

Polycel[®]을 사용한 이소골 재건술의 청력 개선효과

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Hearing Results of Ossiculoplasty Using Polycel[®] Prosthesis

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ABSTRACT

Background and Objectives : During the last decade, the surgical use of alloplasts has become more and more widespread among otologists. In this study, we evaluated the hearing results of ossiculoplasty using Polycel[®] prosthesis. **Subjects and Method** : One hundred eighty eight cases who underwent ossicular chain reconstruction using Polycel[®] prosthesis and had been followed up postoperatively for more than 12 months at Severance Eye-ENT Hospital from 1998 to 2002 were reviewed retrospectively. Postoperative hearing results were assessed by measuring the postoperative air-bone gap (ABG) and closure in air-bone gap. Successful postoperative ABG criteria were defined as the following three groups ; ABG of ≤ 10 dB, ABG of ≤ 20 dB, and ABG of ≤ 30 dB. Several prognostic factors such as the condition of middle ear mucosa and ossicles, presence or absence of cholesteatoma, surgical method, staging and revision surgery were analyzed. **Results** : Of the total of 188 cases, 22 cases (11.7%) were ≤ 10 dB ABG, 96 (51.1%) cases were ≤ 20 dB ABG, and 158 (84.0%) cases were ≤ 30 dB ABG. The hearing results were good for healthy middle ear mucosa and cases which contained stapes superstructure, the hearing results were good. **Conclusion** : Polycel[®] is a good material to be used in ossiculoplasty as a hydroxyapatite and autologous bone. In ossiculoplasty, good prognostic factors of the middle ear condition were healthy middle ear mucosa and the presence of stapes superstructure. (Korean J Otolaryngol 2004;47:1224-9)

KEY WORDS : Ossicular replacement · Ossicular prosthesis · Polyethylene · Audiometry.

(biocompatibility)

가

.¹⁾ 가

가

가 , 가 , 가 가 가

(autologous bone)

proplast, ceravital, polyethylene, hydroxyapatite, titanium 가 .

TORP(total ossicular replacement prosthesis)

PORP(partial ossicular replacement prosthesis)

가 (cost - effectiveness)

Polycel[®] 가

.³⁾ Polycel[®]

(polyethylene)

가 .

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Polycel[®] Chi - square test unpaired *t* - test p
0.05 .

Polycel[®]

Polycel[®] 188
33.9 ± 10.8 dB ,
21.6 ± 10.7 dB .
10 dB

20 dB , 30 dB 188 10 dB

1998 1 2002 8
415 Polycel[®] 22 (11.7%) 20 dB 96 (51.1%),
30 dB 158 (84.0%) .

12 가 188 가 71 , 12
75 41.9 가 26.6 (12
, 67) . 136 ,
46 , 10 dB 20 dB ,
30 dB 46
10 dB 4 (8.7%), 20 dB 26 (56.5%),
30 dB 38 (78.3%)
136 14 (10.3%), 64
(47.1%), 114 (83.8%)
(*p*>0.05).

(one stage) 가
(two stage) , 12 11.6 dB 11.9 dB
. Polycel[®] PORP TORP 가 (*p*>0.05).
Polycel[®] head

30 dB 140 10 dB 18
(12.9%), 20 dB 82 (58.6%), 30 dB 127
(90.7%) ,
48
4 (8.3%), 14 (29.2%), 32 (66.7%) 10 dB

1995 AAO Co-
mmittee on Hearing and Equilibrium⁹⁾
0.5, 1, 2, 3 kHz
10 dB , 20 dB , 30 dB
가 . 가 6.7 dB
, , , (p<0.05)(Fig. 1B).
(closure in air - bone
gap) 가 14.2 dB,

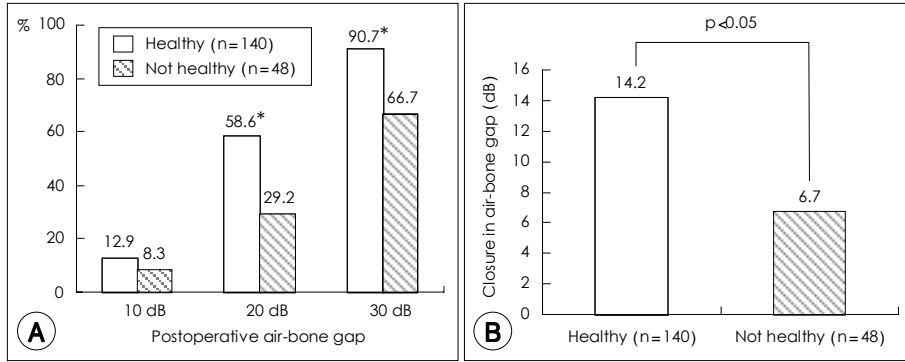


Fig. 1. Results of ossiculoplasty according to the condition of middle ear mucosa (A). Postoperative air-bone gap (B) Closure in air-bone gap. *p < 0.05.

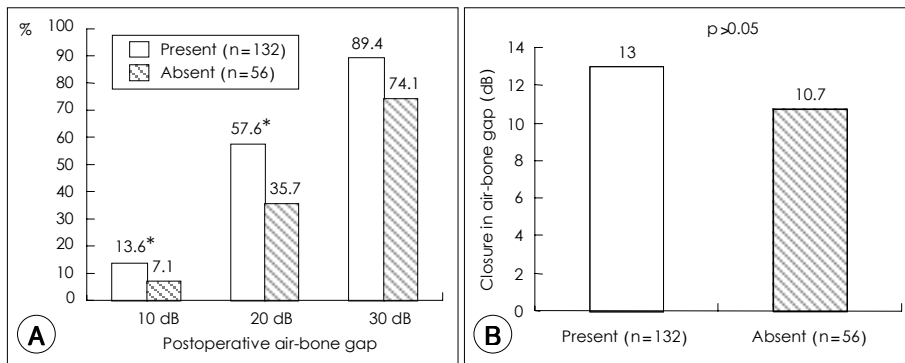


Fig. 2. Results of ossiculoplasty according to the condition of stapes superstructure (A). Postoperative air-bone gap (B) Closure in air-bone gap. *p < 0.05.

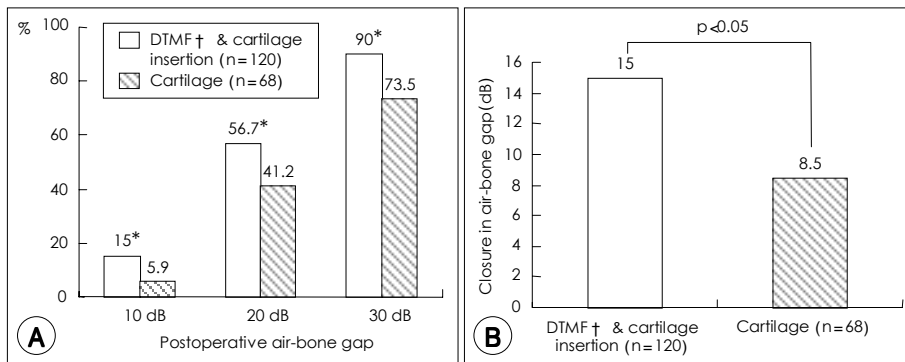


Fig. 3. Results of ossiculoplasty according to the tympanic membrane graft materials (A). Postoperative air-bone gap (B) Closure in air-bone gap. [†]DTMF: deep temporalis muscle fascia, *p < 0.05.

가 (p < 0.05)(Fig. 2A).
 1972 Au- 가 가 가
 4가 13.0 dB, 10.7 dB
 , 1994 Kartush⁵⁾ 3가 가 가 (p > 0.05)(Fig. 2B).
 가 (Austin - Kartush
 group A/C/O/E/F) PORP 132 68 가 10 dB
 가 10 dB 18 (13.6%), 4 (5.9%), 20 dB 28 (41.2%), 30 dB
 20 dB 76 (57.6%), 30 dB 118 (89.4%) 50 (73.5%) ,
 가 (Austin - Kartush Polycel[®] head 120
 group B/D) TORP 56 10 dB 18 (15%), 68 (56.7%), 108 (90.0%)
 4 (7.1%), 20 dB 20 (35.7%), 30 dB Polycel[®] head
 40 (74.1%) 가 가 (p < 0.05)(Fig. 3A).
 가

가 가⁵⁾¹²⁾¹³⁾

가¹⁴⁾ Polycel[®] 가 PORP 가 가¹⁰⁾¹⁷⁾

가, 가 가

가 Polycel[®] (extrusion) (dislocation) 3.8%, 3.4% 가¹⁸⁾

가 Polycel[®] microdegradation

가¹⁰⁾¹⁵⁾ 가

가²⁾ 11 (5.9%) 10 dB
1997 Lee¹⁰⁾

30 dB 가 10 dB 가

20 dB

12

1

가

1995 AAO Committee on Hearing and Equilibrium⁹⁾ 0.5, 1, 2, 3 kHz

1957 Rambo가 (air - bone gap), (closure in air - bone gap) 가¹⁵⁾¹⁶⁾

12

Lee¹⁰⁾ 가 10 dB, 20 dB, 30 dB 가 20 dB

가⁵⁾¹⁰⁾ 가

