

## 노인의 만성 중이염에 대한 수술성적

- 청 · 장년 수술성적과의 비교 -

전경명 · 조규섭 · 고의경 · 이일우 · 이진춘 · 김대희

## Comparison of Postoperative Results in the Aged and Adult Patients with Chronic Otitis Media

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## -ABSTRACT-

**Background and Objectives** : The number of elderly patients undergoing tympanoplasty is on the increase because of the increasing percentage of the elderly persons in the population, greater anesthetic safety, and greater otosurgical technique. This study was attempted to compare the postoperative results in the elderly and adult patients received tympanoplasty with or without mastoidectomy and to evaluate the prognostic factors related to the postoperative hearing results and complications. **Materials and Methods** : Retrospective review of the 84 elderly (60 or more year old) and 150 adult (16 - 59 year old) patients among total of 2,982 patients with chronic otitis media with or without cholesteatoma who were surgically treated at the Department of Otolaryngology, Pusan National University Hospital from January 1996 to December 2003. **Results** : 1) In the elderly patients, most common hearing loss is the mixed type. 2) Graft success rate is 92.9% and hearing success rate is 47.6%. Graft success rate and hearing success rate were better in good eustachian tube function. 3) The most common concomitant disease is hypertension. Graft and hearing success rate is higher in patients who have no concomitant disease, but there was no statistically significant difference between the elderly and adult groups. 4) Type II tympanoplasty was more frequently performed. The incidences of type II tympanoplasty decreased with age, whereas the type III tympanoplasty slightly increased with age. 5) Hearing success rate is higher in patients performed only tympanoplasty than mastoidectomy with tympanoplasty. 6) There were no severe complications of surgery in the elderly patients. **Conclusion** : The need for tympanoplasty in the elderly patients is often to correct of conductive hearing loss and to obtain dry ear, which greatly helps in wearing a hearing aid. If the general state of the elderly patients allows operation, middle ear surgery for chronic otitis media should be recommended. (J Clinical Otolaryngol 2005;16:227-234)

**KEY WORDS** : Aged · Tympanoplasty · Otitis media.

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## 결 과

### 연령 및 성별 분포

84 가 33 (39.3%), 가 51 (60.7%), 60~69 가 75 (89.3%), 70~79 가 8 (9.5%), 80 가 1 (1.2%), 150 가 55 (36.7%), 가 95 (63.3%), 16~19 가 4 (2.7%), 20~29 가 18 (12.0%), 30~39 가 34 (22.7%), 40~49 가 54 (36.0%), 50~59 가 40 (26.6%) (Table 1).

### 술전 청력장애의 유형

84 가 23 (27.4%), 6 (7.1%), 54 (64.3%), 가 1 (1.2%) 가 74 (49.3%), 7

**Table 1.** Age and sex distribution (n=cases)

Age	Sex		Total (%)
	Male	Female	
16 - 19	2	2	4 ( 2.7)
20 - 29	7	11	18 (12.0)
30 - 39	11	23	34 (22.7)
40 - 49	18	36	54 (36.0)
50 - 59	17	23	40 (26.6)
Subtotal (%)	55 (36.7)	95 (63.3)	150 (100)
60 - 69	31	44	75 (89.3)
70 - 79	2	6	8 ( 9.5)
80 -		1	1 ( 1.2)
Subtotal (%)	33 (39.3)	51 (60.7)	84 (100)
Total (%)	88 (37.6)	146 (62.4)	234 (100)

**Table 2.** Types of preoperative hearing loss

(n=cases (%))

Group	Types				Total
	Conductive	Sensorineural	Mixed	Normal	
Adult	74 (49.3)	7 (4.7)	40 (26.7)	29 (19.3)	150 (100)
Elderly	23 (27.4)	6 (7.1)	54 (64.3)	1 ( 1.2)	84 (100)

### 이관의 기능과 고막의 이식 성공

84 가 78 (92.9%), 55 가 52 (94.5%), 29 가 26 (89.7%), 150 가 31 (20.7%), 29 (93.5%), 53 가 49 (92.5%), 150 가 140 (93.3%), 117 가 110 (94.0%), 33 가 30 (90.9%)

87 가 83 (95.4%), 63 가 57 (90.5%)

(Table 3).

### 이관의 기능과 술후 청력

84 가 40 (47.6%), 55 가 29 (52.7%), 29 가 11 (37.9%), 31 가 16 (51.6%), 53 가 24 (45.6%), 150 가 83 (55.3%), 117 가 69 (59.0%), 33 가 14 (42.4%)

**Table 3.** Graft result and E-tube function (n= cases)

Result	Group	Adult*				Elderly*			
		Catheteriz.		Mucocil.		Catheteriz.		Mucocil.	
		Good	Poor	Good	Poor	Good	Poor	Good	Poor
Success		110	30	83	57	52	26	29	49
Failure		7	3	4	6	3	3	2	4
Success rate (%)		94.0	90.9	95.4	90.5	94.5	89.7	93.5	92.5

Catheteriz. : catheterization \* : p=0.960  
 Mucocil. : mucociliary function, Adult graft success rates : 93.3%, Elderly graft success rates : 92.9%

**Table 4.** Hearing result and E-tube function (n= cases)

Result	Group	Adult*				Elderly*			
		Catheteriz.		Mucocil.		Catheteriz.		Mucocil.	
		Good	Poor	Good	Poor	Good	Poor	Good	Poor
Success		69	14	49	34	29	11	16	24
Failure		48	19	38	29	26	18	15	29
Success rate (%)		59.0	42.4	56.3	54.0	52.7	37.9	51.6	45.6

Catheteriz. : catheterization, Mucocil. : mucociliary function, \* : p=0.109  
 Adult hearing success rates : 55.3%, Elderly hearing success rates : 47.6%

**Table 5.** Concomitant disease and success rates

Diseases	Group	Adult		Elderly	
		Cases	Success cases (%)	Cases	Success cases (%)
Absent		144	76 (52.8)*	55	27 (47.3) †
HT		4	3 (75.0)*	16	7 (43.8) †
DM		2	1 (50.0)*	12	5 (41.7) †
COPD				1	1 (100) †

HT : hypertension \* : p=0.685, † : p=0.710  
 DM : diabetes mellitus  
 COPD : chronic obstructive pulmonary disease

4 가 , 2 ,  
 가 144 .

(Table 5).

**고실성형술의 형태**

II 170 (70.7%) 가  
 II  
 가  
 (p=0.017), III  
 가  
 (p=0.070)(Table 6).

(Table 4).

**수술방법과 술후 청력**

**동반 질환과 술후 성공**

84 , .  
 16 가 , 12 , 가 .  
 1 , 55  
 . . 150 (p<0.001),

:

**Table 6.** Types of tympanoplasty (n=cases)

Age	Types	I	II	III	IV	Total (%)
16 - 19			4*			4 ( 2.7)
20 - 29		1	15*	2†		18 (12.0)
30 - 39		1	28*	5†		34 (22.7)
40 - 49		3	39*	8†	4	54 (36.0)
50 - 59		3	28*	6†	3	40 (26.6)
Subtotal (%)		8 ( 5.3)	114 (76.0)	21 (14.0)	7 (4.7)	150 (100)
60 - 69		9	51*	14†	1	75 (89.3)
70 - 79			5*	3†		8 ( 9.5)
80 -				1†		1 ( 1.2)
Subtotal (%)		9 (10.7)	56 (66.7)	18 (21.4)	1 (1.2)	84 (100)
Total (%)		17 (12.1)	170 (70.7)	39 (16.1)	8 (1.1)	234 (100)

\* : p=0.017, † : p=0.070

**Table 7.** Hearing success rates and operation methods (n=cases)

Success	Group	Adult			Elderly		
		CWDM	ICWM	TP	CWDM	ICWM	TP
Success		4	16	63	1	3	31
Failure		17	23	27	11	5	33
Success rate (%)		19.0*	41.0*	71.6*	8.3†	37.5†	48.4†

CWDM : canal wall down mastoidectomy with tympanoplasty, ICWM : Intact canal wall mastoidectomy with tympanoplasty, TP : Tympanoplasty only \* : p<0.001, † : p=0.072

(p=0.072).

**고 찰**

가

가,

(Table 7).

가

**수술 후 합병증**

84

가

가

4 ,

가 1 ,

가

가 2

2mm

Bocca<sup>11)</sup>

2 House - Brackmann grade II

가

, Tos<sup>3)</sup>

60

3

가

1980

150

가 1 ,

2

Emmett<sup>5)</sup>

Radpour<sup>4)</sup>

가 , 가 92.9% ,  
 47.6% ,  
 1996 1 2003 12 46.4% . .  
 60 93.3%  
 2,982 195 (6.5%) . , 55.3% ,  
 Gyo <sup>6)</sup> 7.2%, Vartiainen<sup>12)</sup> 53.3%  
 9.8% . Aoki<sup>13)</sup>  
 60~64 가  
 70~74 가  
 가 가 가 가 , , 가 ,  
 Nomura <sup>8)</sup> 가  
 가 Radpour<sup>4)</sup> 65 가 ,  
 가 가 Saito <sup>14)</sup> Gyo <sup>6)</sup> .  
 Aoki<sup>13)</sup> 가 51.3 dB, 가  
 28.8 dB , 36.3 dB  
 가 가 .  
 가 64.3% , 가 II II 가  
 가 , III 가 . Aoyagi <sup>15)</sup>  
 가 53.9 dB, 가 36.6 가 I IV  
 dB Aoki<sup>13)</sup> , III 가 , I  
 가 III IV 가 가  
 가 , 가 가  
 가 가

:  
 . Saito<sup>16)</sup> Aoyagi<sup>15)</sup>  
 가 , 가  
 , 가 ,  
 가 , . Saito<sup>16)</sup> 가 가  
 , 가 가  
 Aoki<sup>13)</sup> , , ,  
 , Gyo<sup>6)</sup> , 60 가  
 6.4%, 2.4%, (only hearing ear)  
 1.3%, 5.1% , 가 , 가 ,  
 7.1%. 2.4% 4.8%, 가 가 ,  
 , drill 가 ,<sup>17)</sup>  
 , gelfoam ,  
 , Saito<sup>16)</sup> 가 3~5% . Saito<sup>14)</sup> 가  
 , CT 가 ,  
 가 가  
 가 가  
 . Radpour<sup>4)</sup> Aoyagi<sup>15)</sup> **결 언**  
 가 가  
 . Saito<sup>16)</sup> 60 70  
 가 , 59 .  
 60 , 1996 1 2003 12  
 가

2,982 60 195  
 가 가 84  
 16~59 150  
 60~69  
 가 89.3% 가  
 가 가 II 가 II  
 , III 가  
 가 가 가  
 가 , 가  
 중심 단어 :  
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