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18

11

(15) 16

14) (

32 -10

(%24.13) 7 :

5

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%52 %48

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*

Efficacy of Canal Wall Up Mastoidectomy in Management of Cholesteatoma

Mohamed Nabil Dandachli*

Abstract

Objective: The primary goal of any surgery for cholesteatoma is complete eradication of this lesion aiming to reach a dry ear and to prevent the complications and recurrence. The second goal is to preserve hearing or to improve it. This study aims to discuss cases of Cholesteatoma treated by canal wall-up mastoidectomy (Closed technique) and to determine the efficacy of this technique by studying the recurrence rates and hearing results.

Patients & Methods: Prospective study of 29 ears of Cholesteatoma operated on by canal wall-up mastoidectomy technique by the author at Al Mouassat University Hospital Damascus University, followed up for 28-50 months. All patients were reassessed clinically after 18 months and by doing audiogram and CT Scan. After the first surgery, we noticed improvement in hearing of patients. The hearing ability of 11 patients collapsed while 16 patients preserved their hearing power. The two patients were divided into groups, the first group (15 patients) did not show any clinical or radiological signs of recurrence and they were followed up after that clinically, the second group (14 patients) had been re-operated on (second look) either because of clinical recurrence or because of an opacity in the middle ear, the attic or the mastoid on the CT-Scan. After that all patients had been followed for 10-32 months. Only one patient had been re-operated on for the third time.

Results: The recurrence occurred in 7 patients (24.13%) for both forms of recurrence, three for recurrent form and four for residual form. Five cases occurred in children and two in adults. After 18 months of the first operation the air - bone gap decreased in 11 patients, increased in two and remained unchanged in 16 patients. After the second and third operations we were able to preserve the canal wall-up technique at 93% of patients, the air-bone gap decreased in 48%, and remained unchanged in 52%.

Conclusion: Canal wall-up mastoidectomy is an effective technique in the management of Cholesteatoma.

Key Words: Cholesteatoma, Mastoidectomy, closed technique.

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Introduction :

Canal wall-up mastoidectomy (closed intact canal wall Technique) mastoidectomy

Cholesteatoma

(Tympanoplasty)

-) Canal wall-down (Open Technique) mastoidectomy Radical)
-20 (1) (%60 or modified Radical (Mastoidectomy

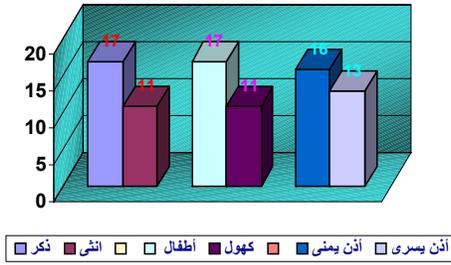
(Hearing Aid)

.(3-4)
29
()
Prospective Second Look
18-12
2002 -1998)
.((4)

Materials & :

Methods
() % 80 -70
37
(4)
(C W UP)
,2002 1998
9
28
17 (29)
11 (%60.71)

16		7	(%39.28)
	(%55.17)	20.96	73
	(%45.82)	13 (16)	
	(% 3.57)	(% 60.71)	17
	(.1)	(% 39.28)	11



(1)

		25	(%100)
55	(Retraction pocket)	(% 93.10)	27 . 6
	(% 3.44)	(%28.57)	
	(% 3.44)		
(% 24.13)			
	(Tinnitus)		

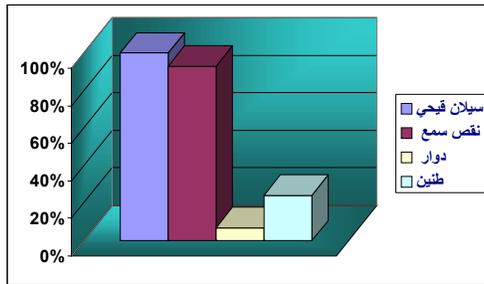
(2)

(Promontory)

(%6.89)

(%24.13) 7 20

(%68.96)



(2)

(Pure

(%6.89)

Tone Audiometry)

(Simple Mastoidectomy)

(%3.44)

(% 82.75)

24

(myringoplasty)

41.6

(Ossiculoplasty)

1.8

69.3

) 30 (Optic) .
(% 6.89)
(sinus Tympani) (Adenoideotomy)
Ventilation Tube)
:(Surgical Technique)

.(Postauricular)
)
(Ossiculoplasty)
) (Malleus)
, (Medially)
(Tympanoplasty) (Anterior Attic)
Facial ,
(Posterior Tympanotomy) recess

7 (Incus)
,(%24.13) .(Attic) (Antrum)

19 (Long Process)
(Lenticular (%65.51)
(%6.89) Process) (TransCanal)
,(%3.44) ,(Atticotomy)

(Malleus)
 4 , (%75.86) 22
) (%13.79) 3 (Manubrium)
) (%41.3) 12 (Head of Malleus) , (%10.34
 . (3 , 1 (%10.34) 3
 (%3.44)
 intact (Stapes) (%3.44)
 13 ((%44.82)

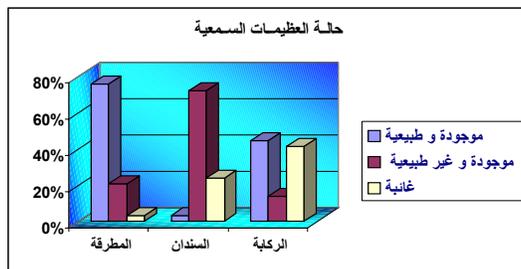
(%44.82) 13	(%3.44) 1	(%75.86) 22	
(%13.79) 4	(%72.41) 21	(%20.68) 6	
(%41.37) 12	(%24.13) 7	(%3.44) 1	

(1)

, (%24.13) 7

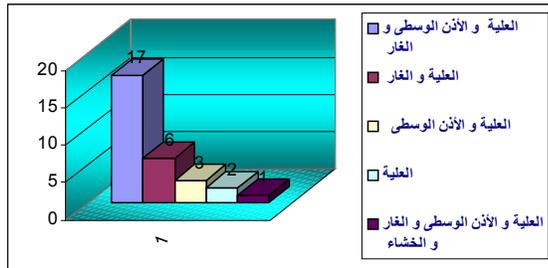
(Mesotympanum)

, (%17.24) 5



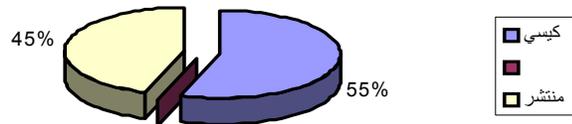
(3)

(granulation Tissue) 7 (%58.62)
 11 (%24.13) 6 (%20.68)
 (%37.93)
 (Adhesion) 3 (%10.34)
 (%6.89)
 17 (%3.44) (4)



(4)

(%55.17) 16 sac form (%3.44)
 13 diffuse form 11
 (5) (%44.82) (%37.93)
 20 (%58.62) 17
 17 (%68.96)



(5)

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 , - (Fat-Wire)
 , 4 -
 5 - 9
 .(2) 10 - (%31.03)

(%)	
(%3.44) 1	-
(%13.79) 4	-
(%17.24) 5	-
(%34.48) 10	-
(%31.03) 9	

(2)

21 ()
(ABG) (%72.41)
- 8 (%37.93) 11 (%20.68) 6
11.2 25 .(%6.89)
26
16 ,(%89.65)
(%55.17) 24
(%6.89) 8.56 ,
, } (%10.34)
) {
%10.34) 3 ()
((%6.89)
18 (Matrix)
(Second look) .(%3.44)
(CT-
Scan) -12
15) : , 18
(

(14)

.(6)

5)

(%17.24

(Opacity)

(7)

.(%31.03 9)



(7)	(6)
()	18 ()

Residual)

14

(Second look)

) (Cholesteatoma 4 :

(

.((pearl) ()
.()
,(%24.13) 7
Recurrent Cholesteatoma)
,(Cholesteatoma) (Recurrent
Cholesteatoma)
, (Residual
,
,
(%27.27)
(%18.18)
. 11
32 - 10
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) 9

(
,(8)

(Adhesions
and Fibrous Tissues)



(8)

9

15

(%51.72)

Discussion : 14 :
13.95 (%48.27)

(2) Mark J.
486

-1995

2000

%32.5

%14.6

(4) C.Zini (% 24.13)

) %24.6 هي

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429 (4) P. Romanet

(%26.5) (% 24.1) 27 ,

(%93.1) 29

%27.27

% 18.18

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32 - 10

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%7

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. 8.56 -3 .

%48 (More
(BUJJA)

. Aggressive)

%52 (11)

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(10)

M. 1982

(4) Gersdroff

Gregorio Babighian

2002

.(7)

.(12)

% 38

11.2

Sinus Tympani

Posterior Crus Of

%93

(5) Stapes

%48

.(3)

-1

(Scutum)

(Tragus)

(4-6)

-2 .(4) Biological Glue

-3

Lateral Attic



(Optic) 30 (Silastic Sheath) ()

. (4) .(4)

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-1 :

(Babighian

(Meninges) (Dornhoffer JL.) G.)

(Middle Cranial

Fossa)

.Lateral sinus

-2

.(8-7)

) (Dornhoffer JL.)

%5

-3 .(

(The

only hearing ear)

.(8)

(-4 (9)
(Erosion)
:(Lateral Semi-circular Canal)

(Matrix)

-2 . -5 .
Scutum

(3) .
Dodson

()

-1 :

()
() %30
(-2 .) -1
()

-3 PORP TORP

() Transposition
() .()
(Biological

Glue

CONCLUSION :

Bibliography

1. Peter John wormald, FCS(SA), FRCS(Ed); Erik L.K. Nilssen, Fcs(SA0, DLO9London). ThFacial Ridge and the Discharging Mastoid Cavity. *Laryngoscope* 1998; 108: 92-96.
2. Mark J. Syms, MD; William M. Luxford, MD. Management of Cholesteatoma: Status of the Canal Wall. *Laryngoscope* 2003 ; 113: 443-8.
3. Edward E. Dodson,MD; George T. Hashisaki, MD; Todd C. Hobgood, BA ; Paul R. Lambert, MD. Intact Canal Wall Mastoidectomy With Tympanoplasty For Cholesteatoma in Children. *Laryngoscope* 1998; 108: 977-83.
4. J. Magnan .La chirurgie du Cholesteatome. *L'Otite Chronique*; 1995: 121-46.
5. Hulka GF, McElveen JT Jr. A Randomized, blinded study of canal wall up versus canal wall down mastoidectomy determinig the differences in viewing middle ear anatomy and pathology. *Am J Otolaryngology* 1998; 19(5): 574-8.
6. Weber PC, Gantz BJ. Cartilage Reconstruction of the Scutum in Canal Wall Up Mastiodectomy . . *Am J Otolaryngology* 1998; 19(3): 178-82.
7. Babighian G. Posterior and Attic Wall Osteoplasty: Hearing Results and Recurrences Rates in Cholesteatoma. *Otol Neurotology*2002; 23(1): 14-7.
8. Dornhoffer JL. Retrograde Mastoidectomy With Canal Wall Reconstruction: A Single-Stage Technique for Cholesteatoma Removal. *Ann Otol Rhinol Laryngology*2000;109(11) 1033-9.
9. Battaglia AS, Sabri AN, Jackson CG. Management of Chronic Otitis Media in Only Hearing Ear. *Laryngoscope*2002; 112(4) 681-5.
10. Ueda H, Nakashima T, Nakata S. Surgical Strategy for Cholesteatoma in Childern. *Auris Nasus Larynx* 2001; 28(2): 125-9.
11. Bujia J, Holly A, Antoli-Candela F, Tapia MG, Kastenbauer E. Immunobiological Peculiarities of Cholesteatoma in Children: Quantification of Epithelial Proliferation by MIB 1. *Laryngoscope* 1996; 106: 865-7.
12. Cook JA, Krishnsn S, Fagan PA. Hearing Results Following Modified Radical Versus Canal-up Mastoidectomy. *Ann Otol Rhinol Laryngology* 1996 May: 105(5):379-83.

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