

OUTCOME OF ENDOSCOPIC TYMPANOPLASTY

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ABSTRACT

AIMS AND OBJECTIVES:To study the outcome of “Endoscopic Tympanoplasty” by underlay technique.
MATERIALS & METHODS:
SOURCE OF DATA:This study includes 30 patients of either sex presenting to the Department of Otorhinolaryngology at Rajah Muthiah Medical College Hospital during the period from October 2013 to September 2015 with Chronic Suppurative Otitis Media-Tubotympanic type with central perforations.

Keywords: Endoscopy, Tympanoplasty.

1.INTRODUCTION

Introduction of operating microscope significantly enhanced surgical results by improving the accuracy of the technique, but the operating microscope provides magnified images in a straight line extending from the objective lens. Many deep recesses within the temporal bone especially middle ear cannot be visualised directly without the surgeon taking measures to expand the surgical exposure. ⁽³⁾

Transcanal operative endoscopy bypasses the narrow segment of the ear canal and provides a wide view that enables surgeons to look “around the corner”. The wide angle view provided by the endoscope enables minimally

invasive transcanal access to all those areas and facilitates the complete extirpation of disease without the need for a postauricular approach ⁽⁶⁾.

AIMS AND OBJECTIVES

To study the outcome of “Endoscopic Tympanoplasty” by underlay technique.

2.MATERIALS & METHODS

SOURCE OF DATA:

This study includes 30 patients of either sex presenting to the Department of Otorhinolaryngology at Rajah Muthiah Medical College Hospital during the period from October 2013 to September 2015 with Chronic Suppurative Otitis Media-Tubotympanic type with central perforations.

Preoperative assessment includes complete clinical history, thorough ENT examination, X ray mastoids, Pure Tone Audiogram, and routine investigations.

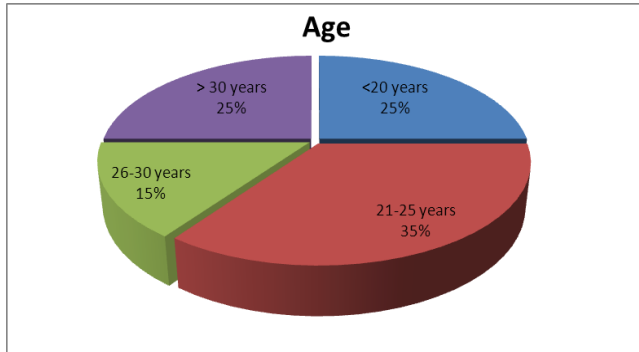
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Patients were followed up for a period of 3 months and results analysed.

3.OBSERVATION

Age:

Age distribution of the study was as follows:

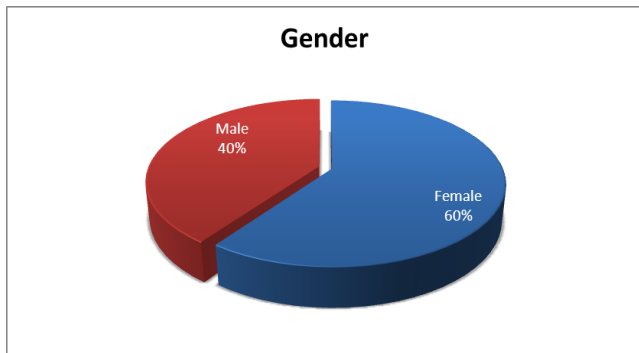


Among the 20 patients studied, majority of the patients fall in the age group of 21-25 years accounting for 35% of the study.

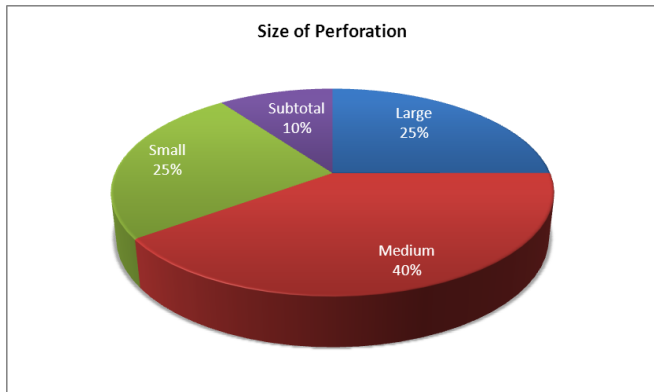
The youngest patient studied was 18 years of age and the oldest was 45 years old.

Gender:

Out of the 20 patients enrolled in the study 8 were males and 12 females

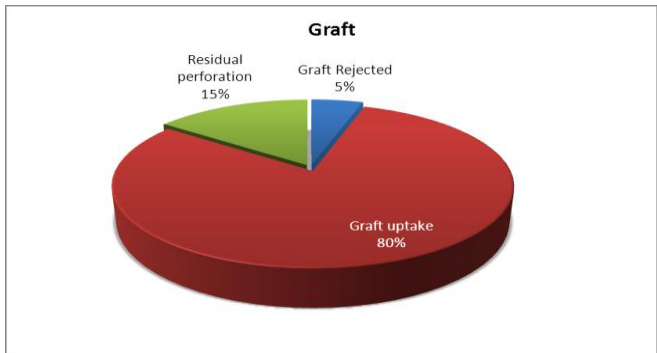


Size of Perforation



40% of the patients included in the study had medium sized perforation, 25% had small perforation, 25% had large perforation and 10% had subtotal perforation.

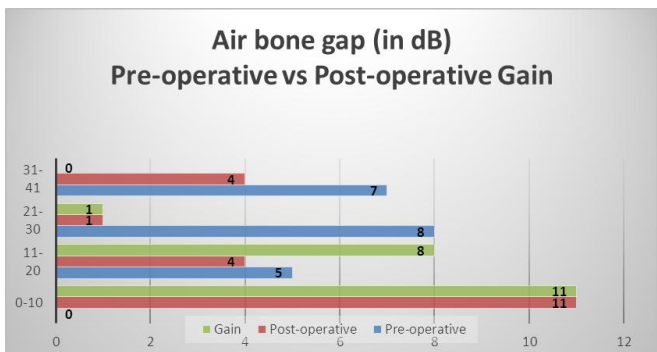
Graft status:



Post operatively the graft uptake was successful in 16 patients which accounted for 80% of the study.

HEARING ASSESSMENT

Air bone gap(in dB)	Pre-operative	Post-operative	Gain
0-10	0	11(55%)	11
11-20	5(25%)	4(20%)	8
21-30	8(40%)	1(5%)	1
31-40	7(35%)	4(20%)	0



Post operative air bone gap was in the range of 0-10dB in 55% of the patients, 11-20dB in 20% of the patients, 21-30dB in 5% of the patients, 31-40dB in 20% of the patients.

4.DISCUSSION

In our study 25% of the patients were below 20 years of age, 35% were in the age group of 21-25 years, 15% in the age group of 26-30 years, 25% in the age group of >30 years. In our study, 60% were females and 40% were males.

In our study, 40% of the patients had medium sized perforation, 25% had small perforation, 25% had large perforation and 10% had subtotal perforation.

GRAFT UPTAKE:

STUDY	GRAFT UPTAKE
Ahmed El-Guindy ⁽¹⁾	91.7%
Ahmed Amin Omran ⁽²⁾	73.3%
Anoop Raj et al ⁽³⁾	90%
A.S.Harugop et al ⁽⁵⁾	82%
Balasubramanian Thiagarajan et al ⁽⁶⁾ ,	84%
Hatic Celik et al ⁽¹³⁾ ,	87.5%
Lela Mirigov et al ⁽¹⁸⁾ ,	100%
Muaaz Tarabichi ⁽²⁰⁾ ,	92%
Satyawati Mohindra et al ⁽²²⁾ ,	91.84%
Stephane Ayache ⁽²⁷⁾ ,	90%
Takatoshi Furukawa et al ⁽²⁸⁾	84%
Thirumaran N S et al ⁽²⁹⁾ ,	93%
Sudhir Babu et al ⁽³⁰⁾ ,	86%
Yadav S P S et al ⁽³²⁾	80%
OUR STUDY	80%

In our study the success rate following endoscopic tympanoplasty was 80% regarding graft uptake.

HEARING ASSESSMENT:

STUDY	POST OPERATIVE AIR-BONE GAP			
	0-10 dB	11-20dB	21-30dB	31-40dB
Ahmed El-Guindy ⁽¹⁾	83.3%			
Ahmed Amin Omran ⁽²⁾	72.2%	22.7%		
Anoop Raj et al ⁽³⁾	60%			
A.S.Harugop et al ⁽⁵⁾	46%	44%	10%	
Hatice Celik et al ⁽¹³⁾	91%			
Takatoshi Furukawa et al ⁽²⁸⁾	88%			
Yadav S P Set al ⁽³²⁾	80%	16%	4%	
OUR STUDY	55%	20%	5%	20%

In our study, post operative air-bone gap closure was in the range of 0-10dB in 55% of patients, 11-20dB in 20% of patients, 21-30dB in 5% of patients and 31-40dB in 20% of patients

5.CONCLUSION

Transcanal Endoscopic Tympanoplasty is minimally invasive in surgical approach as the endoscope usage provides good exposure of tympanic membrane and improved the visualization of middle ear structures without canalplasty.

It offers the following advantages:

- ❖ It provides an excellent magnified image with a good resolution.
- ❖ It extends the operative field in transcanal procedures into structures usually hidden under the microscope like anterior tympanic membrane perforation, posterior pocket, facial recess and hypotympanum.
- ❖ Magnification can be achieved by just getting the endoscope closer to the surgical field.
- ❖ The wide view provided by the endoscope enables minimally invasive transcanal access to all those areas and facilitates the complete extirpation of disease without the need for a postauricular approach.

Disadvantages of the endoscope include one-handed surgical technique and loss of depth perception.

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