Mastoid dressings are conventionally used in patients who have undergone Tympanoplasty using a post auricular approach. The rationale behind using a mastoid dressing is that the said dressing prevents haematoma formation and acts as a protective covering during the post-operative period. This study aims to understand the significance of mastoid dressing in patients undergoing Cortical Mastoidectomy and Tympanoplasty and its role in preventing post-operative wound complications and patient comfort.

Materials and Methods
A total of 77 patients were enrolled in the study over a one year period and were randomised into dressing and no dressing groups with the aim of deciphering any advantage of the mastoid dressing over a smaller dressing.

Results
Our data revealed no added advantage of conventional mastoid dressing over a small gauze piece dressing in terms of haematoma/seroma formation, contusion and wound dehiscence. However, there was significantly reduced patient discomfort and sleeping difficulties post-operatively in the no dressing group.

Conclusion
Smaller dressing is more favourable than the bulkier conventional mastoid dressings.

Keywords:
Tympanoplasty; Mastoidectomy; Bandages; Seroma; Hematoma
Mastoid Dressing in Ear Surgery: Is it Still Relevant?

This study aimed to understand the significance of mastoid dressing in patients undergoing Cortical Mastoidectomy and Tympanoplasty via the post-aural approach.

Materials and Methods

This prospective randomized double-blinded study was performed at a tertiary care centre. Non-smokers aged 18-60 years with no Auto-immune disorders / immunocompromised state / diabetes mellitus / anticoagulant use undergoing cortical mastoidectomy and tympanoplasty were chosen for the study. The study included all patients fitting into the above criteria from 01 May 2019- 01 May 2020.

The patients underwent Cortical Mastoidectomy and Tympanoplasty using a post-aural approach and standard surgical steps; the closure was done in layers and meticulous haemostasis, as is normal practice, was undertaken. Post-closure the patients were randomly assigned to receive either a single gauze piece cover stabilized with adhesive tape over the post aural incision (Fig. 1) or the conventional mastoid dressing (Fig. 2) based on a lottery system. The surgeon and patient were blinded to the randomization and all surgeries were performed by a single surgeon to rule out bias. The mastoid dressing and simple dressing were removed on post-operative day 01.

Patients were evaluated for any haematoma/seroma formation, contusion/erythema post removal and subsequently a week later for any evidence of wound dehiscence post-suture removal. In addition, patients were also quizzed about pain on dressing removal, neck pain and sleeping difficulty, if any, that could be attributed to the type of dressing used.

Results

A total of 77 patients were enrolled in the study over a period of one year of which 36 received a conventional mastoid dressing and 41 received a single gauze piece secured using an adhesive tape. The age of participants ranged from 19-60 with a mean of 36.32 and a standard deviation of 11.16. Out of the total patients 40 were male and 37 were female (Fig. 3).

Of the above lot we found that in the mastoid dressing group 2 patients developed a hematoma/seroma; 7 developed contusions and 2 patients landed...
up with wound dehiscence; 31 patients reported sleeping
difficulty and 21 patients reported discomfort in the
form of headache/neck pain due to the dressing. While
in the no mastoid dressing group, 1 patient developed a
hematoma/seroma and 3 patients had wound dehiscence,
2 patients reported contusion. Only 8 patients reported
discomfort due to dressing because of painful removal
and 3 patients reported sleeping difficulty.

Evaluation of the said data using Fisher’s exact
test revealed no statistical significance in the rates
of hematoma/seroma formation, wound dehiscence
or contusion with p values of 0.596, 1 and 0.074
respectively; the results were far more promising in view
of sleeping difficulty and discomfort due to dressing
with a p value of < 0.001 in both groups (Table I).

Thus, revealing that there was no added advantage of
the dressing in terms of haematoma/seroma formation/
wound dehiscence and contusion; however, there was a
significantly less sleeping difficulty and decreased pain
in the no dressing group.

**Discussion**

The term Tympanoplasty was coined by Wullstein in
1953 and is commonly performed using a retro or post-
auricular approach as described by Wilde.\(^6\)\(^,\)\(^7\) The use
of a mastoid dressing has been a convention practiced
since temporalis fascia graft usage in the 1950’s by
Heerman.\(^4\)\(^,\)\(^8\) However, Hill et al proved that the actual
pressure indices of a mastoid dressing are inadequate
to prevent hematoma formation.\(^1\) Rowe-Jones et al
brought the practice in question in 1993 with a series
of 100 cases, while Castelli et al performed a study on
over 400 individuals during a 6 year period.\(^9\)\(^\text{10}\) Both the
works concluded that with uncomplicated middle ear
surgeries, the use of a mastoid dressing can be done away
with. Lou et al further questioned the use of a mastoid
dressing in uncomplicated Cochlear Implant.\(^3\) The
meta-analysis of mastoid dressings by Khan et al, again
concluded in favour of abandoning the conventional
mastoid dressing.\(^2\) Interestingly, Okur et al in their study
concluded that a mastoid dressing has no influence on
the ear-helix distance post surgery as well.\(^11\)

It can be argued logically that with modern
haemostatic techniques, the use of the cumbersome
mastoid dressing has become redundant. Our study also
tried to qualitatively adjudge the sleeping difficulties
and discomfort associated with the dressings. A few
cases in the no mastoid dressing group did claim that
the removal was painful, on the other hand, a majority
of cases with the conventional mastoid dressing
experienced sleeping difficulty/headache and neck pain.
The dressing per se, adds to no favourable outcome,
as is evident from the lack of any statistical difference between the two groups when compared for haematoma/seroma formation, contusion and wound dehiscence. In addition, the dressing is bulky and causes discomfort. While, a single gauze piece dressing is aesthetically more favourable and does not interfere with sleep and causes significantly less discomfort, as was evident from the analysed data. The patients thus, are more comfortable the next morning.

At the outset, there was some concern in our minds regarding frequent soakage of the gauze piece, which would require changing and hence frequent ward visits. However, the gauge pieces remained in situ with minimal soakage in almost all the cases. The cotton ball placed outside the EAC did require frequent changing, the same was conveyed to the patient and good compliance was experienced. The move from conventional mastoid dressing to smaller dressing would also stand favourably in large centres, as it will bring down the cost of the surgery.

Our data, largely reveals similar trends as compared to other studies done internationally. However, the other studies did not qualitatively assess for sleeping difficulties and pain/headache associated with the two groups.

Based on our review of literature and PubMed search, this is the only prospective randomized study carried out in the Indian context. Moreover, unlike none of the similar studies; we have selectively chosen patients who have undergone a cortical mastoidectomy and tympanoplasty for the purpose of the study.

It does appear that conventional mastoid dressing should be abandoned in favour of single gauge piece dressing, however our study is based on a relatively small sample size.

Conclusion

We conclude that conventional mastoid dressing be abandoned for the more favourable smaller dressing. The smaller dressing is equally efficacious and has the additional advantage of being more patient friendly in terms of aesthetics, sleeping comfort and cost.

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