

# A comparative study of myringoplasty using temporalis fascia v/s tragal perichondrium as graft

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## Abstract

Chronic suppurative otitis media is a major cause of morbidity with a large proportion of patients presenting with a tubotympanic type of disease. Type I Tympanoplasty has been considered as the standard treatment for such patients. Since the earlier days a number of grafts have been used for this surgery. Yet the controversy and debate remains about which is the best graft material? A good graft material should be easily available, easy to harvest, viable, easy to place and of course should give the best surgical results. Temporalis Fascia as well as tragalperichondrial grafts satisfy these criterias. This study was aimed out to find which amongst these two a better graft material is by comparing the efficacy of tragalperichondrium as graft to that of Temporalis Fascia.

**Key Word:** Chronic suppurative otitis media, myringoplasty, temporalis fascia, tragal perichondrium.

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## OBJECTIVE

To compare the success rate of temporalis fascia v/s tragal perichondrium as graft material in myringoplasty procedure for management of patients suffering from tubotympanic type of Chronic suppurative otitis media with a central perforation.

## MATERIAL AND METHODS

The study was conducted in the Department of ENT, Dr. Panjabrao Deshmukh Medical College, Amravati and Dr. Kale Nursing Home, Amravati. 100 cases were selected from the out patients department on the basis of following criteria.

### Inclusion Criteria:

- Cases having central perforation were selected (tubo-tympanic)
- Age varied between 20-60 years.
- Only patients having conductive hearing loss were selected.

### Exclusion Criteria:

- Patients having active ear discharge.
- Patients having obvious ossicular dysfunction.
- Unsafe Otitis media.
- Patients with sensorineural hearing loss.

## INTRODUCTION

Chronic suppurative otitis media is a major cause of morbidity with a large proportion of patients presenting with tubotympanic type of disease. Type I myringoplasty has been proven as the gold standard treatment of choice for such patients. Right from the earlier years of this procedure, a number of grafts have been used for myringoplasty. Still there exists a controversy about which is the best graft material. A good graft material should be easily locally available, easily harvested, viable, easy to place and gives a good healing results. Both Temporalis fascia and tragal perichondrium satisfy all these criteria.

- Patients with upper respiratory tract infection, tonsillitis and nasal pathologies.

With these criteria, 100 patients between the age group of 20-60 years with safe perforation were selected for the study. The cases were operated in Dr. Panjabrao Deshmukh Medical College and Dr.Kale Nursing Home, Amravati. 80 cases were done with post-auricular approach while 20 were done with endaural approach.

**Work-up of the patients:** Detailed history, general examination, examination under microscope, routine blood and urine investigations, radiological investigations, audiometry in closed double packed soundproof room were done.

#### Clinical Investigations:

1. Pure tone audiogram
2. Otomicroscopy
3. X-Ray paranasal sinuses
4. X-Ray both mastoid (Schuller's)
5. All routine haematological investigations.
6. Eustachian tube patency test.

**Surgical Procedure:** Type I myringoplasty was done in all the 100 patients. 80 were operated by post auricular approach and 20 were operated by endaural approach. Local infiltration with IV sedation was used in presence of an Anesthesiologist. The underlay technique of putting the graft was used. Temporalis Fascia or Tragal Perichondrium graft were used.

**Post-of follow up:** Patients were called for follow up initially weekly and then monthly for three months. A six monthly and 1 year follow up was also done.

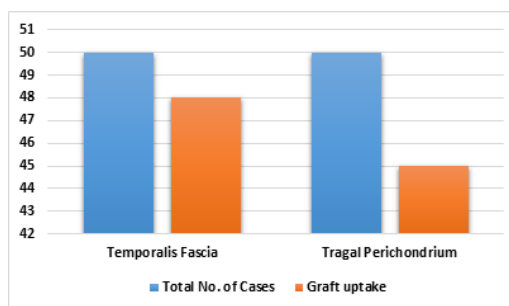
**Statistical Analysis:** Results were evaluated considering the graft uptake, hearing improvement and complications.

## RESULTS

Out of the total 100 operated cases considered for this study, 50 cases underwent type I myringoplasty using temporalis fascia graft, while in 50 cases tragal perichondrium graft was used. 3 criteria were studied:

- A. Graft uptake
- B. Hearing Improvement
- C. Complications

In patients where temporalis fascia graft was used – 48 out of 50 patients had a 100% graft uptake whereas – 45 out of 50 patients had a 100% graft uptake in patients where tragal perichondrium was used as graft material. That means two out of 50 and 5 out of 50 patients had a rejection of graft in temporalis fascia graft and tragal perichondrium graft patients respectively.



When we checked about the hearing improvement after the two procedures – there was a slight increase in the hearing sensitivity in cases where temporalis Fascia graft was used as compared to the tragalperichondrial graft. The post op audiometry results were taken for comparative study after one month and six months of surgery. Other than rejection of the graft, no major complication was noted in any of the 100 cases studied. 2 out of 50 patients had a graft rejection when temporalis fascia was used and 5 out of 50 patients had a graft rejection when tragal perichondrium was used as a graft material. That is a total of 7 patients out of 100 cases studied had a graft rejection.

## DISCUSSION

After this study it was re-affirmed that temporalis fascia graft had definitely high acceptance rate than tragalperichondrial graft.

- There was a slight increase in hearing sensitivity levels when temporalis fascia was used.
- The rejection of the graft was much higher when tragalperichondrial grafts was used.

## CONCLUSION

1. It is easy to obtain temporalis fascia and tragal perichondrium.
2. These are autografts, hence do not need homografts or synthetic grafts.
3. These grafts are viable.
4. As they are mesodermal in origin the risk of iatrogenic cholesteatoma is negligible.
5. Excellent graft take up result.
6. Size of perforation does not significantly influence the success rate of myringoplasty.
7. Normal translucent appearance of neotympanum in post op period was seen only with temporalis fascia while in tragal perichondrium graft the neotympanum was whitish, thicker and translucent to opaque.
8. With this it proves that temporalis Fascia and tragal perichondrium does influence the success of myringoplasty.

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