



Document details

< Back to results | 1 of 1

CSV export ▾ Download Print E-mail Save to PDF Add to List More... >

[Full Text](#) View at Publisher

Pakistan Journal of Medical Sciences [Open Access](#)
Volume 37, Issue 3, 2021, Pages 821-826

Microbiology of chronic suppurative Otitis media : An update from a tertiary care hospital in Bangladesh (Article) [\(Open Access\)](#)

Khatun, M.R.^{a,e}, Alam, K.M.F.^b, Naznin, M.^{c,e}, Salam, M.A.^d ✉

^aDepartment of Virology, Kulliyah of Medicine, International Islamic University Malaysia, Kuantan, Pahang, 25200, Malaysia

^bDepartment of Microbiology, Kulliyah of Medicine, International Islamic University Malaysia, Kuantan, Pahang, 25200, Malaysia

^cDepartment of Microbiology, Kulliyah of Medicine, International Islamic University Malaysia, Kuantan, Pahang, 25200, Malaysia

[View additional affiliations](#) ▾

Abstract

[View references \(23\)](#)

Objectives: Chronic suppurative otitis media is a major cause of acquired hearing impairment, especially in children of developing countries. The study sought to explore the bacteriological profile and their antimicrobial susceptibility among patients of chronic suppurative otitis media from a tertiary care hospital in Bangladesh. **Methods:** A cross sectional microbiological study was conducted at the Department of Microbiology, Rajshahi Medical College, Bangladesh from January to December 2019. Aural swabs were collected aseptically from clinically suspected patients irrespective of age and gender attending the ear, nose and throat outpatient department of Rajshahi Medical College Hospital. Aerobic bacterial culture was done and isolates were identified through standard bacteriological identification scheme. Antimicrobial susceptibility testing of isolates was done by modified Kirby-Bauer disk diffusion method following Clinical and Laboratory Standards Institute guidelines. **Results:** Of 96 swabs, culture yielded a total of 73 bacterial isolates from 68(70.8%) culture-positive plates including 63 (65.6%) unimicrobial and 5 (5.2%) polymicrobial (mixed growth of a pair of bacteria) growths. Frequency distribution revealed, 40(55%) gram-negative and 33(45%) gram-positive bacteria with *Staphylococcus aureus* was the leading isolate (37%) followed by *Pseudomonas aeruginosa* (31.5%), *Escherichia coli* (13.7%), coagulase-negative *Staphylococcus* (8.2%), *Klebsiella pneumoniae* (5.5%) and *Proteus* spp. (4.1%). Gram-positive bacteria were found to be highly susceptible (100%) to Linezolid and Vancomycin followed by Imipenem (83 to 96.3%), while moderate to high resistance (44 to 67%) was observed against Ciprofloxacin, Ceftriaxone, Ceftazidime, Amoxicillin/Clavulanate and Clindamycin. For gram-negative bacteria, susceptibility ranged from 67 to 100% to Imipenem, 67 to 96% to Piperacillin/ Tazobactam and 67 to 83% to Gentamicin, while moderate to high resistance (50 to 75%) was observed against Ciprofloxacin, Ceftriaxone, Ceftazidime and Amoxicillin/Clavulanate. **Conclusion:** Moderate to high level of multidrug-resistance especially to 3rd generation cephalosporins, Ciprofloxacin and Amoxicillin/Clavulanate is an alarming situation. It warns reinforcement of judicious antibiotic prescription and introduction of antibiotic stewardship program in the tertiary care hospitals. © 2021, Professional Medical Publications. All rights reserved.

SciVal Topic Prominence ⓘ

Topic: Suppurative Otitis Media | Otomycosis | External Otitis

Prominence percentile: 74.953



Metrics ⓘ [View all metrics](#) >

Cited by 0 documents

Inform me when this document is cited in Scopus:

[Set citation alert](#) >

Related documents

Profile of aerobic bacteria and their antibiotic sensitivity in chronic suppurative otitis media in Al-Ramadi Teaching Hospital, Ramadi City, Iraq

Al-Ani, R.M. , Al-Zubaidi, M.I. , Lafi, S.A.
(2021) *Qatar Medical Journal*

Microbiological Assessment of Chronic Otitis Media: Aerobic Culture Isolates and Their Antimicrobial Susceptibility Patterns

Alam, M. , Sultan, A. , Chandra, K.
(2021) *Indian Journal of Otolaryngology and Head and Neck Surgery*

Analysis of main pathogenic bacteria and drug sensitivity in patients with chronic suppurative otitis media and middle ear cholesteatoma in China

Xu, F. , Kong, W. , Peng, J.
(2020) *Biotechnology Letters*

[View all related documents based on references](#)

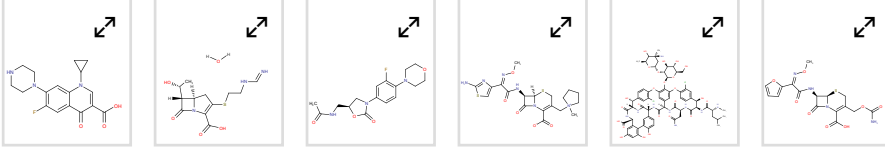
[Find more related documents in Scopus based on:](#)

[Authors](#) > [Keywords](#) >

Chemistry database information ⓘ

Substances

[View all substances \(12\)](#)



Author keywords

Antibiogram Bangladesh CSOM Multidrug-resistance Tertiary care hospital

Indexed keywords

EMTREE drug terms: amoxicillin plus clavulanic acid cefoxitin ceftazidime ceftriaxone ciprofloxacin clindamycin gentamicin imipenem linezolid piperacillin plus tazobactam vancomycin

EMTREE medical terms: adolescent adult aged antibiotic sensitivity antimicrobial stewardship Article bacterium culture Bangladesh child chronic suppurative otitis media coagulase negative Staphylococcus controlled study cross-sectional study developing country disk diffusion Escherichia coli female Gram negative bacterium Gram positive bacterium hearing impairment human Klebsiella pneumoniae major clinical study male microbiology prescription Proteus Pseudomonas aeruginosa Staphylococcus aureus tertiary care center tertiary health care

Chemicals and CAS Registry Numbers:

amoxicillin plus clavulanic acid, 74469-00-4, 79198-29-1; cefoxitin, 33564-30-6, 35607-66-0; ceftazidime, 72558-82-8; ceftriaxone, 73384-59-5, 74578-69-1; ciprofloxacin, 85721-33-1, 86393-32-0; clindamycin, 18323-44-9; gentamicin, 1392-48-9, 1403-66-3, 1405-41-0; imipenem, 64221-86-9; linezolid, 165800-03-3; vancomycin, 1404-90-6, 1404-93-9

ISSN: 1682024X

CODEN: PJMSC

Source Type: Journal

Original language: English

DOI: 10.12669/pjms.37.3.3942

Document Type: Article

Publisher: Professional Medical Publications

References (23)

[View in search results format >](#)

All CSV export Print E-mail Save to PDF Create bibliography

1 Acuin, J. Chronic suppurative otitis media: Burden of illness and management options (2004), pp. 1-84. Cited 276 times. Switzerland: WHO Library Cataloguing in Publication Data. Geneva: World Health Organization

2 Kumar, D, Agrawal, A, Kumar, S, Gupta, N. A Study of the Microbiological Profile of CSOM in A Tertiary Care Centre of North India (2019) *IOSR J Dent Med Sci*, 18, pp. 20-24.

3 Wang, J., Chen, B., Xu, M., Wu, J., Wang, T., Zhao, J., Zhang, Q., (...), Zhang, Y. Etiological factors associated with chronic suppurative otitis media in a population of Han adults in China (2016) *Acta Oto-Laryngologica*, 136 (10), pp. 1024-1028. Cited 6 times. doi: 10.1080/00016489.2016.1183818

[View at Publisher](#)

- 4 Shaheen, M.M., Raquib, A., Ahmad, S.M.
Chronic Suppurative Otitis Media and Its Association with Socio-Economic Factors Among Rural Primary School Children of Bangladesh ([Open Access](#))
(2012) *Indian Journal of Otolaryngology and Head and Neck Surgery*, 64 (1), pp. 36-41. Cited 11 times.
doi: 10.1007/s12070-011-0150-9
[View at Publisher](#)
-
- 5 Akter, S, Shamsuzzaman, SM, Nehar, N, Siddique, I, Ferdush, J, Islam, S.
Bacterial isolates and drug susceptibility patterns of ear discharge from patients with ear infection at Shaheed Monsur Ali Medical College
(2015) *Bangladesh J Med Microbiol*, 9 (2), pp. 20-23. Cited 3 times.
-
- 6 Asima, B, Samhitha, V, Presteena, Karthik S.
Spectrum and antibiogram of bacteria in chronic suppurative otitis media and biofilm formation
(2017) *J Stem Cell Res Ther*, 2 (4), pp. 115-118.
-
- 7 Jensen, R.G., Johansen, H.K., Bjarnsholt, T., Eickhardt-Sørensen, S.R., Homøe, P.
Recurrent otorrhea in chronic suppurative otitis media: is biofilm the missing link?
(2017) *European Archives of Oto-Rhino-Laryngology*, 274 (7), pp. 2741-2747. Cited 16 times.
link.springer.de/link/service/journals/00405/index.htm
doi: 10.1007/s00405-017-4586-8
[View at Publisher](#)
-
- 8 Chirwa, M., Mulwafu, W., Aswani, J.M., Masinde, P.W., Mkakosya, R., Soko, D.
Microbiology of chronic suppurative otitis media at Queen Elizabeth central hospital, Blantyre, Malawi: A cross-sectional descriptive study ([Open Access](#))
(2015) *Malawi Medical Journal*, 27 (4), pp. 120-124. Cited 14 times.
<http://www.ajol.info/index.php/mmj/article/download/127724/117252>
doi: 10.4314/mmj.v27i4.1
[View at Publisher](#)
-
- 9 Govindaraj, S, Vadakkanethu, JI, Srinivasa, V, Jayendiran, S.
Bacteriological profile and their antibiotic susceptibility pattern in chronic suppurative otitis media (TTD) in a tertiary care hospital
(2019) *Int J Otorhinolaryngol Head Neck Surg*, 5 (4), pp. 871-875.
-
- 10 Tesfa, T., Mitiku, H., Sisay, M., Weldegebreal, F., Ataro, Z., Motbaynor, B., Marami, D., (...), Teklemariam, Z.
Bacterial otitis media in sub-Saharan Africa: A systematic review and meta-analysis ([Open Access](#))
(2020) *BMC Infectious Diseases*, 20 (1), art. no. 225. Cited 2 times.
<http://www.biomedcentral.com/bmcinfectdis/>
doi: 10.1186/s12879-020-4950-y
[View at Publisher](#)
-
- 11 Uddén, F., Filipe, M., Reimer, A., Paul, M., Matuschek, E., Thegerström, J., Hammerschmidt, S., (...), Riesbeck, K.
Aerobic bacteria associated with chronic suppurative otitis media in Angola ([Open Access](#))
(2018) *Infectious Diseases of Poverty*, 7 (1), art. no. 42. Cited 12 times.
<http://www.idpjournals.com/>
doi: 10.1186/s40249-018-0422-7
[View at Publisher](#)

□ 12 Collee, JG, Miles, RS, Watt, B.
(1996) *Mackie & McCartney's Practical Medical Microbiology*, pp. 95-111. Cited 40 times.
14th eds. Collee JG, Fraser AG, Marmion BP, Simmons A, Eds.; Churchill Livingstone, New York

□ 13 (2020) *Performance Standards for Antimicrobial Susceptibility Testing*. Cited 312 times.
CLSI. 30th ed. CLSI supplement M100. Wayne, PA: Clinical and Laboratory Standards Institute
www.clsi.org

□ 14 Magiorakos, A.-P., Srinivasan, A., Carey, R.B., Carmeli, Y., Falagas, M.E., Giske, C.G., Harbarth, S., (...), Monnet, D.L.
Multidrug-resistant, extensively drug-resistant and pandrug-resistant bacteria: An international expert proposal for interim standard definitions for acquired resistance
([Open Access](#))

(2012) *Clinical Microbiology and Infection*, 18 (3), pp. 268-281. Cited 4819 times.
[http://onlinelibrary.wiley.com.ezlib.iium.edu.my/journal/10.1111/\(ISSN\)1469-0691](http://onlinelibrary.wiley.com.ezlib.iium.edu.my/journal/10.1111/(ISSN)1469-0691)
doi: 10.1111/j.1469-0691.2011.03570.x

[View at Publisher](#)

□ 15 Huttner, A., Harbarth, S., Carlet, J., Cosgrove, S., Goossens, H., Holmes, A., Jarlier, V., (...), Pittet, D.
Antimicrobial resistance: A global view from the 2013 World Healthcare-Associated Infections Forum ([Open Access](#))

(2013) *Antimicrobial Resistance and Infection Control*, 2 (1), art. no. 31. Cited 229 times.
<http://www.aricjournal.com/content/2/1/31>
doi: 10.1186/2047-2994-2-31

[View at Publisher](#)

□ 16 Shaheen, M.M., Nahar, S.
Comparison of chronic suppurative otitis media in rural and urban primary school children in Bangladesh

(2014) *Journal of Laryngology and Otology*, 128 (6), pp. 499-503. Cited 8 times.
<http://journals.cambridge.org.ezlib.iium.edu.my/action/displayJournal?jid=JLO>
doi: 10.1017/S0022215114001054

[View at Publisher](#)

□ 17 Sahu, MC, Swain, SK.
Surveillance of antibiotic sensitivity pattern in chronic suppurative otitis media of an Indian teaching hospital
(2019) *World J Otorhinolaryngol-Head Neck Surg*, 5 (2), pp. 88-94. Cited 3 times.

□ 18 Khan, JA, Paul, SK, Chowdhury, CS, Mostafa, MG, Kamruzzaman, M, Paul, BK
Bacteriology of Chronic Suppurative Otitis Media (CSOM) at a Tertiary Care Hospital, Mymensingh
(2020) *Mymensingh Med J*, 29 (3), pp. 545-552.

□ 19 Mofatteh, M.R., Shahabian Moghaddam, F., Yousefi, M., Namaei, M.H.
A study of bacterial pathogens and antibiotic susceptibility patterns in chronic suppurative otitis media ([Open Access](#))

(2018) *Journal of Laryngology and Otology*, 132 (1), pp. 41-45. Cited 11 times.
<http://journals.cambridge.org.ezlib.iium.edu.my/action/displayJournal?jid=JLO>
doi: 10.1017/S0022215117002249

[View at Publisher](#)

- 20 Endaylalu, K., Abera, B., Mulu, W.
Extended spectrum beta lactamase producing bacteria among outpatients with ear infection at FelegeHiwot Referral Hospital, North West Ethiopia ([Open Access](#))

(2020) *PLoS ONE*, 15 (9 September), art. no. e0238891.
<https://journals.plos.org/plosone/article/file?id=10.1371/journal.pone.0238891&type=printable>
doi: 10.1371/journal.pone.0238891

[View at Publisher](#)

- 21 Shetty, AK, Shetty, A.
Aerobic bacteriological profile and their antibiotic susceptibility in Chronic Suppurative Otitis Media in patients from Mangalore, Karnataka State
(2014) *J Acad Clin Microbiol*, 16, pp. 3-7. Cited 5 times.

- 22 Garima, Chaurasia D, Poorey, VK.
Antimicrobial susceptibility pattern of bacterial isolates from chronic suppurative otitis media patients in Central India
(2016) *Indian J Microbiol Res*, 3 (4), pp. 373-382. Cited 2 times.

- 23 Sattar, A., Alamgir, A., Hussain, Z., Sarfraz, S., Nasir, J., Badar-e-Alam
Bacterial spectrum and their sensitivity pattern in patients of chronic suppurative otitis media

(2012) *Journal of the College of Physicians and Surgeons Pakistan*, 22 (2), pp. 128-129. Cited 15 times.
<http://www.jcpsp.pk/archive/2012/Feb2012/18.pdf>

🔍 Salam, M.A.; Department of Basic Medical Sciences, Kulliyah of Medicine, International Islamic University Malaysia, Kuantan, Pahang, Malaysia; email:abdussalam@iiu.edu.my

© Copyright 2021 Elsevier B.V., All rights reserved.

[< Back to results](#) | 1 of 1

[^ Top of page](#)

About Scopus

[What is Scopus](#)
[Content coverage](#)
[Scopus blog](#)
[Scopus API](#)
[Privacy matters](#)

Language

[日本語に切り替える](#)
[切换到简体中文](#)
[切换到繁體中文](#)
[Русский язык](#)

Customer Service

[Help](#)
[Contact us](#)

ELSEVIER

[Terms and conditions](#) ↗ [Privacy policy](#) ↗

Copyright © Elsevier B.V. ↗. All rights reserved. Scopus® is a registered trademark of Elsevier B.V.

We use cookies to help provide and enhance our service and tailor content. By continuing, you agree to the use of cookies.

 RELX