A Comparitive Study of Tympanoplasty With and Without Cortical Mastoidectomy

Medical Science

KEYWORDS : Myringoplasty; Tympanoplasty; Mastoidectomy. Temporalis fascia graft , pure tone audiometry.

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INTRODUCTION

Ear discharge is one of the most common ear complaint encountered by an Otorhinolaryngologist. Most of the cases of long term ear discharge, after clinical examination are attributed to Chronic Suppurative Otitis Media. Chronic Suppurative Otitis Media is of two types – safe and unsafe, out of which safe variety comprises of infection of mucosa of the middle ear cleft with discharge and central perforation. Along with several key factors, infection represents a major cause of graft failure in tympanic membrane reconstruction and can result from a hidden mastoid disease. Cortical Mastoidectomy is an effective means of repneumatising the mastoid and eradicating the mastoid source of infection. The effect of mastoidectomy on patients without evidence of active infection remains highly debated and unproven.

AIM

This study evaluates the outcome of tympanoplasty without mastoidectomy in comparison with the results of tympanoplasty with cortical mastoidectomy.

METHODS

The comparative study comprises of 40 patients with CSOM safe type in dry ear. All cases were operated during a period of one and a half years. 30 of these cases were selected for tympanoplasty alone (Group A) and 30 cases were selected for Tympanoplasty with mastoidectomy (Group B). Prospective cohort study is done. Patients were reviewed after 3 weeks for inspection of the operated ear. The 2nd and 3rd postoperative reviews were done at 3rd and 6th month respectively for clinical assessment of the operated ear with respect to graft status, ear discharge and hearing improvement. The postoperative audiograms were recorded on 2nd and 3rd visits.

Table :1 Age distribution of patients.

Age(yrs)	tympanoplasty		Mastoidectomy with tympanoplasty	
	No	%	No	%
20-29	12	40	16	53.33
30-39	10	33.33	6	20
40-49	6	20	5	16.67
50-59	2	6.67	3	10
Total	30	100	30	100
Mean±SD	37.10±11.36		33.27±10.63	

P-value:0.78,NS

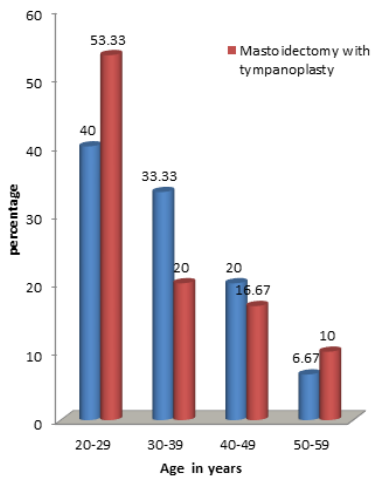
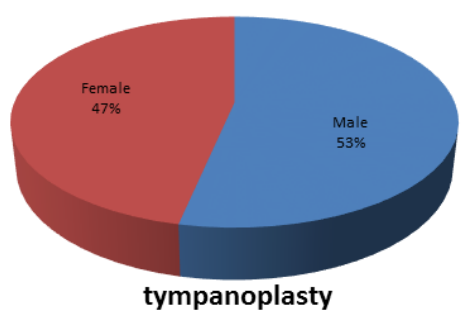


Table :2.Gender distribution of patients studieded.

Gender	tympanoplasty		Mastoidectomy with tympanoplasty	
	No	%	No	%
Male	16	53.33	15	50
Female	14	46.67	15	50
Total	30	100	30	100

P-value: 1.0,NS



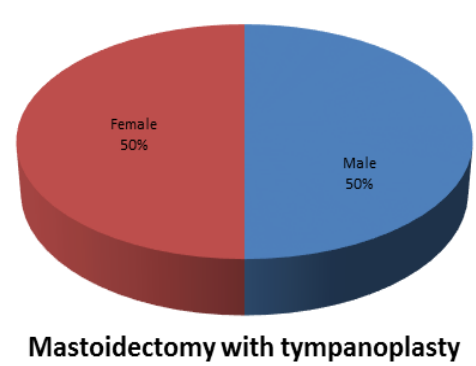


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Table 3:side involved

side involved	Myringoplasty		Mastoidectomy with tympanoplasty	
	No	%	No	%
Right	13	43.33	13	43.33
Left	17	56.67	17	56.67
Total	30	100	30	100

P-value:0.798,NS

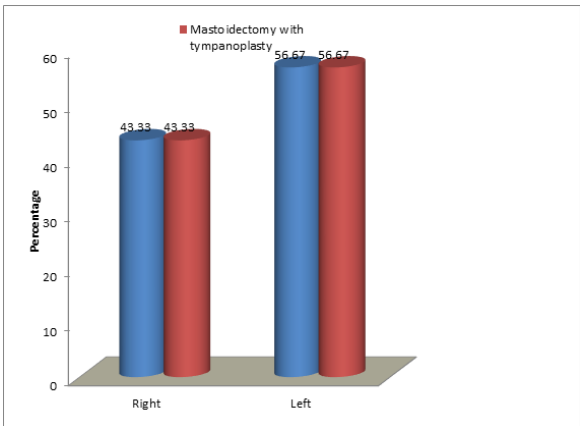

Table 4:duration of discharge in years.

duration of discharge	Myringoplasty		Mastoidectomy with tympanoplasty	
	No	%	No	%
1-5	8	26.67	13	43.37
6-10	21	70	10	33.33
11-15	1	3.33	7	23.33
total	30	100	30	100

P-value:0.05,Sig

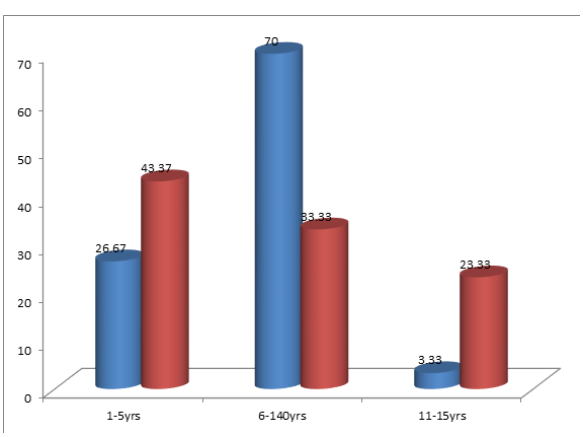

Table 5:Period of dryness of ear before the surgery in months.

Period of dryness(months)	tympanoplasty		Mastoidectomy with tympanoplasty	
	No	%	No	%
6-7	17	56.67	17	56.67
8-9	13	43.33	12	40
>10	0	0	1	3.33
total	30	100	30	100

P-value:0.83,NS

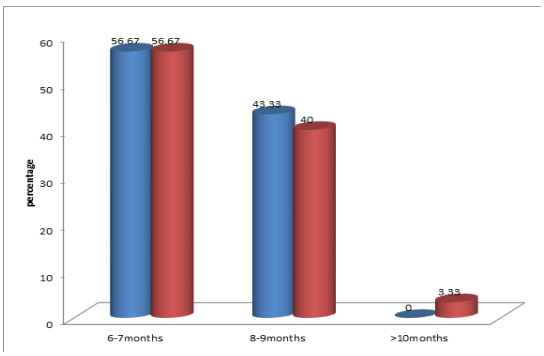

Table 6:Laterality

Laterality	tympanoplasty		Mastoidectomy with tympanoplasty	
	No	%	No	%
Unilaterality	17	56.67	17	56.67
Bilateral	3	9.33	3	9.33
Total	30	100	30	100

P-value: 0.321, NS

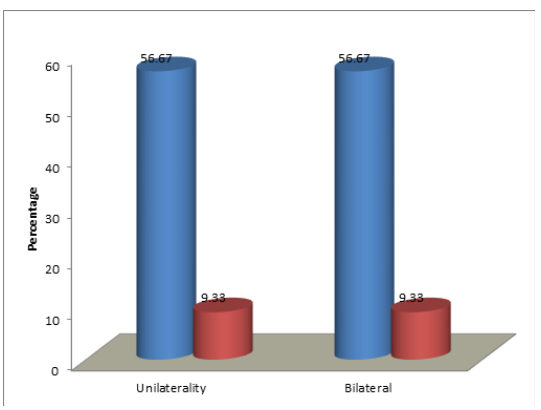

Table 7:Clinical Improvement

Clinical Improvement	tympanoplasty		Mastoidectomy with tympanoplasty	
	No	%	No	%
Discharge +	4	6.67	0	0
Discharge-	26	93.33	30	100
Total	30	100	30	100

P–value:1.0,NS

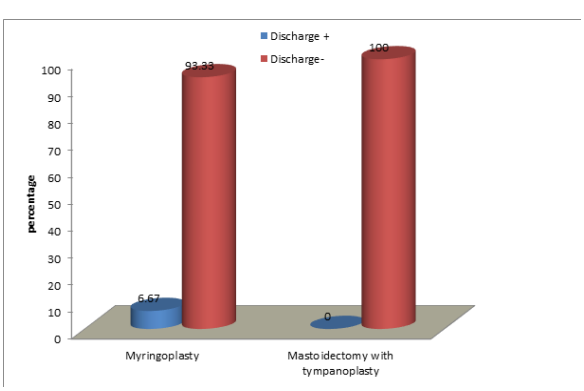

Table8:Graft status

Clinical Improvement	tympanoplasty		Mastoidectomy with tympanoplasty	
	No	%	No	%
Graft taken up	26	86.67	27	90
Graft failure	4	13.33	3	10
Total	30	100	30	100

P–value:1.0,NS

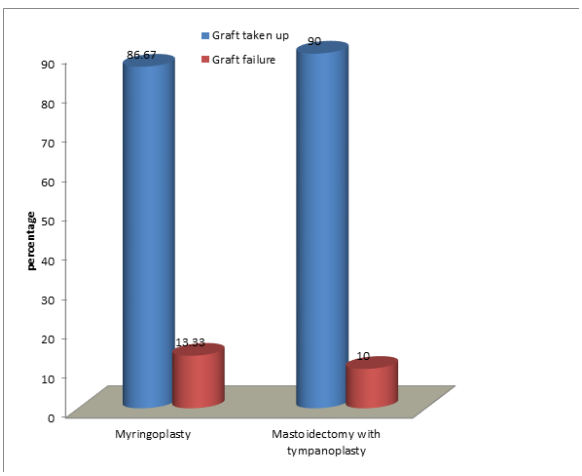

Table 9:Audiological assessment

Audiological assessment	tympano-plasty	Mastoidec-tomy with tympano-plasty	P-value
Pre-op hearing loss	38.44±4.36	41.55±3.44	0.068,NS
Pure tone threshold at 3th month	33.86±3.06	33.69±2.94	0.749,NS
Pure tone threshold at 6th month	26.31±5.02	25.56±5.09	0.982,NS
Benefit in details	12.07±5.15	15.78±4.66	0.374,NS

RESULTS

Slightly better results were obtained by doing myringoplasty as compared to type 1 tympanoplasty with cortical mastoidectomy, but among the myringoplasty failures, 2 cases reported recurrence of discharge where as all the cases of type 1 tympanoplasty with cortical mastoidectomy were disease free. Out of 60 cases operated, 56 cases were benefited with an average audiological improvement of 12.25 dB.

CONCLUSION

There are several factors that govern the success of graft take up, of which important are age of the patient, duration of disease, discharge free period, size of the perforation and status of the middle ear mucosa. Infection also represents a very important cause of graft failure and can result from a hidden mastoid disease. A simple mastoidectomy is an effective means of repneumatising the mastoid air cell system as well as eradicating the mastoid source of infection. Our study proves that tympanic membrane reconstruction need not always be combined with cortical mastoidectomy and should only be done in cases where mastoid source of infection is suspected and supported by the above factors.