.7	37.8 ± 2.3	40.6 ± 7.1
Anxiety	46.4 ± 8.5	47.4 ± 9.2	40.5 ± 2.6	42.6 ± 6.7
Hostility	46.0 ± 5.9	45.5 ± 6.9	39.8 ± 1.3	41.7 ± 7.5
Phobic anxiety	47.5 ± 7.9	48.7 ± 10.5	44.1 ± 0.3	43.6 ± 3.9
Paranoid ideation	45.7 ± 7.7	45.3 ± 7.4	39.1 ± 0.3	43.5 ± 3.9
Psychoticism	47.1 ± 7.2	47.0 ± 8.8	41.3 ± 0.7	43.0 ± 6.7
GSI	48.1 ± 20.5	49.2 ± 19.2	41.9 ± 5.0	43.0 ± 7.3
PSDI	50.2 ± 18.6	50.0 ± 16.0	41.0 ± 3.2	41.8 ± 6.2
PST	42.2 ± 14.4	43.0 ± 8.0	42.0 ± 8.0	42.3 ± 10.0

S.D : Standard deviation
GSI : Global Severity Index

udness balance 128
77 (60.22%)
38 (29.7%), 13 (10.1%)
5 10dB SL 가 113 (88.3%)
15dB SL 15 (11.7%)
4KHz, 5dB SL 31 (24.2%), 4KHz,
10dB SL 17 (13.3%), 8KHz 5dB SL 15 (11.7%)

3. CMI 성적

深町

46.3%, 66.7%
8.0%, 20.0%
(p<0.01)(Fig. 2).

4. SCL-90-R 성적

가
48.9 ± 7.8 , , , ,
49.1
± 8.9 , , , ,
(≥50)

(Table 6).

Mean ± S.D

Table 7. Relation between SCL-90-R scores and clinical parameters

	SOM	O-C	I-S	DEP	ANX	HOS	PHOB	PAR	PSY
Age	NS	NS	NS	NS	NS	NS	NS	NS	NS
Gender	NS	NS	NS	NS	NS	NS	NS	NS	NS
Hearing loss	NS	NS	NS	NS	NS	NS	NS	NS	NS
Uni-, bilaterality	NS	NS	NS	NS	NS	NS	NS	NS	NS
Duration	NS	NS	<0.01	<0.01	<0.01	NS	NS	NS	NS
Ear surgery	NS	NS	NS	<0.01	NS	NS	<0.01	NS	NS

SOM : Somatization, O-C : Obsessive-compulsive, I-S : Interpersonal sensitivity, DEP : Depression, ANX : Anxiety, HOS : Hostility, PHOB : Phobia, PAR : Paranoid ideation, PSY : Psychoticism, NS : Not significant

5. SCL-90-R 정신 척도와 이명에 관여하는 인자

본 연구에서 SCL-90-R의 각 차등 척도(ner²⁵⁾, Grossan²⁹⁾³⁰⁾, House³⁴⁾, House³³⁾ (skin temperature biofeedback)와, Larry Duckert³⁷⁾, Borton²⁰⁾ (placebo effect)와, Crisp²³⁾³⁹⁾의 Crisp Experimental Index, MMPI, (p<0.01), 가 (Table 7).

고 찰

본 연구에서 400 Hippocrates가 CMI SCL-90-R 가 CMI SCL-90-R 가, SCL-90-R 가, CMI Brodman²¹⁾ 가, Fowler²⁶⁾²⁷⁾ 가, (blood sludging)" M R (C), (I), (J)

(線型判別函数法) (推

計學的) (Fig. 1). 深町

0%), 35

(33.4%), 4 (3.8%),

2 (1.9%), (head inj -

ury) 3 (3%),

가 19 (18.0%)

Lindberg Berit ³⁸⁾ 75

48 (64%), 12 (16%),

6 (8%), 2

(3%), 7 (9%)

가 가

¹⁾, ¹²⁾, ¹¹⁾, Hou -

se³⁴⁾, George²⁸⁾

深町 CMI

가

46.3%, 66.7% 8.0%,

20.0%

가 1.06 : 1 ⁷⁾, ¹³⁾,

¹⁶⁾¹⁷⁾ 40 가 25.

7% 가 , 40 가

(frequency) 가 4000

Hz , (87.6%)가

10dB SL

가 32 , 가 40

가 28 , (tinnitus of head or -

igin) 5 . George²⁸⁾가

200 (109 , 91)

1.19 : 1 50 가 24.5% 가

Fowler²⁶⁾, Kafka³⁶⁾, Venter ⁴¹⁾

가 40

4000Hz, 5dB SL 가 41%, 10

dB SL 가 69%

44 , 가 62 , 가 78 , 16

(p<0.01).

Collet ²³⁾ 100 MMPI

(hypoch - ondria),

(depression), (hysteria),

(paranoia), (psychopathic deviation),

- 16) 홍원표 · 남충성 : 이명의 임상적 고찰 (제 1 보) . 한이인지 10 : 59-63, 1967
- 17) 홍원표 : 이명의 임상적 고찰 (제 2 보) . 한이인지 11 : 59-68, 1968
- 18) 深町 建 : Cornell Medical Indexの研究. 第1報 CMIよりみた神経症者の自覚症の特性. 福岡醫學雑誌 50 : 2988-3000, 1959
- 19) 深町 建 : Cornell Medical Indexの研究. 第2報 CMIよりみた神経症者の判別基準ニ關シテ. 福岡醫學雑誌 50 : 3001-3020, 1959
- 20) Borton TE, Moore WH, Clark SR : Electromyographic feedback treatment for tinnitus aurium. J Speech Hear Disord 46 : 39-44, 1981
- 21) Brodman K, Erdmann AJ Jr, Large I, et al : The Cornell Medical Index-an adjunct to medical interview. JAMA 140 : 530-534, 1949
- 22) Brodman K, Erdmann AJ Jr, Large I, et al : The Cornell Medical Index-Health questionnaire diagnostic instrument. JAMA 145 : 152-157, 1951
- 23) Collet I, Moussu MF, Disant F, et al : Minnesota multiphasic personality inventory in tinnitus disorders. Audiology 29 : 101-106, 1990
- 24) Derogatis : Cited from No 2
- 25) Elfner LF, May JG, Moore, et al : Effects of EMG and thermal feedback training on tinnitus. A case study. Biofeedback self-regul 6 : 517-521, 1981
- 26) Fowler EP : The Emotional factor in tinnitus aurium. Laryngoscope 58 : 145-154, 1948
- 27) Fowler EP, Fowler EP Jr : An explanation of certain types of tinnitus and deafness. Laryngoscope 60 : 919-930, 1950
- 28) George FR : An audiometric study of two hundred cases of subjective tinnitus. Audiology section 7 1 : 94-104, 1960
- 29) Grossan M : A brief introduction to biofeedback for otolaryngologists. ORL Digest 37 : 15-19, 1975
- 30) Grossan M : Treatment of subjective tinnitus with biofeedback. ENT J 55 : 314-318, 1976
- 31) Hallam RS, Jakes SC, Hinchcliffe R : Cognitive variables in tinnitus annoyance. Br J Clin Psychol 77 : 213-222, 1988
- 32) Hallam RS, Stephens SDG : Vestibular disorder and emotional distress. J Psychosom Res 29 : 407-413, 1985
- 33) House JW, Miller L, House PR : Treatment of severe tinnitus with biofeedback training. Laryngoscope 88 : 406-412, 1978
- 34) House PR : Personality of the tinnitus patients. In Tinnitus (Ciba Foundation Symposium) 85 : pp 183-203, London Pitman Books, 1981
- 35) Jack Vernon : Attempts to releave tinnitus. J Ameri Audiol Society 2 : 124-131, 1977
- 36) Kafka MM : Tinnitus Aurium ; Etiology, differential diagnosis, treatment and review of 25 cases. Laryngoscope 44 : 515-543, 1984
- 37) Larry G, Duckert : Placebo effect in tinnitus management. Otolaryngol Head Neck Surg 92 : 697-699, 1984
- 38) Lindberg, Berit, Scott, Lennart Melin, et al : Behavioural therapy in the clinical management of tinnitus. Br J Audiol 22 : 265-272, 1988
- 39) Stephens SDG, Hallam RS : The Crown-Crisp Experimental Index in patients complaining of tinnitus. Br J Audiol 19 : 151-158, 1985
- 40) Tyler RS, Baker LJ : Difficulties experienced by tinnitus sufferers. J Speech Hear Dis 48 : 150-154, 1983