



BACTERIOLOGICAL PROFILE IN OTITIS EXTERNA – PROSPECTIVE STUDY IN A TERTIARY CARE HOSPITAL

Dr.K Anusha	Junior resident ,KIMS and RF , amalapuram.
Dr Ravikumar Raju	Professor And Head of The Department ENT ,KIMS And RF, Amalapuram.
K.Aditya Vittal	IIM,Sirmaur.

ABSTRACT

OBJECTIVE : To assess the microbiological profile in ears infected with otitis externa and analyse demographics such as age, gender and associated factors in relation to isolated organism.

METHODS : This study included 80 individuals with clinical diagnosis of otitis externa. Discharge from external auditory canal was obtained with sterile swabs and cultured for bacterial pathogens.

RESULTS : Bacteria were found in 71(78.9%) of 90 swabs collected. Staphylococcus aureus was commonest 30 (33.3%) followed by pseudomonas aeruginosa 16 (17.7%) ,Coagulase neactive staphylococcus 10(11.1%), proteus 9 (10%) and Streptococcus 4 (6.6%) . 19(21.1%) samples did not show any growth.

CONCLUSION : Staphylococcus is the most common cause of otitis externa in non diabetics . Pseudomonas is the most common organism isolated in diabetics.

KEYWORDS :

INTRODUCTION :

Otitis externa is the inflammation of external ear canal.It can be seen in all age groups.Main symptoms include otalgia, hearing loss, fullness of ears, erythema, edema and narrowing of ear canal,tinnitus, fever, itching and purulent discharge.

AIMS AND OBJECTIVES :

- 1) To assess bacteriological profile from aural swabs obtained from patients in a tertiary care centre.
- 2) To analyse demographics such as age, gender and associated factors in relation to isolated organism.

MATERIALS AND METHODS :

Present study of bacteriological profile in otitis externa has been carried out in the department of ENT, konaseema institute of medical sciences,Amalapuram over a period of six months i.e from June 2021 – November 2021.

During this period,patients who presented with ear discharge were evaluated and 80 patients were included in the study after taking their consent.

Inclusion Criteria:

- 1) All patients attending ENT outpatient department with ear discharge.
- 2) Age between 10-60 years.
- 3) Both males and females.

Exclusion Criteria:

- 1) Age less than 10 years and more than 60 years.
- 2) Patients having tympanic membrane perforation.
- 3) Patients with history of antimicrobial therapy in last 7 days.
- 4) Patients not willing to participate in the study.

METHODOLOGY :

Two aural swabs were taken from diseased external auditory canal of patients included in the study maintaining asepsis and were sent for microscopic analysis and culture.The samples were cultured on blood agar and McConkey agar.Out of the 2 aural swabs taken, one is sent for direct grams staining and the other for bacteriological culture.

RESULTS :

Bacterial pathogens were found in 71(78.9%) of 90 samples.Staphylococcus was the commonest bacteria 30(33.3%) followed by pseudomonas aeruginosa 16(17.7%),Coagulase negative Staphylococcus 10(11.1%),

proteus 9(10%), Streptococcus pneumoniae 6(6.6%) and 19(21.1%) samples were sterile.

DISCUSSION :

Out of the 80 patients 47 were male and 33 were female.This is in favour of study done by Koppad,10 Lodhi et Al.,11 Yousuf et al.,12 Kumar and Seth13 and Gul et al.,14 where males were predominant.

In this study,age group 40-50 had higher prevalence of otitis externa.A total of 24 patients(31.1%) were found in this age group.

Table no. 1

Age	No.	%	Male	%	Female	%
10- 20	15	16.6%	12	80%	3	20%
20-30	10	11.1%	6	60%	4	40%
30-40	11	12.2%	6	54.5%	5	45.4%
40-50	24	31.1%	14	57.1%	10	42.8%
50-60	20	28.8%	9	46.1%	11	53.8%

Among the 80 patients ,70 had unilateral ear disease where as 10 had bilateral ear disease. So a total of 90 samples were taken from diseased ears of 80 patients.Out of the 90 samples , 19 were sterile and remaining 71 showed isolated organisms. 46 were gram positive and 25 were gram negative.Studies performed by Vaidya et al and Loy et al also showed gram positive predominance.Altogther 5 different bacterial isolates were found in our study. Among the isolates, Staphylococcus aureus 30(33.3%) is the most common organism followed by pseudomonas aeruginosa 16(17.7%), Coagulase negative Staphylococcus 10(11.1%), Proteus 9(10% 10(11.1%), Proteus 9(10%) and Streptococcus 6(6.6%).This result is in harmony with study done by Shrestha et al, Kristi and Buljan, Ayson et al and Nia et al.

Organism	Non DM ears	Pre DM ears	DM ears	Total No. of ears
Pseudomonas	4	1	11	16
Staphylococcus	22	2	6	30
CONS	6	2	2	10
Proteus	6	2	1	9
Streptococcus	4	2	-	6
Sterile	12	4	3	19

Out of 80 patients ,52 were non diabetic ,8 were prediabetic and 20 were diabetic.Among the diabetics most common organism isolated was Pseudomonas(55%) followed by Staphylococcus aureus (20%) Coagulase negative

Staphylococcus (5%) ,Proteus(5%).15% cultures were sterile in diabetics.

In non diabetics most common organism isolated was Staphylococcus (42.3%) followed by Coagulase negative Staphylococcus (11.5%),Proteus(9.6%), Streptococcus (7.6%) and pseudomonas (7.6%).9.6% of cultures obtained from non diabetics were sterile.

CONCLUSION :

Bacterial infections of external ear canal are most often caused by Staphylococcus aureus.Gram positive isolates were higher (64.7%) than gram negative isolates (35.2%), Staphylococcus aureus being most common. In diabetics most common organism isolated was Pseudomonas aeruginosa and in non diabetics most common organism isolated was Staphylococcus aureus.

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