



IJMHR

International Journal of Medicine & Health Research

www.internationalmedicalpublishing.com



Research Article

Section: Radiodiagnosis

Role of High-Resolution Computed Tomography Temporal Bone in Evaluating Complications of Chronic Suppurative Otitis Media

Rahul Kumar Nema^{1*}, Amit Jain¹, Ritu Nigam² & Akshara Gupta¹

¹Department of Radiodiagnosis, Ganesh Shankar Vidyarthi Memorial Medical College & Jaya Arogya Hospital, Kanpur, Uttar Pradesh, India

²Department of Ear, Nose & Throat, Ganesh Shankar Vidyarthi Memorial Medical College & Jaya Arogya Hospital, Kanpur, Uttar Pradesh, India

HIGHLIGHTS

- HRCT detects CSOM complications
- Mastoiditis was most common
- Scutum erosion was frequent
- HRCT aids surgical planning
- HRCT defines disease extent

Key Words:

Chronic suppurative otitis media
High-resolution computed tomography
Temporal bone
Cholesteatoma
Mastoiditis

ABSTRACT

Introduction: Chronic suppurative otitis media (CSOM) is a chronic inflammatory disease of the middle ear associated with persistent ear discharge and hearing impairment, with potential to cause serious intratemporal and intracranial complications. High-resolution computed tomography (HRCT) of the temporal bone provides excellent visualization of bony anatomy and disease extent, making it an essential imaging modality for preoperative assessment. **Aim & Objective:** This study evaluated the role of HRCT in detecting complications of CSOM and assessing temporal bone involvement. **Material & Methods:** Sixty clinically diagnosed patients with active squamous CSOM who fulfilled the inclusion criteria underwent HRCT temporal bone examination using a Siemens SOMATOM Emotion 6 multidetector CT scanner. Imaging findings were correlated with clinical presentation. Data were analyzed using SPSS software with descriptive and inferential statistics. Ethical committee approval and informed consent were obtained from all participants. **Results:** Most patients were 21–30 years old (26%), with a nearly equal gender distribution (52% males and 48% females). Ear discharge (94%) and hearing loss (88%) were the predominant presenting symptoms. HRCT identified mastoiditis (42%) as the most frequent complication, followed by scutum erosion (40%), tegmen plate erosion (30%), facial canal erosion (24%), sinus plate erosion (18%), ossicular chain erosion (14%), external auditory canal erosion (10%), skull base erosion (10%), semicircular canal erosion (4%). No temporal lobe abscess was detected. HRCT accurately delineated disease extent and associated bony complications, facilitating comprehensive preoperative evaluation. **Conclusion:** HRCT of the temporal bone is an indispensable imaging modality for evaluating complications of CSOM. It enables early detection of bony erosions, accurately defines disease extent, provides valuable information for surgical planning, thereby reducing operative complications and improving patient outcomes. Routine preoperative HRCT should be considered in patients with complicated or suspected squamous CSOM.



* Corresponding Author: Rahul Kumar Nema, e-mail: rahul180595@gmail.com

Article History: Received 04 August 2026; Received in Revised form 21 September 2026; Accepted 28 September 2026

How To Cite: Rahul Kumar Nema, Amit Jain, Ritu Nigam & Akshara Gupta. Role of High-Resolution Computed Tomography Temporal Bone in Evaluating Complications of Chronic Suppurative Otitis Media. *IJMHR: International Journal of Medicine & Health Research*. 2026;14(2):1-9.

DOI: <https://doi.org/10.71393/wxvxy37>

This publication is licensed under CC-BY 4.0. Copyright © 2026 The Authors. Published by International Medical Publishing Group.

INTRODUCTION

High-resolution computed tomography (HRCT) of the temporal bone is the imaging modality of choice for evaluating chronic suppurative otitis media (CSOM) and its associated complications. CSOM is a chronic inflammatory disorder of the middle ear and mastoid cavity characterized by persistent otorrhea, tympanic membrane perforation, and varying degrees of hearing impairment. If inadequately treated, the disease may progress to extracranial and intracranial complications, resulting in significant morbidity and, in severe cases, mortality. Early identification of disease extent and associated complications is therefore essential for appropriate clinical management. Owing to its excellent spatial resolution and superior depiction of osseous anatomy, HRCT provides comprehensive information regarding middle ear and mastoid pathology, making it indispensable in the diagnostic workup and preoperative evaluation of patients with CSOM. It accurately demonstrates the extent of disease, identifies bony erosions, and facilitates surgical planning, thereby improving patient outcomes [1].

The temporal bone contains numerous delicate structures, including the ossicles, facial nerve canal, labyrinth, jugular bulb, carotid canal, and tegmen tympani. Inflammatory processes involving these structures can lead to hearing loss, facial nerve dysfunction, vestibular disturbances, and intracranial extension of infection. Conventional radiography has limited value because of overlapping anatomical structures and poor visualization of complex temporal bone anatomy. In contrast, HRCT provides thin-section multiplanar images with excellent bony detail, allowing precise assessment of ossicular integrity, mastoid air cell disease, scutum erosion, cortical destruction, and labyrinthine involvement. Consequently, HRCT has become the standard imaging technique for evaluating temporal bone pathology

and identifying disease-related complications before surgical intervention [2]. CSOM is broadly classified into tubotympanic (mucosal) and atticoantral (squamous) disease. The tubotympanic variety generally involves the pars tensa and is considered relatively safe because it rarely causes extensive bony destruction. Conversely, the atticoantral type is frequently associated with cholesteatoma, an expanding keratinizing squamous epithelial lesion capable of causing progressive bone erosion through pressure necrosis and inflammatory osteolysis. Cholesteatoma commonly affects the scutum, ossicles, facial nerve canal, tegmen tympani, mastoid air cells, and semicircular canals. HRCT accurately demonstrates the location and extent of cholesteatoma, associated bone destruction, and disease spread into adjacent compartments, enabling surgeons to determine the most appropriate operative approach and minimize intraoperative complications [3].

One of the principal advantages of HRCT is its ability to detect subtle bony erosions that are often clinically occult. Ossicular chain destruction, particularly involving the long process of the incus and suprastructure of the stapes, is a common cause of conductive hearing loss in patients with cholesteatoma. HRCT clearly depicts these erosions while simultaneously evaluating scutum destruction, tegmen defects, & cortical bone involvement. Identification of tegmen tympani or tegmen mastoideum erosion is especially important because these defects increase the risk of cerebrospinal fluid leakage, meningitis, & intracranial spread of infection. Accurate preoperative assessment of these abnormalities facilitates surgical planning and improves hearing preservation whenever feasible [4]. HRCT is equally valuable in evaluating extracranial complications such as mastoiditis, facial nerve canal erosion, and labyrinthine fistula. Mastoiditis is characterized by opacification and destruction of

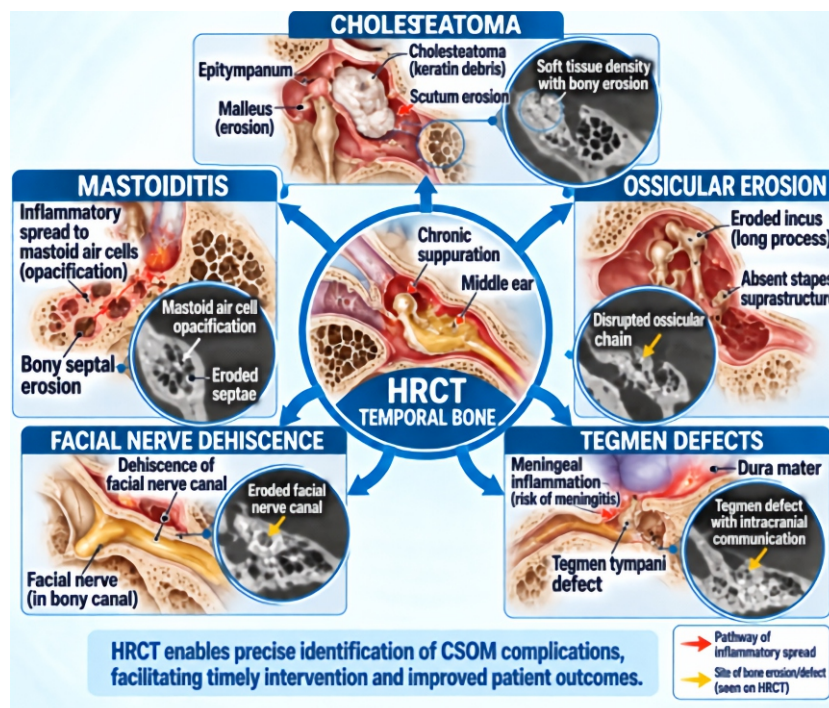


Figure 1: HRCT Temporal Bone in CSOM Complications

mastoid air cells, with advanced disease resulting in coalescent mastoiditis or subperiosteal abscess formation. Facial nerve canal dehiscence or erosion identified on HRCT alerts surgeons to the increased risk of facial nerve injury and postoperative facial palsy. Likewise, erosion of the lateral semicircular canal indicates labyrinthine fistula, an important complication that may present with vertigo and sensorineural hearing loss. Early radiological detection allows careful surgical management aimed at preserving facial nerve function and inner ear structures while preventing further disease progression [5,6].

Intracranial complications remain among the most serious consequences of untreated or advanced CSOM. These include meningitis, epidural abscess, subdural empyema, brain abscess, and sigmoid sinus thrombosis, which usually develop through direct extension of infection across eroded bone or via venous channels. HRCT effectively demonstrates tegmen defects, mastoid destruction, erosive changes, and indirect evidence of intracranial extension, although magnetic resonance imaging (MRI) is often required for superior evaluation of intracranial soft tissue abnormalities and postoperative residual or recurrent cholesteatoma. Furthermore, HRCT provides essential information regarding anatomical variations such as a high-riding jugular bulb, dehiscent facial nerve canal, aberrant internal carotid artery, or superior semicircular canal dehiscence, thereby minimizing operative risks. Although its limited soft tissue characterization and radiation exposure represent important limitations, HRCT remains the cornerstone of imaging in CSOM because of its unmatched ability to delineate osseous pathology, assess disease extent, guide surgical decision-making, and improve overall patient management. Integration of HRCT with MRI, when indicated, offers the most comprehensive evaluation of complicated CSOM and contributes significantly to better surgical outcomes and reduced morbidity [7,8]. **Figure 1:** HRCT Temporal Bone in CSOM Complications. This prospective study aimed to evaluate the role of high-resolution computed

tomography (HRCT) of the temporal bone in the assessment of complications associated with chronic suppurative otitis media (CSOM). The study sought to identify CSOM-related complications on HRCT temporal bone scans, facilitate their early detection to enable timely intervention and prevent disease progression, and determine the extent of disease involvement as well as the involvement of adjacent anatomical structures, thereby providing comprehensive information for accurate diagnosis and optimal treatment planning.

MATERIAL & METHODS

This prospective clinical study was conducted at the Department of Radiodiagnosis at Gajra Raja Medical College & JAH Group of Hospitals, Gwalior for 18 months. Ethical approval has been obtained from the Ethical Approval Committee of Gajra Raja Medical College & JAH Group of Hospitals, Gwalior.

Study Population

The study population comprised patients clinically diagnosed with active squamous chronic otitis media who provided informed consent for high-resolution computed tomography (HRCT) temporal bone imaging. Patients were excluded if they declined consent, had a history of temporal bone trauma, known or suspected temporal bone neoplasms, intraocular metallic foreign bodies, cochlear implants, pregnancy, or claustrophobia that precluded successful completion of the HRCT examination, ensuring appropriate patient selection.

Data Analysis

The collected data were analyzed using SPSS software. Descriptive statistics were used to summarize findings, and inferential statistics were employed to establish associations between HRCT findings and clinical presentations. The frequency and percentage of different complications were determined, providing insight into the role of HRCT in CSOM evaluation.

Table 1: Socio-Economic Status Distribution of the Study Population

Social Economic Status	Frequency	Percentage
Lower Class	18	36.00%
Lower Middle Class	9	18.00%
Upper Middle Class	15	30.00%
Upper Class	8	16.00%
Total	50	100.00%

Table 2: Symptom Outcomes of the Study Population

Symptoms	n (%)		Total
	No	Yes	
Discharge	3 (6)	47 (94)	50 (100)
Hearing loss	6 (12)	44 (88)	50 (100)
Tinnitus	39 (78)	11 (22)	50 (100)
Ear pain	28 (56)	22 (44)	50 (100)
Dull headache	39 (78)	11 (22)	50 (100)
Facial weakness	47 (94)	3 (6)	50 (100)
Vertigo	42 (84)	8 (16)	50 (100)

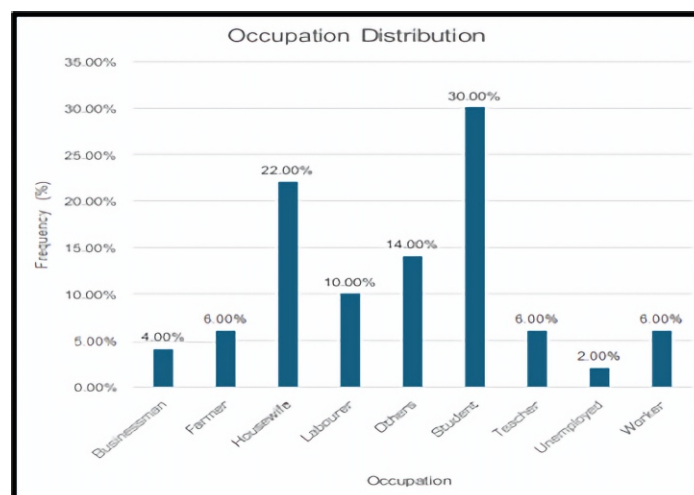


Figure 2: Occupation Distribution of the Study Population

Table 2: Symptom Outcomes of the Study Population

Symptoms	n (%)		Total
	No	Yes	
Discharge	3 (6)	47 (94)	50 (100)
Hearing loss	6 (12)	44 (88)	50 (100)
Tinnitus	39 (78)	11 (22)	50 (100)
Ear pain	28 (56)	22 (44)	50 (100)
Dull headache	39 (78)	11 (22)	50 (100)
Facial weakness	47 (94)	3 (6)	50 (100)
Vertigo	42 (84)	8 (16)	50 (100)

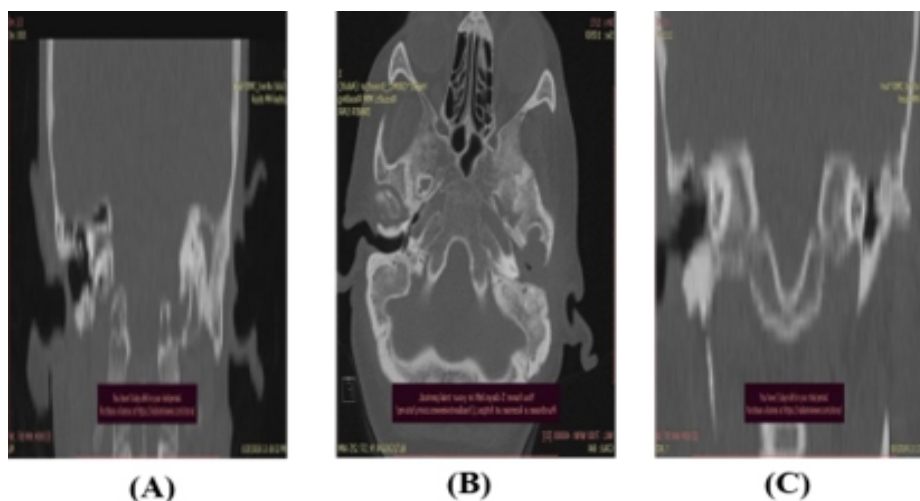


Figure 3: (A): A 54- year-old male presented with complaints of progressive hearing loss and left ear discharge persisting for the past two years. High resolution computed tomography (HRCT) of the temporal bone showed evidence of chronic mastoiditis with opacification of mastoid air cells and erosion of the left tegmen tympani, suggestive of an aggressive chronic otitis media, **(B)** A 22-year-old male presented with a 6-month history of persistent right ear discharge, progressive hearing loss, and intermittent episodes of vertigo. High-resolution computed tomography (HRCT) of the temporal bone demonstrated soft tissue density in the middle ear and mastoid cavity, erosion of the scutum, tegmen tympani, and signs of mastoiditis., **(C)** A 26-year-old male presented with complaints of right ear discharge and reduced hearing for the past six months, along with tinnitus and vertigo for the last four months. On HRCT of the temporal bone showed soft tissue opacification of the middle ear and mastoid air cells, erosion of the right tegmen plate, external auditory canal (EAC) wall erosion, and signs of mastoiditis.

Table 3: HRCT Temporal Bone Findings and Complications

HRCT temporal bone findings/Complicaton	n (%)		Total
	No	Yes	
Scutum erosion	30 (60%)	20 (40%)	50 (100%)
SCC erosion	48 (96%)	2 (4%)	50 (100%)
Ossicular change erosion	43 (86%)	7 (14%)	50 (100%)
Sinus plate erosion	41 (82%)	9 (18%)	50 (100%)
Tegman plate erosion	35 (70%)	15 (30%)	50 (100%)
Facial canal erosion	38 (76%)	12 (24%)	50 (100%)
Temporal lobe abscess	50 (100%)	0 (0%)	50 (100%)
Mastoiditis	29 (58%)	21 (42%)	50 (100%)
Bony wall of EAC	45 (90%)	5 (10%)	50 (100%)
Skull base bony erosion	45 (90%)	5 (10%)	50 (100%)

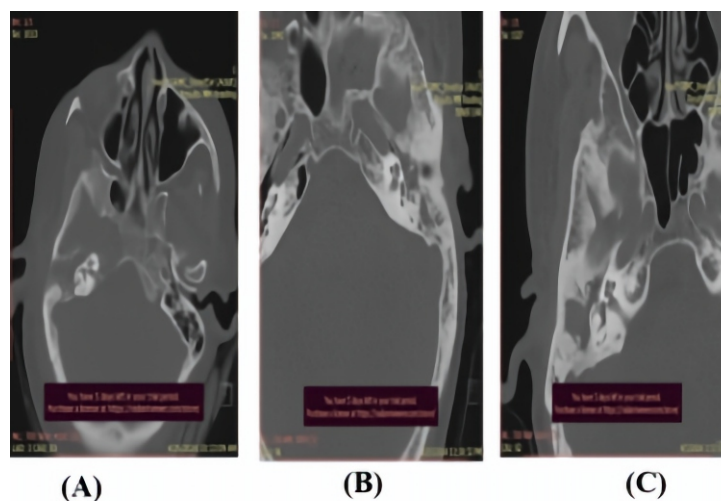


Figure 4: (A) A 25-year-old female presented with a 3-year history of persistent right ear discharge and progressive hearing loss. There was no history of vertigo or facial weakness. High-resolution computed tomography (HRCT) of the temporal bone revealed soft tissue density involving the external auditory canal, middle ear cavity, and mastoid air cells. There was also erosion of the bony wall of the facial nerve canal., (B) A 20-year-old female presented with a 6-year history of chronic left ear discharge, decreased hearing, and intermittent vertigo, along with occasional headaches over the past few months. High-resolution CT (HRCT) of the temporal bone demonstrated soft tissue opacification in the mastoid air cells and middle ear cavity, along with scutum erosion and ossicular chain erosion., (C) A 51-year-old female presented with complaints of left ear discharge and reduced hearing for the past one year, accompanied by vertigo and gradual-onset left-sided facial weakness over the last few weeks. High-resolution CT (HRCT) of the temporal bone revealed soft tissue density occupying the middle ear cavity and mastoid air cells, with evidence of ossicular chain erosion and bony erosion of the facial nerve canal.

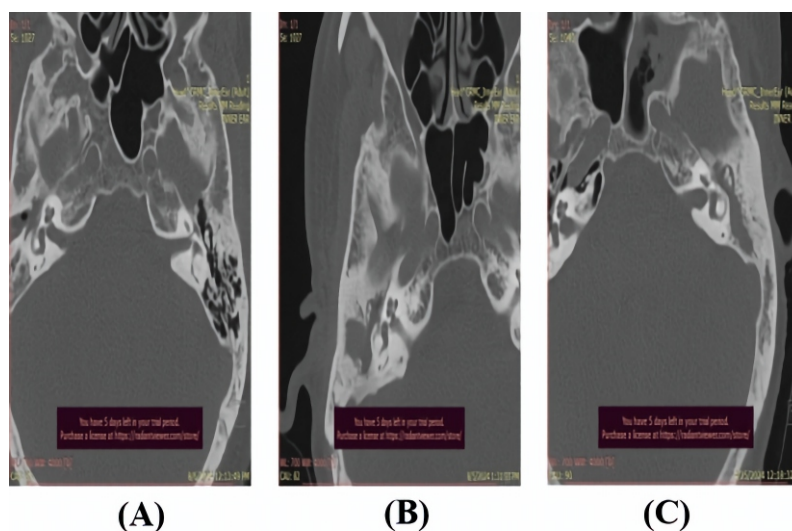


Figure 4: (A) A 25-year-old female presented with a 3-year history of persistent right ear discharge and progressive hearing loss. There was no history of vertigo or facial weakness. High-resolution computed tomography (HRCT) of the temporal bone revealed soft tissue density involving the external auditory canal, middle ear cavity, and mastoid air cells. There was also erosion of the bony wall of the facial nerve canal., (B) A 20-year-old female presented with a 6-year history of chronic left ear discharge, decreased hearing, and intermittent vertigo, along with occasional headaches over the past few months. High-resolution CT (HRCT) of the temporal bone demonstrated soft tissue opacification in the mastoid air cells and middle ear cavity, along with scutum erosion and ossicular chain erosion., (C) A 51-year-old female presented with complaints of left ear discharge and reduced hearing for the past one year, accompanied by vertigo and gradual-onset left-sided facial weakness over the last few weeks. High-resolution CT (HRCT) of the temporal bone revealed soft tissue density occupying the middle ear cavity and mastoid air cells, with evidence of ossicular chain erosion and bony erosion of the facial nerve canal.

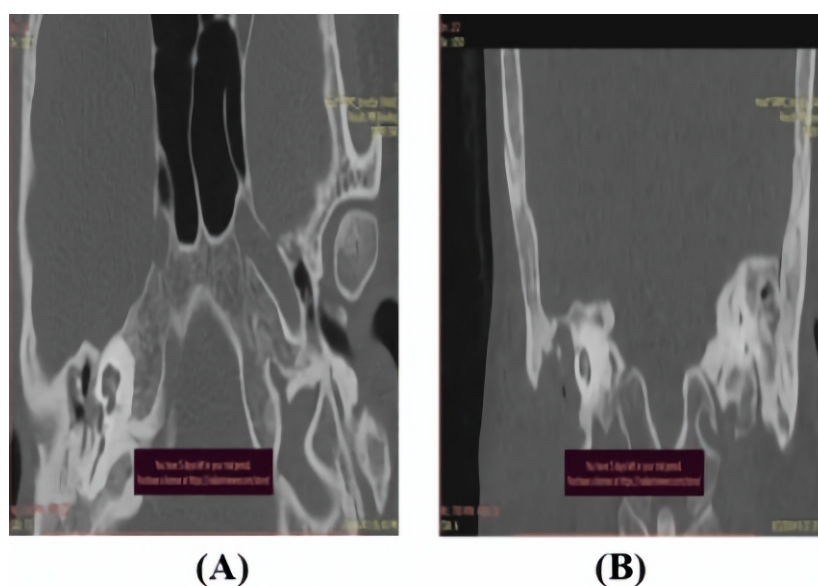


Figure 6: (A) A 71-year-old male presented with a history of bilateral ear discharge and progressive hearing loss over the past 3 years, accompanied by intermittent headaches. High-resolution computed tomography (HRCT) of the temporal bone demonstrated soft tissue density within the right middle ear cavity, left external auditory canal (EAC) erosion, mastoid air cell opacification, and erosion of the left occipital bone., (B) A 25-year-old female presented with a history of persistent right ear discharge, progressive hearing loss, headache, and vertigo over the past 4 years. High-resolution computed tomography (HRCT) of the temporal bone demonstrated soft tissue density within the right middle ear cavity and mastoid air cells, along with erosion of the tegmen tympani, external auditory canal, and occipital bone.

DISCUSSION

The present study evaluated the diagnostic utility of high-resolution computed tomography (HRCT) in identifying complications of chronic suppurative otitis media (CSOM) and demonstrated its importance in assessing temporal bone involvement before surgical intervention. HRCT accurately delineated disease extent and detected complications such as scutum erosion, ossicular chain erosion, mastoiditis, tegmen plate erosion, facial canal involvement, and skull base destruction, thereby facilitating appropriate treatment planning and minimizing intraoperative complications. These findings reinforced the established role of HRCT as the imaging modality of choice in the comprehensive evaluation of CSOM [1,2].

The demographic profile showed that CSOM predominantly affected younger individuals, with the highest frequency observed in the 21–30-year age group, followed by patients below 20 years and those aged 31–40 years. **Yu Z. 2009** and **Xuan W, et. al; 2013**, who attributed the higher prevalence among younger individuals to recurrent upper respiratory tract infections and Eustachian tube dysfunction during early life. Gender distribution was nearly equal, indicating that CSOM does not exhibit a significant sex predilection, a finding consistent with previous studies emphasized the greater influence of environmental and socioeconomic factors than biological sex. Most patients belonged to lower socioeconomic groups, supporting earlier reports that poor hygiene, overcrowding, delayed healthcare access, and inadequate treatment contribute significantly to disease persistence and progression [9-11].

Clinically, ear discharge (94%) and hearing loss (88%) were the predominant presenting symptoms, whereas ear pain, tinnitus, vertigo, headache, and facial weakness occurred less frequently. These observations closely resemble previous reports describing persistent otorrhea and conductive hearing loss as the hallmark manifestations of CSOM. Unilateral disease predominated, although bilateral involvement was observed in nearly one-fourth of patients, indicating relatively advanced or prolonged disease in a subset of cases [12,13].

HRCT findings highlighted mastoiditis (42%) and scutum erosion (40%) as the most frequent complications, followed by tegmen plate erosion (30%), facial canal erosion (24%), sinus plate erosion (18%), ossicular chain erosion (14%), external auditory canal erosion (10%), skull base erosion (10%), and semicircular canal erosion (4%). **Kumar L, et. al; 2019** and **Husain M, et. al; 2020** and **Lyngwa GY, et. al; 2020**, reported that scutum erosion, mastoiditis, ossicular destruction, tegmen defects, and facial canal involvement are characteristic features of advanced CSOM, particularly in patients with cholesteatoma. Although ossicular erosion in the present study was comparatively lower than previously reported, its identification remains clinically important because of its association with conductive hearing loss and surgical reconstruction [14-16].

No temporal lobe abscess was identified in the present series, suggesting that timely diagnosis and intervention may have

prevented intracranial extension. **Gajjar N, et. al; 2020** and **Pramod, et. al; 2020**, emphasized that intracranial complications, though uncommon, remain potentially life-threatening and warrant meticulous radiological assessment [17,18]. Overall, the findings confirmed that HRCT provides comprehensive evaluation of bony destruction, identifies complications at an early stage, and offers invaluable information for preoperative planning. Consequently, HRCT should be considered an essential component of routine assessment in patients with complicated CSOM to optimize surgical outcomes and reduce disease-related morbidity [19,20].

CONCLUSION

This study demonstrates that high-resolution computed tomography (HRCT) is an essential modality for diagnosing and preoperative assessment of chronic suppurative otitis media (CSOM), accurately identifying complications such as scutum and tegmen erosion, ossicular chain destruction, and mastoiditis. Early HRCT evaluation facilitates timely surgical planning and improves clinical outcomes. The findings also suggest that lower socioeconomic status may increase disease burden because of delayed healthcare access. Despite limitations of sample size and follow-up duration, the study supports routine HRCT use and encourages larger prospective studies to optimize CSOM management and treatment strategies.

LIMITATIONS & FUTURE PERSPECTIVES

The study was limited by its single-centre design, relatively small sample size, and short duration, which may restrict generalizability. Future research could focus on multicenter studies with larger cohorts to validate findings, evaluate long-term outcomes, and explore innovative diagnostic and management strategies for appendicular perforation, improving patient prognosis and reducing complications.

CLINICAL SIGNIFICANCE

The clinical significance of this study lies in its potential to bridge the gap between research findings and practical healthcare applications. It emphasizes the importance of translating scientific observations into meaningful improvements in patient care, diagnosis, and treatment outcomes. By highlighting real world relevance, the study contributes to evidence based medical practice and supports informed clinical decision making. Ultimately, the findings aim to enhance patient quality of life, optimize therapeutic strategies, and promote better disease management in clinical settings.

ABBREVIATIONS

CSOM: Chronic Suppurative Otitis Media

HRCT: High-Resolution Computed Tomography

CT: Computed Tomography

MDCT: Multidetector Computed Tomography

CA: Computed Tomography Angiography

AUTHOR INFORMATION

Dr. Rahul Kumar Nema: MD, Senior Resident ,
<http://orcid.org/0009-0008-7077-6206>
 Dr. Amit Jain: MD, Professor
 Dr. Ritu Nigam: MS, Professor
 Dr. Akshara Gupta: Professor & HOD

AUTHOR CONTRIBUTIONS

All authors significantly contributed to the study conception and design, data acquisition, or data analysis and interpretation. They participated in drafting the manuscript or critically revising it for important intellectual content, consented to its submission to the current journal, provided final approval for the version to be published, and accepted responsibility for all aspects of the work. Additionally, all authors meet the authorship criteria outlined by the International Committee of Medical Journal Editors (ICMJE) guidelines.

ACKNOWLEDGEMENT

The authors sincerely acknowledge the seniors of the Department of Radiodiagnosis, Ganesh Shankar Vidyarthi Memorial Medical College & Jaya Arogya Hospital, Kanpur, Uttar Pradesh, India. We are grateful to our college for providing the necessary resources to carry out this work. We also extend our heartfelt thanks to our colleagues and technical staff for their valuable assistance during the study.

CONFLICT OF INTEREST

Authors declared that there is no conflict of interest.

FUNDING

None

ETHICAL APPROVAL & CONSENT TO PARTICIPATE

All necessary consent & approval was obtained by authors.

CONSENT FOR PUBLICATION

All necessary consent for publication was obtained by authors.

DATA AVAILABILITY

All data generated and analyzed are included within this research article. The datasets utilized and/or analyzed in this study can be obtained from the corresponding author upon a reasonable request.

USE OF ARTIFICIAL INTELLIGENCE (AI) & LARGE LANGUAGE MODEL (LLM)

The authors confirm that no AI & LLM tools were used in the writing or editing of the manuscript, and no images were altered or manipulated using AI & LLM.

AUTHOR'S NOTE

This article serves as an important educational tool for the scientific community, offering insights that may inspire future research directions. However, they should not be relied upon independently when making treatment decisions or developing public health policies.

PUBLISHER'S NOTE

All statements made in this article are the sole responsibility of the authors and do not necessarily reflect the views of the publisher, editors, or reviewers. The journal maintains a neutral stance regarding jurisdictional claims in institutional affiliations presented in published work.

ARCHIVING INFORMATION

-  zenodo
- Self-archiving on Google and Amazon Web Services (AWS) cloud servers, as well as on three dedicated in-house servers
- PKP Preservation Network

MANAGING & PUBLISHING EDITOR

Dr. Vinay Kumar Yadav^{1,2,3}

¹CSIR-Indian Institute of Toxicology Research (IITR), Lucknow, India

²Academy of Scientific and Innovative Research (AcSIR), Ghaziabad, U.P., India

³Biological E Ltd, Hyderabad, Telangana, India

HANDLING EDITOR

Dr. Karan Singh Saini^{1,2,3}

¹Ph.D. in Cancer Research from CDRI-JNU New Delhi, India & ²Post-Doctoral Fellow from University of Illinois at Chicago, USA

³Department of Zoology, P.M. College of Excellence, Government Postgraduate College in Sheopur, Madhya Pradesh, India

REFERENCES

1. Lakshmikanth HKH, Kumar SR, Raju V. Role of high-resolution computed tomography temporal bone in evaluation of patients with chronic suppurative otitis media (CSO M). *Int J Curr Res Rev*. 2021;28–35. <https://doi.org/10.31782/ijcrr.2021.132007>
2. Vaidya V, Soni H, Ghugare B, Dinkar MR. Study of radiological findings in high-resolution computed tomography (HRCT) temporal bone in chronic suppurative otitis media (CSOM): a hospital-based cross-sectional study. 2016;146–150. <https://doi.org/10.26611/1016934>
3. Baban MI. The correlation of the high-resolution CT scan with the operative findings in patients with chronic otitis media undergoing tympano-mastoidectomy: a descriptive study. *J Sulaimani Med Coll*. 2022;135-142. <https://doi.org/10.17656/jsmc.10353>

4. Pareek D. Diagnostic accuracy of high-resolution computed tomography (HRCT) temporal bone in the evaluation of chronic suppurative otitis media. *Int J Med Biomed Stud.* 2022;42–57. <https://doi.org/10.32553/ijmbs.v6i4.2511>
5. Sreedhar S, Pujary K, Agarwal A, Balakrishnan R. Role of high-resolution computed tomography scan in the evaluation of cholesteatoma: a correlation of high-resolution computed tomography with intra-operative findings. *Indian J Otol.* 2015;21:103-106. <https://doi.org/10.4103/0971-7749.155294>
6. Prakash M, Tarannum A. Role of high-resolution computed tomography of temporal bone in preoperative evaluation of chronic suppurative otitis media. *Int J Otorhinolaryngol Head Neck Surg.* 2018;1287–1292. <https://doi.org/10.18203/issn.2454-5929.ijohns20183703>
7. Janarthanan V, Keloth T, Raj JV, Raghuraman RR, Padmanaban E, Nibhanupudi KM. Role of diffusion-weighted magnetic resonance imaging in differentiating cholesteatoma from chronic suppurative otitis media: a cross-sectional study. *Int J Anat Radiol Surg.* 2024;13:1-4. <https://doi.org/10.7860/ijars/2024/66291.299>
8. Bhardwaj HV, Mishra D, Priya P. A study on CSOM (chronic suppurative otitis media) and its predisposing factors in a tertiary care hospital, Patna, Bihar. *Global J Res Anal.* 2023; 1–4. <https://doi.org/10.36106/gjra/8704681>
9. Yu Z. The research on the value of HRCT in diagnosis of chronic suppurative otitis media. 2009;1-10.
10. G Payal, K Pranjali, M Gul, MK Mittal, AK Rai. Computed tomography in chronic suppurative otitis media: value in surgical planning. *Indian J Otolaryngol Head Neck Surg.* 2012;64(3):225-229.
11. Kanotra S, Gupta R, Gupta N, Sharma R, Gupta S, Kotwal S. Correlation of high-resolution computed tomography temporal bone findings with intra-operative findings in patients with cholesteatoma. *Indian J Otol.* 2015;21:280-285. <https://doi.org/10.4103/0971-7749.164550>
12. Tak J, Khilnani A. Role of high-resolution computed tomography of temporal bone in management of chronic suppurative otitis media. *Int J Otorhinolaryngol Head Neck Surg.* 2016;2:193-196. <https://doi.org/10.18203/issn.2454-5929.ijohns20162877>
13. Sharma V, Prajapati N, Sharma R, Iqbal Z, Dadoo S. Radiological changes in anatomy of temporal bone in cases of unsafe chronic suppurative otitis media: a retrospective study. *Indian J Otol.* 2017;23:176-179. https://doi.org/10.4103/indianjotol.indianjotol_15_17
14. Kumar L, Malhotra A, Rastogi R, Pratap V. Analytical study of temporal bone pathologies and anatomical variations on high-resolution CT. *Asian J Med Radiol Res.* 2019;7(1):20-25.
15. Husain M, Khanduri S, Faiz SM, Abbas SZ, Yadav P, Khan A, et al. Role of HRCT temporal bone in preoperative assessment of tegmen height in chronic otitis media patients. *J Clin Imaging Sci.* 2020;1-5. https://doi.org/10.25259/jcis_131_2020
16. Lyngwa GY, Mohanty J, Singh M, Swain S. Role of high-resolution computed tomography temporal bone in the evaluation of unsafe chronic suppurative otitis media. *East J Med Sci.* 2020;5(2):30-34. <https://doi.org/10.32677/ejms.2020.v05.i02.002>
17. Gajjar N, Bhalodiya N, Bhadania S. Diagnostic efficacy of high-resolution computed tomography findings in patients of chronic suppurative otitis media atticofacial type. *Int J Otorhinolaryngol Head Neck Surg.* 2020;6:1854-1858. <https://doi.org/10.18203/issn.2454-5929.ijohns20204189>
18. Pramod, Radiodiagnosis, Raghuraj U, Shrikrishna U. Correlation of intraoperative and HRCT of temporal bone findings in CSOM. 2020;3:10-17. <https://doi.org/10.18231/i.ijoas.2020.003>
19. Patel A. High-resolution computed tomography (HRCT) evaluation of temporal bone infectious pathologies: a study from a tertiary care hospital, Valsad, Gujarat. *J Evid Based Med Healthc.* 2021;3521–3527. <https://doi.org/10.18410/iebmh/2021/639>
20. Shah CK, Gupta S, Gupta DP, Prajapati BJ, Prajapati V. Role of high-resolution computed tomography of temporal bone in patients with cholesteatoma, in a tertiary care health center. *Indian J Otolaryngol Head Neck Surg.* 2021;1-5. <https://doi.org/10.1007/s12070-021-02377-3>

Cite this article : Rahul Kumar Nema, Amit Jain, Ritu Nigam & Akshara Gupta. Role of High -Resolution Computed Tomography Temporal Bone in Evaluating Complications of Chronic Suppurative Otitis Media. *IJMHR: International Journal of Medicine & Health Research.* 2026;14(2):1-9.