

A STUDY ON POSTMASTOIDECTOMY COMPLICATIONS.

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ABSTRACT

Background: The main aims of surgical treatment of chronic middle ear suppuration are elimination of disease process, reconstruction of hearing mechanism and prevention of complications.

Materials and methods: This retrospective study was conducted in the Department of ENT and Head & Neck Surgery, SMGS Hospital, Jammu from February 2018 to February 2020. 80 patients who came for open cavity mastoidectomy were included in this study and all those patients had undergone open cavity mastoidectomy.

They were assessed primarily by their complaints and then by cavity examination. Each patient had a follow up upto three months at twice weekly intervals. A borderline healing period of three months (12 weeks) was given for the complete epithelialisation of an open mastoid cavity.

Results: 20 patients had postoperative cavity problems. The incidence of postoperative cavity problems in our set up is 25%. 18 had prolonged discharge from mastoid cavity as the main problem (90%). Accumulation of wax in the cavity was present in 5 cases (25%). Vertigo persisting beyond the immediate postoperative period was present in 4 cases (20%). Perichondritis of pinna was found in 1 case (5%). Recurrent cholesteatoma was seen in 3 cases (15%). 2 Cases had postoperative wound infection (10%). 4(20%) cases had high facial ridge, 1(5%) case had stenosis of meatoplasty, 11(55%) cases had tympanic membrane perforation and 4(20%) had postoperative granulations.

Conclusion: There should be complete exenteration of disease from the middle ear and mastoid. An adequately lowered facial ridge is an essential step to attain a dry cavity.

KEYWORDS

cavity, mastoid, problem

INTRODUCTION

The main aims of surgical treatment of chronic middle ear suppuration are elimination of disease process, reconstruction of hearing mechanism and prevention of complications. This requires excision, exenteration and often exteriorisation of the disease process in the middle ear and mastoid. Controversy still exists among otolaryngologists regarding the need for exteriorisation of mastoid.¹ If the mastoid is exteriorised by taking down the posterior bony external canal wall, then an open cavity mastoidectomy is established. Avoidance of this step results in a canal wall up mastoidectomy. Supporters of open cavity mastoidectomy stress upon the future monitoring of the disease process, because even if some of the disease were left in the open cavity, that can be extruded spontaneously or can be removed during the subsequent visits.^{2,3} Hence this is the surgery of choice in patients where the surgeon is not sure of the follow up status. Canal wall down technique also ensures good ventilation of cavity which has a drying effect.⁴ Finally canal wall up technique needs surgical expertise for complete removal of diseased portion for avoidance of surgical complications. Usually an open mastoid cavity heals by secondary intention.^{5,6} The average time for complete healing of this cavity varies according to various authors. Failure of healing and complete epithelialisation of this open cavity leads to cavity problems including continued discharge from the cavity, impaction of wax, persistent vertigo, residual/recurrent disease, and brain fungus.⁷

MATERIALS AND METHODS

This retrospective study was conducted in the Department of ENT and Head & Neck Surgery, SMGS Hospital, Jammu from February 2018 to February 2020. 80 patients who came for open cavity mastoidectomy were included in this study and all those patients had undergone open cavity mastoidectomy.

They were assessed primarily by their complaints and then by cavity examination. Each patient had a follow up upto three months at twice weekly intervals. In this study a borderline healing period of three months (12 weeks) was given for the complete epithelialisation of an open mastoid cavity. So, any patient presenting with symptoms beyond this period was taken as a cavity problem case. The cases were studied according to the clinical symptoms. Basic clinical examinations were done. For each case, any of the proven predisposing factors, was determined by cavity examination. Appropriate medical treatments like topical/systemic antibiotics, aural toilet, steroids and cauterisation were given. Chemical cauterisations of granulations were attempted as

an outpatient basis. Patients were followed up at intervals of 2 weeks after the treatment to assess the progress. Some cases were admitted in the ward for protracted symptoms and they were given parenteral medication.

OBSERVATIONS AND RESULTS:

80 patients had undergone open cavity mastoidectomy during the study period. 4 patients were lost to follow up before 3 months, 20 patients had postoperative cavity problems. Hence according to this study, the incidence of postoperative cavity problems in our set up is 25%

Age and Sex distribution of patients:

Youngest patient to undergo mastoidectomy was a 5 year old boy. The youngest patient who presented with cavity problem was of 8 years. The oldest patient who presented with cavity problems was a 65-year-old female. Table 1 shows agewise distribution of patients. Of the 80 cases, 48 patients were males and 32 patients were female. Of the 20 patients who presented with cavity problems, 12 patients were males (60%) and 8 patients were females (40%).

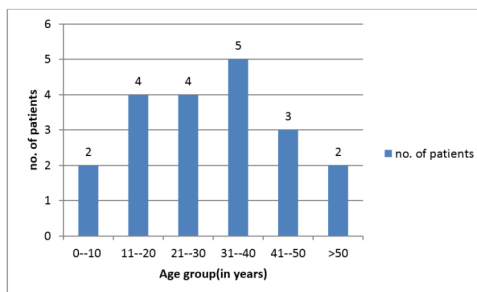


Figure 1: Age wise distribution of patients.

Postoperative problems

Table 1: Postoperative cavity problems

Postoperative problems	No. of patients
Prolonged discharge	18(90%)
Accumulation of wax	5(25%)
Vertigo	4(20%)

Perichondritis of pinna	1(5%)
Recurrent cholesteatoma	3(15%)
Postoperative wound infection	2(10%)

Of the 20 problem cavities, 18 had prolonged discharge from mastoid cavity as the main problem (90%). Accumulation of wax in the cavity was present in 5 cases (25%). Vertigo persisting beyond the immediate postoperative period was present in 4 cases (20%). Perichondritis of pinna was found in 1 case (5%). Recurrent cholesteatoma was seen only in 3 cases (15%). 2 Cases had postoperative wound infection (10%).[Table1]

Causes of postoperative mastoid cavity problem

Out of the 20 postoperative mastoid cavity problems, 4 cases had high facial ridge, 1 case had stenosis of meatoplasty, 11 cases had tympanic membrane perforation and 4 had postoperative granulations.[Table 2]
Treatment given includes aural toilet, topical and systemic antibiotics, steroids and cauterisation.

Table 2: Causes of cavity problems.

Cause of cavity problem	No. of patients
Tympanic membrane perforation	11(55%)
Postoperative granulation tissue	4(20%)
High facial ridge	4(20%)
Stenosis of meatoplasty	1(5%)

DISCUSSION

In the present study 20 patients had post-operative mastoid cavity problems. Hence 25% of the total had cavity problems, according to this study. Sade et al had 28% post mastoidectomy cavity problems and Kos et al had 30% cavity problems.^{8,9} Khan et al had 26.6% problem mastoid cavities.¹⁰ Maximum incidence of cavity problem was found between 31–40 years Vaid et al got the same findings in their study.¹¹

Of the 20 problem cavities, 18 had prolonged discharge from mastoid cavity as the main problem (90%). Accumulation of wax in the cavity was present in 5 cases (25%). Vertigo persisting beyond the immediate postoperative period was present in 4 cases (20%). Perichondritis of pinna was found in 1 case (5%). Recurrent cholesteatoma was seen only in 3 cases (15%). 2 Cases had postoperative wound infection (10%). Rajan et al also showed otorrhoea to be most common complaint.¹² Exposed middle ear and Eustachian tube area was a major factor for persistent discharge. Vertigo may occur due to stimulation of horizontal semicircular canal because of a single cavity.

Out of the 20 postoperative mastoid cavity problems, 4(20%) cases had high facial ridge, 1(5%) case had stenosis of meatoplasty, 11 (55%) cases had tympanic membrane perforation and 4(20%) had postoperative granulations which was consistent with study conducted by Rajan et al.¹² The tympanic membrane should remain intact so that there is no communication between the mastoid cavity and mesotympanum and Eustachian tube orifice.

CONCLUSION

Persistent discharge from the cavity was found to be the main cavity problem in this study. There should be complete exenteration of disease from the middle ear and mastoid. An adequately lowered facial ridge is an essential step to attain a dry cavity.

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