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Outcome of mastoid cavity obliteration using post-auricular fibro-periosteal soft tissues following canal wall down mastoidectomy

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Abstract
A canal wall down mastoidectomy (CWDM) provides good exposure for surgery and reduces the risk of postoperative disease recurrence. Shortcomings of this procedure are debris accumulation leading to lifelong aural cleaning, hearing impairment, profuse otorrhea, cavity infestation by fungi, dizziness, and vertigo with caloric and pressure changes. Mastoid cavity obliteration is performed to restore the anatomic and physiologic functions of ear. The study is undertaken to demonstrate the efficacy of fibro-periosteal post-auricular soft tissue in mastoid cavity obliteration following a canal wall down mastoidectomy.
Materials and Methods: This prospective observational study was conducted for 18 months. 30 patients were included in the study after obtaining written informed consent. Patients were followed up on post-operative days 15, 60, and 90. Observational parameters were noted for any features consistent with recurrence. Air bone gap before and after surgery was compared to evaluate air-bone gap closure.
Results: Amongst 30 patients 23 were male, 7 female. Average pre-operative air-bone gap was 31.45 dB. Intraoperatively, all patients underwent cavity obliteration. Ear discharge was noted in 2 patients on post-operative day 15, of which only 1 patient had ear discharge till the last day of follow-up. Post-operative average air bone gap was 24.59 dB with a closure of 22.16% which was statistically significant (p= 0.0178).
Conclusion: Obliteration with postauricular soft tissues is a lucid, relatively safe, and efficient technique to prevent troublesome issues following open cavity procedures.

Keywords: Canal wall down mastoidectomy, chronic otitis media, cholesteatoma, post-auricular soft tissue

Introduction
Canal wall down mastoidectomy is the treatment modality for the squamous variant of chronic otitis media [1].The end result of it creates a huge cavity easily trapped by debris that requires endless aural toileting, hearing disability, profuse otorrhea, fungal infestations, giddiness, vertigo with calorie change [1]. Mastoid cavity obliteration is indeed an effective method, the earliest attempts were done by Mosher [1, 2]. Although there are numerous agents quoted in the literature, none have proven to be inert [3, 4]. Hence, we undertook the study with an aim to explore the beneficial results of obliteration with postauricular fibroperiosteal soft tissues.

Materials and Methods
This prospective observational study was undertaken, after obtaining ethical clearance from the ethical committee bearing number SDUMC/KLR/IEC/645/2020-21. A total of 30 patients were included in the study after qualifying the inclusion and exclusion criteria. Patients with chronic otitis media, squamous disease where complete extirpation is warranted, cases with extensive granulation tissues, and recurrent cases of cholesteatoma were included in the study. Patients with inadequate post-auricular soft tissue in revision cases and patients with intracranial complications of chronic otitis media were excluded from the study.
Written informed consent was taken from all participants. All patients were subjected to routine blood investigations, radiological (HRCT temporal bone 0.6 mm cuts) and

audiological (Pure tone audiometry) investigations. Pre-operative air bone gap was calculated by taking average of frequencies at 0.5, 1, 2, 4 kHz. A detailed ENT examination was performed in all patients, including oto microscopic examination. All routine investigations were performed as a part of pre-anesthetic check-up, and later patients were taken up for surgery.

Canal wall down mastoidectomy was performed in all cases by a single experienced surgeon. The large mastoid bowl was obliterated by harvesting postauricular soft tissues, as shown in figures 1 and 2. Patients were discharged on post-operative day 5 and were reviewed on post-operative day 10 for suture and mastoid dressing removal. For follow up visits, patients were re-called on post-operative day 15, 60 and 90. All cases were subjected to oto-microscopy and vital parameters like discharge from surgical scar, otorrhea, granulation tissue, keratin debris, and any features suggestive of recurrence were noted. In addition to the above, all patients were subjected to pure tone audiometry on post op day 90 and air bone gap was calculated. Percentage air bone gap closure was evaluated.

Results

The total number of patients included in our study was 30. Of these, 21 were male and 9 were female. The average age of the patients was 36.6 years. The majority of patients were in the younger age group between 20-30 years (11 patients), as shown in Table 1.

There were varied comorbid conditions encountered in our study. Prevalence of diabetes was seen in 9 patients with a mean glycosylated haemoglobin value of 7.2% who were managed by injectable insulin. Hypertension was seen in 10 patients. Chronic kidney disease was noted in 2 patients who required additional monitoring of renal parameters along with restricted fluid intake. Ischemic heart disease history was elicited in 2 patients, pre-operatively, 2 dimensional echocardiogram was performed, permitting fitness for general anesthesia.

Obnoxious symptoms were otorrhea, reduced hearing, tinnitus, otalgia, and giddiness. Otorrhea was seen in all patients, which was intermittent, scanty, purulent in nature, foul-smelling, blood-tinged occasionally, and did not relieve with medications.

Hard of hearing, which was insidious in onset, gradually progressive, but did not let the patients perceive telephonic conversations. Amongst these, 10 patients had difficulty in speech discrimination. Tinnitus was present in 93.33% patients, which was continuous, low-pitched, aggravated during episodes of ear discharge, and had no relieving factors. Giddiness was reported in 14 patients, which was insidious in onset, lasted for a minute, with no diurnal variation, without aura, aggravated with a sudden change in position experienced on bending forward and resolved spontaneously. Facial nerve palsy was seen in 2 patients (House Brackman Grade 4). Both these patients had features of skull base osteomyelitis.

All patients underwent a detailed ENT examination on the day of presentation, and findings were documented. Otological examination was performed under otomicroscope. The findings noted were as per Table 2.

Aural polyps were noted in 3 patients presenting as a mass protruding through the external auditory canal with inspissated aural discharge. Cholesteatoma was seen in all cases, which was coupled with other pathologies like aural polyps, keratosis obturans, granulation tissue, and dehiscent facial nerve. Owing to the presence of cholesteatoma, all patients were arbitrarily planned for canal wall down mastoidectomy.

HRCT temporal bone showed ossicular erosion in 22 patients, the mastoid was sclerosed in 25 patients while diploeic in remaining. Facial nerve was found to be dehiscent in 3 patients but only 2 patients had facial nerve palsy.

All patients were subjected to audiological evaluation. Average air bone gap was deduced by taking average of air and bone conduction at 500 Hz, 1000 Hz, 2000 Hz and 4000 Hz and subtracting mean of air and bone conduction. Mild conductive hearing loss was seen in 12 patients, moderate conductive hearing loss in 15 patients, mild mixed hearing in 2 patients and moderate mixed hearing in 1 patient. Average air-bone gap was found to be 31.45 dB.

Intraoperative the most common ossicle to be involved was incus followed by malleus and stapes suprastructure. In all patients, cholesteatoma was present in the attic region, and antrum was not patent. Finally, all patients underwent mastoid cavity obliteration using postauricular fibro-periosteal soft tissue.

Post operatively, on day 15 canal pack was removed and all patients were assessed and parameters like pus from the post-aural surgical wound, ear discharge, wound dehiscence, granulation tissue, and epithelization of cavity were noted. Amongst them, only 2 patients had pus from the surgical wound with ear discharge and neo tympanum was found to be retracted. Patients were treated with an oral course of antibiotics as per the antibiotic policy of the hospital.

The second assessment was done on post-operative day 60 using the same parameters. Only 1 patient continued to have otorrhea, hence pus from the wound was sent for culture and sensitivity, later was started with the sensitive antibiotics (Ciprofloxacin).

Pure tone audiometry was performed to evaluate air bone gap on post-operative 90 day. Air bone gap was noted to be 24.59 dB in adjunction to it we managed to get a dry epithelized cavity Fig. 3. The average air bone gap difference was found to be 6.80 dB. Finally percentage closure of air bone gap was found to be 22.16%. Following comparison between pre-operative and post-operative day pure tone audiometry, air bone gap closure value was p= 0.0178 ($p<0.05$) showing statistically significant as depicted in Table 3.

Following canal wall down mastoidectomy, obliteration of the newly created cavity aids in reducing the troublesome problems like ear discharge, accumulation of keratin debris, giddiness, as shown in Fig 4. We did not perform any follow-up scan since there were no signs of retraction pockets, cholesteatoma debris, graft rejection, re-perforation of neo tympanum implying no signs of recurrence. With our technique we were able to control all symptoms except for ear discharge in 2 patients. Later, only 1 patient continued to have persistent ear discharge till last follow-up visit (p value <0.00001). Apart from ear discharge, overall there was improvement in other pre intervention complaints like tinnitus, facial nerve weakness (House Brackman scale from 4 to 2) and the p value was statistically significant.

From our experience we concluded that our technique was not only efficient but also a promising one while addressing cavity-related issues following canal wall down mastoidectomy since no patients had recurrence and had a fair response in hearing improvement.

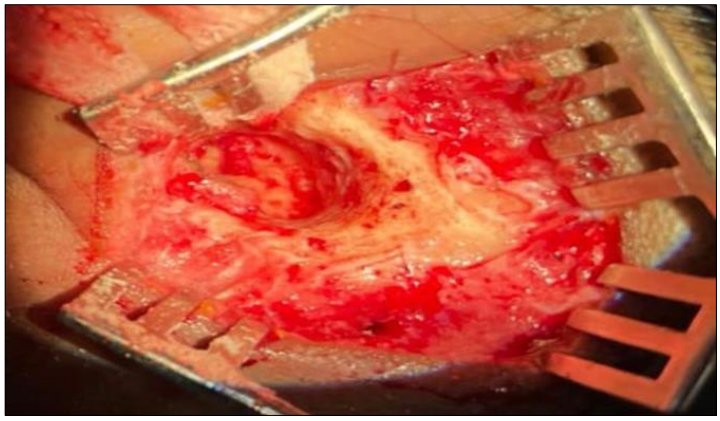

Fig 1: Postauricular mastoid cavity during surgery

Fig 2: Postauricular surgical flap elevation stage

Fig 3: Healed postauricular mastoid cavity appearance

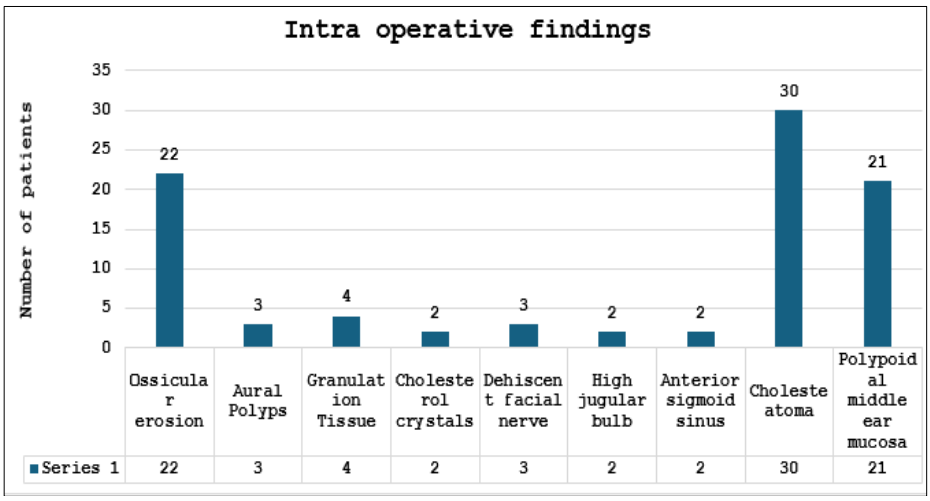

Fig 4: Intra operative findings

Table 1: Demographic characteristics

S. No.	Parameters	No. of Patients
1	Male Patients	22
	Female Patients	8
2	Mean Age	37.23 years
3	Ear Discharge	30 patients
4	Ear Pain	30 Patients
5	Reduced Hearing	30 patients
6	Tinnitus	26 patients
7	Giddiness	8 patients
8	Facial Nerve Weakness	2 patients
9	Type II Diabetes	9 patients
10	Hypertension	4 patients
11	Chronic Kidney Disease	1 patient
12	Ischemic Heart Disease	1 patient

Table 2: Pre- operative findings on oto- microscopy:

Serial No.	Findings	Number of Patients
1.	Pre auricular region (sinus, fistula)	Nil
2.	Pinna anomalies	Nil
3.	Post auricular region	Nil
4.	Tragal tenderness	08
5.	Mastoid tenderness	21
6.	External Auditory Canal	
	Oedema	21
	Normal	09
	Narrow	21
7.	Aural polyp	03
8.	**Scutum**	
	Normal	06
	Eroded	24
9.	**Retraction**	
	a. Pars Flaccida-	14
	i) TOS Grade 3	10
	ii) TOS Grade 4	04
	b. Pars Tensa-	08
	i) Sade Grade 3	08
10.	**Tympanic Membrane**	
	a. Pars Tensa	19
	i) Postero superior quadrant marginal	10
	ii) Subtotal	06
	iii) Total	02
	iv) Large Central	01
	b. Pars Flaccida	11
11.	**Middle ear**	
	Normal mucosa	09
	Polypoidal mucosa	21
	Cholesteatoma (attic)	30

Table 3: Comparison of Pre and Post-Operative day 90 Air Bone Gap

Average Air Bone Gap in Decibel	Pre-Operative	Post-operative 90 days	P value
Conductive Hearing Loss	40	20	0.0178*
Sensorineural Hearing Loss	58	38	
Mixed Hearing Loss	53	33	

Discussion

Chronic otitis media, squamous disease is often cited as an inflammatory process involving the middle ear and mastoid. Although the pathogenesis is well established, the diagnosis is made in the late phase due to delayed presentation of patients owing to financial constraints, underdeveloped rural health care facilities, and fear of surgery [1, 2]. Recently, with the advent of modern techniques, surgery has gained a secondary aim of improving the quality of life by reconstructing the middle ear anatomy [2].

Canal wall down mastoidectomy has an upper hand over the intact canal wall procedures, in terms of disease exposure, eradication of residual cholesteatoma, low recurrence, and disease monitoring on follow-up visits [3]. On the contrary, intact canal wall procedures have better post-operative functional outcomes. Decision regarding the choice of surgery between the two procedures warrants the inclusion of several factors like disease extent, ventilation capacity of middle ear, cholesteatoma, hearing, opposite ear functions, comorbidities of patient, follow up and the surgeons

preference [4]. In terms of recidivism and recurrence canal wall down is the demand of the extensive disease pathology [4, 5].

Canal wall down mastoidectomy has pitfalls like recurrent ear discharge, accumulation of wax, keratin debris, vertigo due on exposure to cold or hot water, need for frequent aural toileting, difficult hearing aid placement, making patients 'Otologic cripple' [4-6]. Hence, we need to combine the beneficial functional effects of both techniques, which was achieved by mastoid cavity obliteration popularized by Mosher in 1911 [3, 4].

Traditionally, materials needed to obliterate the mastoid cavity were classified as free flaps and local flaps. These include a range from cartilage, bone, bioactive glass, silicone blocks to Palva's flap, Hong Kong flap [7, 8]. Although there is a vast contribution to the literature, there is no agent sufficing the demands of being the ideal. In view of these challenges, we undertook our study with the purpose of reflecting the efficacy of obliterating mastoid cavity with postauricular soft tissue.

In our cohort of 30 cases, the average age of patients was 36.6 years which was similar to Tawalbeh M *et al.* who reported an average age of 32.4 years, in contrast to Yamamoto Y (48.4 years) [9]. Male preponderance was seen, which was consistent with other studies reported in the literature [9-11]. The maximum patient age was noted between 20-30 years which was similar to Saraf *et al.*, who had maximum cases in the same age group [12]. In our study, we observed a correlation with type 2 diabetes and hypertension, similar to a study conducted by Park M [13].

Pre-operative complaints of all patients included otorrhea, otalgia, reduced hearing, tinnitus, occasional giddiness and facial nerve palsy similar to S Chappola *et al.* cohort [14]. HRCT confirmed the presence of pathologies that were similarly observed by Agarwal R *et al.*, who correlated HRCT and intra-operative findings [16]. The study also reported HRCT to be sensitive in diagnosing cholesteatoma [15]. Pre-operative air bone gap was calculated to be 31.45 dB.

Canal wall down mastoidectomy provides an outstanding access for the operating area. Intraoperative ossicular discontinuity was noted, and the majority of patients underwent type 3 tympanoplasty. Similarly, a study conducted by Ali S *et al.* concluded that type 3 tympanoplasty had a marginal improvement for 120 cases [16]. Sami S M *et al.* in 50 patients noted that canal wall down mastoidectomy with type 3 tympanoplasty showed significant improvement in COMQ12 scores [17].

Intraoperative ossicular evaluation revealed the incus to be necrosed in the majority of patients, followed by malleus and stapes suprastructure. The findings were consistent with a study carried out by Mocanu H *et al.*. [18]. Following first visit on post-operative day 15, only 2 patients had ear discharge and wound dehiscence, in contrast to a study by Juvekar M and Sarkar B, who reported 10 cases with active ear discharge [19].

On the second post-operative visit on 60 day, only 1 patient continued to have ear discharge. But, Juvekar M and Sarkar B reported 5 cases with ear discharge on their second follow-up visit [20].

Later during the last post-operative visit, the same patient continued to have otorrhea. The blood sugars were elevated with glycosylated hemoglobin of 8.5% suggesting a crucial need to control blood sugar levels. All patients were subjected to pure tone audiometry, using the same process as in pre-operative period, and mean air bone gap was calculated. The difference between pre and post-operative air bone gap was found to be 6.8 dB with air bone closure of 22.16% which was statistically significant. Similar findings were noted in another study [20]. Another study carried out by Senugupta A showed that the average air-bone gap was 5.2 dB following canal wall down mastoidectomy with ossicular reconstruction [21]. Our approach towards obliteration proved fruitful in terms of controlling obnoxious ear discharge, giddiness, keratin debris, retraction of neo tympanum and most important of all no recurrence or recidivism.

Krol B, Cywka B K, Skarzynska B M, Skarzynski H P conducted a similar study but used S53P4 bioactive glass in 11 patients and concluded no audiological improvement and advocated the need to instill anti-fungal aural drops and antibiotics [22]. Mohammad Farmarzi M D *et al.* implicated the use of silicone blocks to reconstruct and reported 1 case with granulation tissue and 2 cases with partial extrusion of blocks and no improvement in hearing [23].

Sherif M Askar *et al.* devised a novel approach to obliterate with platelet-rich plasma. They observed no immediate post-operative complications and reported 85% success in graft uptake and achieving a dry ear. The study concluded that platelet-rich plasma with bone pate is a better option to obliterate mastoid cavity [24].

Middle temporal artery and inferior musculo-periosteal flaps were used in combination by Arthur Dexian Tan *et al.* in 75 cases, and followed patients for 29 months, resulting in 98.7% success [25]. Vivian Singh and Marcus Atlas used the middle temporal artery flap in 51 cases and reported healthy dry cavity for 12 months post-intervention [26]. Tawalbeh M *et al.* used periosteal peri cranial flap in 64 patients out of which 82.8% had healthy cavity. In this study otorrhea, meatal stenosis, granulation tissues were post-operative complications noted [27].

In our study, with the most lucid technique and precise nature of surgery, we were able to manage all the detrimental after effects. The success rate in our study was 96.67% but the affected individual had no recurrence. Thus, in a robust of all the promising obliterating agents, none of them has been proven successfully ideal and inert. Hence, there is still a dilemma in opting for the type of material needed to obliterate the cavity. Studies in literature have a low level of evidence, rendering the topic a pandora's box.

We recommend our technique of obliteration owing to the easy surgical technique of harvesting, no need for an additional incision, cost-effective, no side effects of extrusion or giant cell body reaction, and no recidivism or recurrence of disease.

Strengths of the study

- Prospective in nature, and patient's follow-up was consistent.
- All surgeries were performed by a single experienced surgeon.
- There was statistical significance in air-bone gap closure on comparison between pre- and post-operative intervention.

Limitations of study

- Small sample size.
- Shorter follow-up period.
- No control group to have adequate comparison.

Conclusions

Chronic otitis media and its dreaded complications are like a nightmare for otologists, demanding additional expertise while intervening to eradicate the disease pathology. With the advent of modern otological procedures and the quest amongst otologists, tides have turned towards procedures that can be implicated for both disease eradication and socially acceptable post-operative outcomes. In a gist, obliteration is a midpoint of two diverse spectra. In our study, we encountered a diverse range of comorbidities, disease pathologies, and radiological anomalies that needed a holistic approach in dealing with this dreaded entity, yet we managed to get a positive response. The present study indicates that obliteration with post auricular fibro-periosteal tissues is not only a simple technique but also has excellent functional outcomes, rendering the healthy cavity free from the troublesome issues.

References

1. Weiss NM, Bachinger D, Botzen J, Grobmann W, Mlynski R. Mastoid cavity obliteration leads to a clinically significant improvement in health-related quality of life. European Archives of Oto-Rhino-Laryngology. 2020;277(6):1637-1643. doi:10.1007/s00405-020-05881-4.
2. Das C, Hazra TK. Relook on mastoid cavity obliteration: a prospective study. Indian Journal of Otolaryngology and Head and Neck Surgery. 2019;71(2):1107-1114. doi:10.1007/s12070-017-1198-y.
3. Kim BG, Kim HJ, Lee SJ, Lee E, Lee SA, Lee JD. Outcomes of modified canal wall down mastoidectomy and mastoid obliteration using autologous materials. Clinical and Experimental Otorhinolaryngology. 2019;12(4):360-366. doi:10.21053/ceo.2018.01333.
4. Uluyol S, Ugur O, Arslan IB, Yagiz O, Gumussoy M, Cukurova I. Effects of cavity reconstruction on morbidity and quality of life after canal wall down tympanomastoidectomy. Brazilian Journal of Otorhinolaryngology. 2018;84(5):608-613. doi:10.1016/j.bjorl.2017.07.007.
5. Alves RD, Cabral Junior F, Fonseca AC, Bento RF. Mastoid obliteration with autologous bone in mastoidectomy canal wall down surgery: a literature overview. International Archives of Otorhinolaryngology. 2016;20(1):76-83. doi:10.1055/s-0035-1563382.
6. Kerckhoffs KG, Kommer MB, van Strien TH, Visscher SJ, Bruijnzeel H, Smit AL, *et al.*. The disease recurrence rate after the canal wall up or canal wall down technique in adults. Laryngoscope. 2016;126(4):980-987. doi:10.1002/lary.25591.
7. Kurien G, Greeff K, Gomaa N, *et al.*. Mastoidectomy and mastoid obliteration with autologous bone graft: a quality of life study. Journal of Otolaryngology - Head and Neck Surgery. 2013;42:49. doi:10.1186/1916-0216-42-49.
8. Chan CY, Chan YM. Mastoid obliteration and reconstruction: a review of techniques and results. Proceedings of Singapore Healthcare. 2012;21(1):23-29.
9. Tawalbeh M, Al-Rawashdeh B, Ali E, Alzarea A, Alsharari A, Alsharari B, *et al.*. Mastoid cavity obliteration in CWD mastoidectomy with periosteal-pericranial flap: a 10-year experience. Jordan Medical Journal. 2021;55:1.
10. Bhat SM, Vuppala R. Cavity problems following canal wall down mastoidectomy in chronic suppurative otitis media: are we treating adequately or making them regular outpatients? International Journal of Otorhinolaryngology Clinics. 2021;29(1):11-17.
11. Yamamoto Y, Takahashi K, Morita Y, Ohshima S, Takahashi S. Long-term follow-up results of canal wall down tympanoplasty with mastoid obliteration using the bone pate plate for canal wall reconstruction in cholesteatoma surgery. Otology and Neurotology. 2014;35(6):961-965.
12. Saraf A, Ahmad R, Jyothi D, Kalsotra P. Post-operative mastoid cavity problems: a tertiary care centre experience. International Journal of Otorhinolaryngology Head and Neck Surgery. 2020;6:1500-1503.
13. Park M, Lee JS, Lee JH, Oh SH, Park MK. Prevalence and risk factors of chronic otitis media: the Korean National Health and Nutrition Examination Survey 2010-2012. *PLoS One*. 2015;10(5):e0125905.
14. Chappola S, Matta I, *et al.*. Mastoid cavity obliteration versus open cavity: comparative study. Indian Journal of Otolaryngology and Head and Neck Surgery. 2014;66(1):207-213.
15. Kaur N, Sharma DK, Singh J. Comparative evaluation of mastoid cavity obliteration by vascularised temporalis myofascial flap and deep temporal fascial-periosteal flap in canal wall down mastoidectomy. Journal of Clinical and Diagnostic Research. 2016;10(12):MC08-MC11.
16. Agarwal R, Pradhananga R, Das Dutta H, Poudel S. Correlation of pre-operative temporal bone CT scan findings with intraoperative findings in chronic otitis media: squamous type. Indian Journal of Otolaryngology and Head and Neck Surgery. 2022;74(1):33-42.
17. Ali S, Alam SM, Alam KN, Morshed KM, Mahfuz SI, Uddin MM. Outcomes of canal wall down mastoidectomy following type III tympanoplasty. Bangladeshi Journal of Otorhinolaryngology. 2021;27(2):145-151.
18. Mocanu H, Mocanu A, Coadă G, Bonciu A, Schipor M, Rădulescu M. Analysis of long-term anatomic results of radical mastoidectomy. Experimental and Therapeutic Medicine. 2022;23:156.
19. Juvekar M, Sarkar B. Mastoid cavity obliteration with bone dust: a retrospective study of 34 cases. International Journal of Otorhinolaryngology and Head and Neck Surgery. 2021;7(10):1644.
20. Cals FLJ, van der Toom HFE, Metselaar RM, van Linge A, van der Schroeff MP, Pauw RJ. Postoperative surgical site infection in cholesteatoma surgery with and without mastoid obliteration: what can we learn? Journal of Otology. 2022;17(1):25-30.
21. Sengupta A, Basu S, Janweja M, Sengupta A. A clinical study on audiological evaluation in patients with active squamous variety of chronic otitis media following canal wall down mastoidectomy with ossicular reconstruction. Indian Journal of Otolaryngology and Head and Neck Surgery. 2019;71(2):1592-1598.
22. Król B, Porowski M, Cywka KB, Skarżyńska MB, Skarżyński PH. Mastoid obliteration with S53P4

bioactive glass can make Bonebridge implantation feasible: a case report. American Journal of Case Reports. 2020;21:e925914.
23. Faramarzi M, Kaboodkhani R, Faramarzi A, Roosta S, Erfanizadeh M, Hosseinialhashemi M. Mastoid obliteration and external auditory canal reconstruction with silicone block in canal wall down mastoidectomy. Laryngoscope Investigative Otolaryngology. 2021;6(5):1188-1195.
24. Askar SM, Saber IM, Omar M. Mastoid reconstruction with platelet-rich plasma and bone pate after canal wall down mastoidectomy: a preliminary report. Ear, Nose and Throat Journal. 2021;100(7):485-489.
25. Tan AD, Ng JH, D YM, *et al.*. Postoperative healing and long-term stability after mastoid cavity reconstruction using the middle temporal artery and inferior musculoperiosteal flaps. European Archives of Oto-Rhino-Laryngology. 2022;279:639-644.
26. Singh V, Atlas M. Obliteration of the persistently discharging mastoid cavity using the middle temporal artery flap. Otolaryngology-Head and Neck Surgery. 2007;137(3):433-438.
27. Mishra AK, Mallick A, Galagali JR, Gupta A, Sethi A, Ghotra A. Mastoid cavity obliteration using bone pâté versus bioactive glass granules in the management of chronic otitis media (squamous disease): a prospective comparative study. Journal of Laryngology and Otology. 2021;135(6):492-500.

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