

상고실성형술과 유양동폐쇄술의 세가지방법에 따른 95예의 비교 분석 결과

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Epitympanoplasty with Mastoid Obliteration after Tympanomastoid Surgery : A Comparison of Three Different Methods in 95 Cases

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– ABSTRACT –

Background and Objectives : We reported an epitympanoplasty with mastoid obliteration, a combined method using the advantages of canal up and down techniques in cholesteatoma surgery. This procedure was originally designed to prevent recurrence of the cholesteatoma by obliterating the mastoid cavity and reconstructing the epitympanum. We could improve the surgical results by modification of the surgical techniques.

Materials and Methods : From December 1994 to April 1999, we have operated 95 adult cases. Cholesteatoma, adhesive otitis media, and chronic otitis media were 78, 9 and 8 cases respectively. Six cases of them had previous surgery. The methods were classified into 3 different sub method groups according to the material of reconstruction of the epitympanum and obliteration of the mastoid cavity. **Results** : All cases had no recurrent cholesteatoma. Three cases of residual cholesteatoma in the mastoid cavity were detected only for group . Three cases of residual cholesteatoma in the tympanic cavity for group , and one case for group were detected. Three cases of postoperative infections for group , and one case for group and were identified separately. **Conclusion** : During follow-up period, unpredictable patterns of resorption of bone paste for the epitympanoplasty were observed for group . Resorption was not observed with using cartilage chips for the other two groups. In addition, using cartilage chips for the group and , postoperative infection was much decreased comparing to group I with bone paste. Mastoid obliteration with cartilage chips seemed to make it easy to approach to the mastoid antrum in revision. For the group and , the mastoid cavity was completely separated from the tympanic cavity by placing the fascia or perichondrium at the aditus and antrum in order to prevent the residual cholesteatoma from extending into the mastoid cavity. (**J Clinical Otolaryngol 2000;11:273-279**)

KEY WORDS : Epitympanoplasty · Mastoid obliteration · Cholesteatoma.

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서 론

1)

scutum

1)

대상 및 방법

대 상

1994 12 7 1999 4 30
95

78 , 9 ,
8 (Table 1).

(sclerotic) 16 64
34 6

방 법

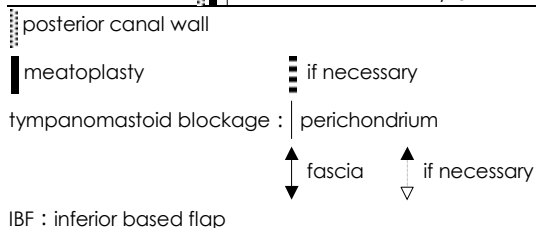
(tegmen tympani) (epitympanectomy)
supratubal recess (fossa incudis)

Table 1. Summary of cases according to each group

	Cholesteatoma	Adhesive otitis	Chronic otitis	Total
1st group	38	2	4	44
2nd group	15	4	3	22
3rd group	25	3	1	29
Total	78	9	8	95

Table 2. Comparison of 1st, 2nd and 3rd groups epitympanoplasty with mastoid obliteration

Epitympanum	Aditus ad antrum	Mastoid cavity
1st paste	paste	IBF/fat
2nd cartilage-chips	cartilage-chips	IBF/fat
3rd cartilage-chips	cartilage-chips	bone-chips, IBF/fat



(sin - us tympani) (facial recess) (pyramidal eminence)

(air - burden)

1994 11 1997 3)
, 2 (1996 7 1998 11)
, 3 (1998 8 1999 4)

(chisel)

1 , 2, 3
(Ta - ble 2, Figs. 1 and 2).

가 (Meatoplasty)

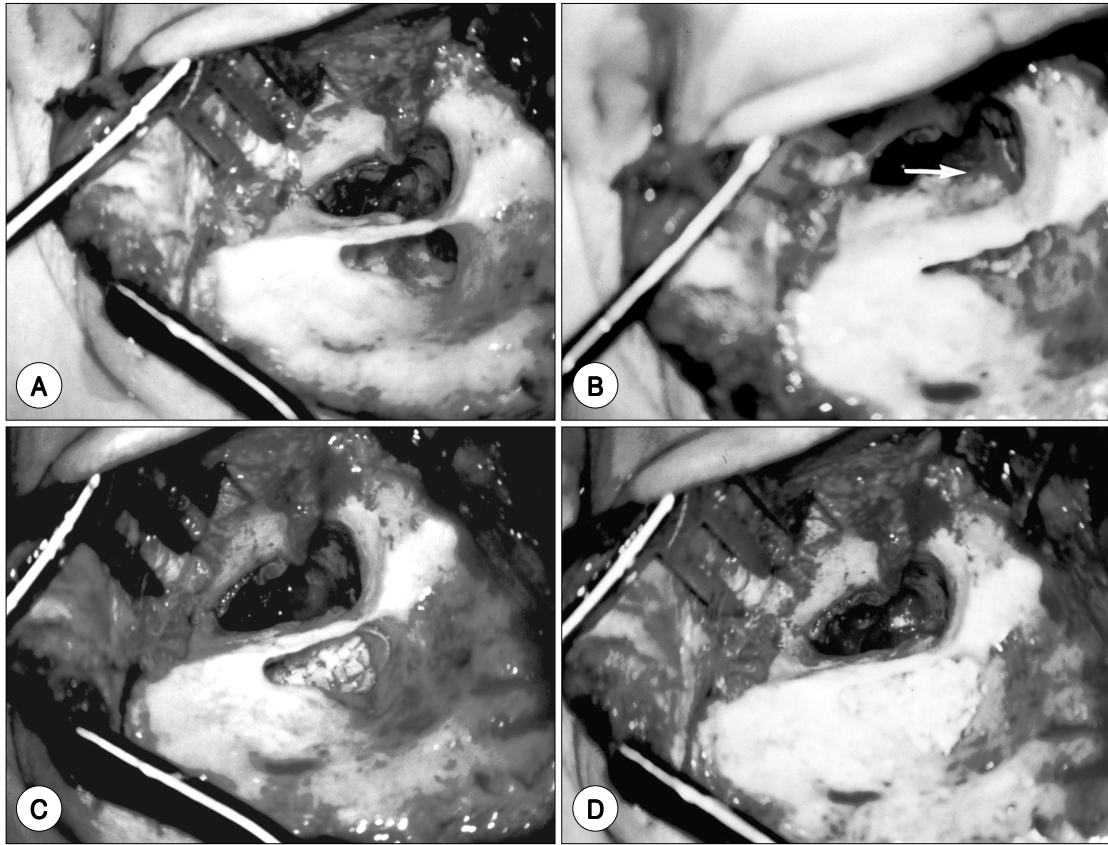


Fig. 1. Surgical procedures of epitympanoplasty and mastoid obliteration. A : Epitympanectomy and mastoidectomy state. B : Mastoid cavity is completely separated from tympanic cavity by perichondrium (arrow : perichondrium). C : The mastoid antrum is filled with cartilages. D : Mastoid cavity is obliterated with bone chips over cartilages.

가

결 과

2, 3

가

4

4 8

26.4

. 1

43

, 2

1

(antrum)

21

, 3

8

(tympanomastoid passage)

가

, 2

1

3

가

, 2, 3

. 3

1

3

, 2

1

, 3

3

1

(keratin debri)

canal wall down mastoidectomy(CWD)

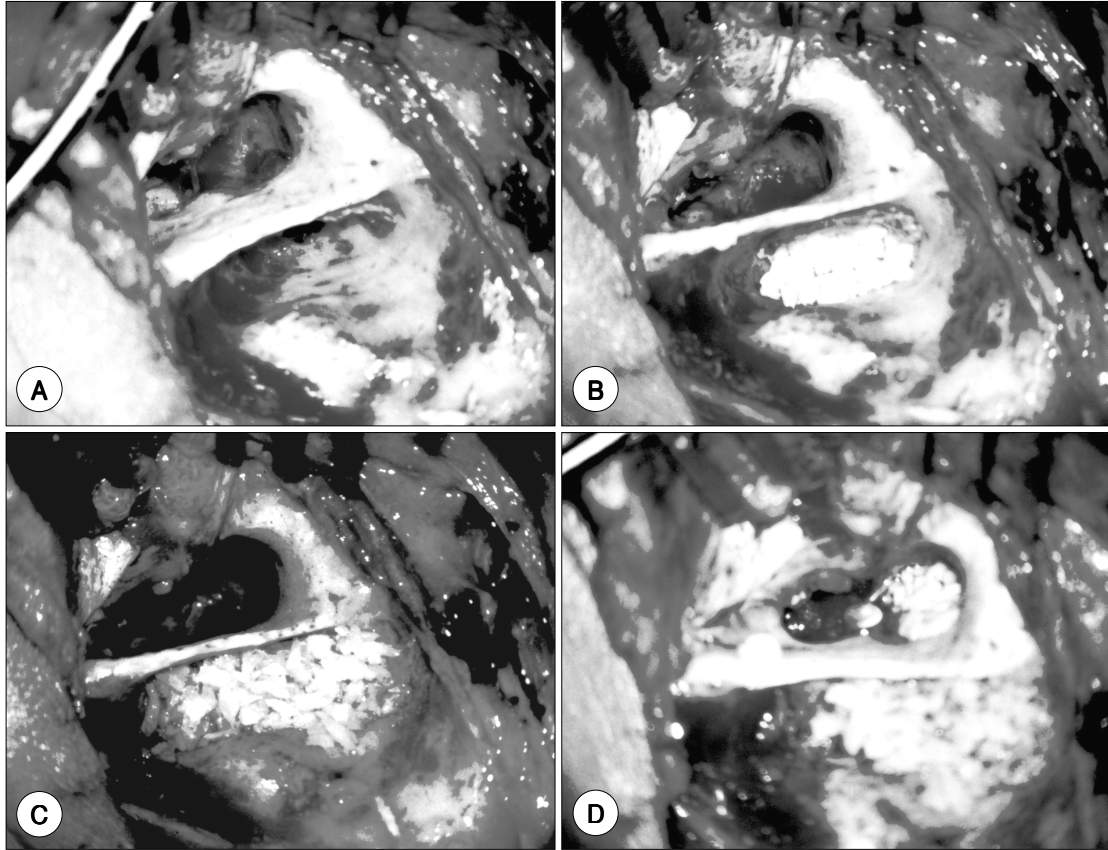


Fig. 2. The other case of epitympanoplasty and mastoid obliteration. A : Epitympanectomy and mastoidectomy state. B : The mastoid antrum is filled with cartilages. C : Mastoid cavity is obliterated with bone chips over cartilages. D : Epitympanum is filled with cartilages. PORP was seen.

ker -
 atoma
 1
 1 1 , 2, 3
 1 3 , 2, 3 1
 1
 가
 2, 3 가
 고 찰
 1, 2, 3
 가 가 가
 2)3)
 가
 social handi -
 cap, 2)4)
 2)
 scutum

:

가 95

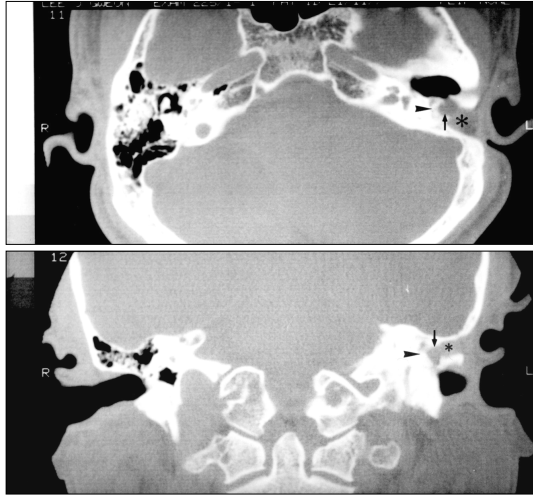


Fig. 3. Follow-up temporal bone CT in residual mastoid cholesteatoma. Residual mastoid cholesteatoma destroyed the obliterated portion with bone paste and burst out the mastoid cavity into the tympanic cavity (arrow : residual mastoid cholesteatoma, * : inferior based flap, arrow head : this is the obliterated portion with bone paste. it was destroyed by cholesteatoma).

가
Palva 가
(open cavity)

가 5)

6)

AIDS

Solomons 7) CWD
93.5% 1

Palva 8) CWD

가

1

가

가

9)10)

가

2, 3

가
(Fig. 3).

6

가

1

가

가

가

2

가

9)

가

2, 3

20

(bone chip) (bone paste),
polymethylmethacrylate, hydroxyapatite
가

가 10)
Meuser 2) 60
Sulfix - 6(polymethylmethacrylate)
5

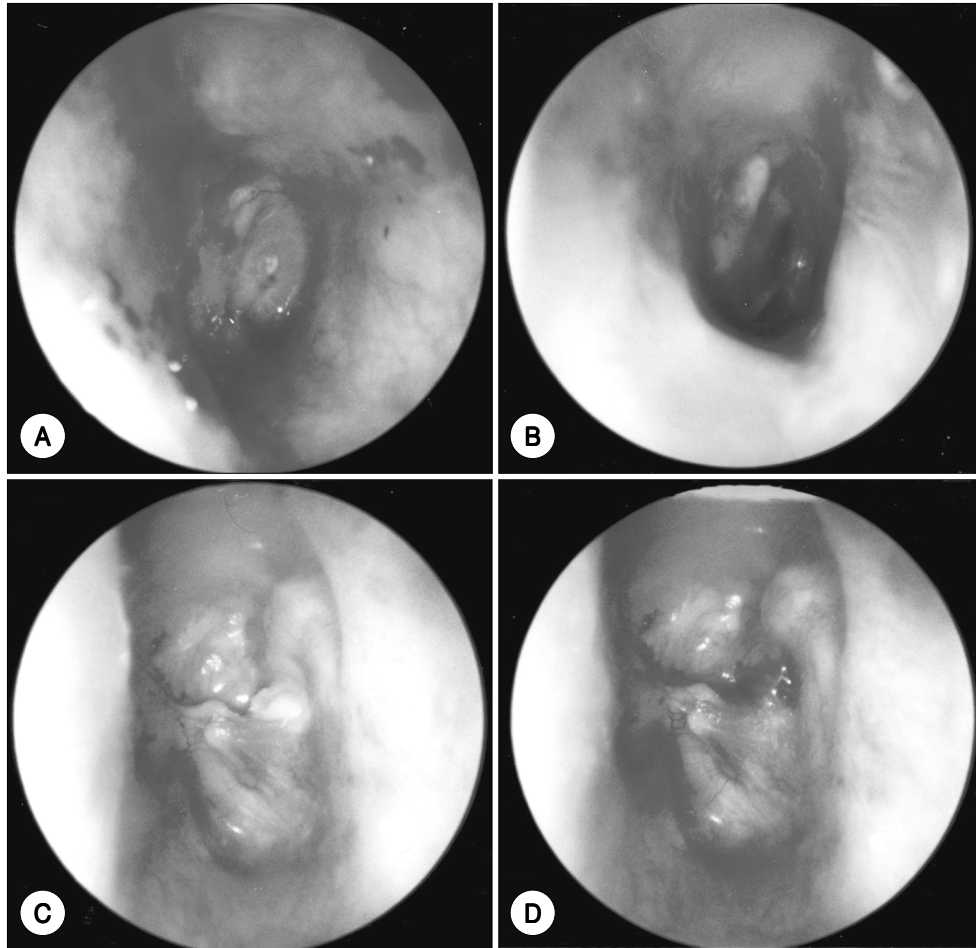


Fig. 4. Appearance of tympanic membrane after the operation : The shape of tympanic membrane after the operation varies according to how much the posterior canal wall of EAC is removed and how much the epitympanum is reconstructed. A, B : Postop. 3months. C : Residual cholesteatoma in tympanic cavity. C1 : Before removal. C2 : After removal

Meuser 1, 2
hydroxyapatite 가
(biocompatibility) (bi - 3
oactive) 가
tissue ingrowth
pore
¹¹⁾ Hydroxyapatite 가 (Fig. 2).
1
가 가 2 , 3
가

(dead space)

중심 단어 :

가 (Fig. 4C).

결 론

1, 2, 3

ITC CIC

가

1

2, 3

가

가

1

(Tympanomastoid blockage)

가 , 2

2, 3

(Canal wi -

dening)

(Meatoplasaty)

3

가

REFERENCES

- 1) Kang MK, Hur J, Kim LS. *Epitympanoplasty with mastoid obliteration in attic cholesteatoma*. In: Sanna M, Editor. *Cholesteatoma and Mastoid Surgery. Proceeding of the Fifth International Conference on Cholesteatoma and Mastoid surgery; 1996 September 1-6; Alghero-Sardinia, Italy. CIC edizioni internazionali;1997. p.567-70.*
- 2) Meuser W. *The exenterated mastoid: A problem of ear surgery*. *Am J Otol* 1985;6:323-5.
- 3) Sade J. *Treatment of retraction pockets and cholesteatoma*. *J Laryngol Otol* 1982;96:685-704.
- 4) Birzgalis AR, Farrington WT, O'Keefe L. *Reconstruction of discharging mastoid cavities using the temporalis myofascial flap*. *Clinical Otolaryngol* 1994;19:70-2.
- 5) Heermann J. *Autograft tragal and conchal palisade cartilage and perichondrium in tympanomastoid reconstruction*. *Ear Nose Throat J* 1992;71:344-9.
- 6) Wehrs RE. *Results of reconstructive mastoidectomy with homograft knee cartilage*. *Laryngoscope* 1978;88:1912-7.
- 7) Solomons NB, Robinson JM. *Obliteration of mastoid cavities using bone pate*. *J Laryngol Otol* 1988;102:783-4.
- 8) Palva T. *Surgical control of the mastoid segment in chronic ear disease in 1988*. *Arch Otorhinolaryngol* 1989;246:274-6.
- 9) Park KH, Chun YM, Kang JW, Kwon OH, Kim MS. *Healing Process of Mastoid Obliteration Using Cortical Bone Chips : anaysis of 90 cases*. *Korean J Otolaryngol* 1995; 38:345-52.
- 10) Kwon YW, Wang DY, Lee SD, Nam SY, Lee YB, Park JH. *The Effect of the Mastoid Obliteration using Palva Flap and Cortical Bone Dust*. *Korean J Otolaryngol* 1993; 36:1155-61.
- 11) Jahn AF. *Experimental applications of porous (coralline) hydroxylapatite in middle ear and mastoid reconstruction*. *Laryngoscope* 1992;102:289-99.