

Analysis of Bacteriological Profile in Chronic Suppurative Otitis Media with Cholesteatoma

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ABSTRACT

Objectives: The objective of the study was to detect and analyze the bacteriological profile in cases of chronic suppurative otitis media with cholesteatoma and to assess the commonest organism found in cases of chronic suppurative otitis media with cholesteatoma.

Material and methods: A total of 75 cases of chronic suppurative otitis media with cholesteatoma were admitted in E.N.T. Unit-1, Mayo Hospital, Lahore. Each patient had essential work up which included detailed history, clinical examination, investigations, otoscopic examination and examination under microscope of the ear and culture/sensitivity of the discharge.

Results: In this study, the commonest pathogenic organism in order of frequency found in cases of cholesteatoma was Staphylococcus aureus 54%, Pseudomonas aureginosa 20%, Mixed 10%, Proteus 5%, others 3% and 8% cases showed no growth.

Statistical analysis: Data was analysed using SPSS 13. Non parametric chi square test for proportion was used P-value less than 5% was considered as significant

Conclusion: Staphylococcus aureus was the commonest organism found in the cases of chronic suppurative otitis media with cholesteatoma.

Keywords: chronic suppurative otitis media, cholesteatoma, staphylococcus aureus.

INTRODUCTION

Cholesteatoma defined by Friedman, 1971, as a "cystic structure lined by keratinizing stratified squamous epithelium resting on fibrous stroma of variable thickness may be containing some element of original mucous lining".¹

Chronic otitis media refers to an inflammatory process within the middle ear cleft, association with irreversible tissue pathology. It may be active with ongoing suppuration or inactive demonstrating sequelae of previous infection.²

Organisms cultured from the discharge in an infected cholesteatoma are similar to those found in chronic suppurative otitis media without cholesteatoma. The commonest organisms found are Gram negative pseudomonas aureginosa and proteus species.³ In Approximately 50 percent of infected cholesteatomas a mixture of aerobic and anaerobic organisms can be identified.⁴

In cholesteatoma, a role of anaerobic and aerobic bacteria in the destructive process has been suggested. In a study, staphylococcus aureus was isolated in cholesteatoma ears more frequently than pseudomonas aureginosa and followed by Proteus.⁵

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AIMS AND OBJECTIVES

The objective of the study was to detect and analyse the bacteriological profile in cases of chronic suppurative otitis media with cholesteatoma. And to assess the most common organism found in cases of chronic suppurative otitis media with cholesteatoma.

MATERIAL AND METHODS

A total of 75 cases of chronic suppurative otitis media with cholesteatoma were admitted through E.N.T Outpatient department and emergency in E.N.T. Unit-1, Mayo Hospital, Lahore between July 2002 to July 2005. Each patient had the essential the work up according to the specific Proforma. It includes history including history of present illness, past history, family history and socio-economic status history, examination and investigations of ear, nose and throat including otoscopic and microscopic examination of ear, culture and sensitivity of the discharge from the ear.

RESULTS

In this study, the most common pathogenic bacteria found in infected cholesteatoma were Staphylococcus aureus 54%, Pseudomonas aureginosa 20%, Mixed 10%, Proteus 5%, others 3% and 8% cases showed no growth. (Graph I)

Graph I

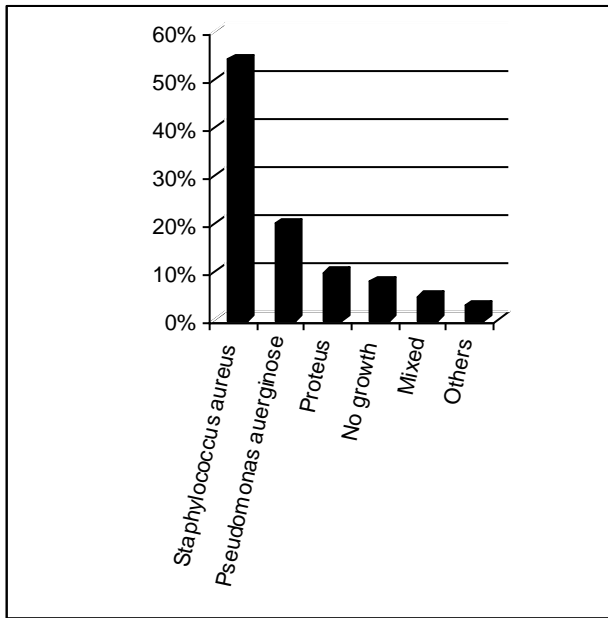


Table I

| Organism | No. of patients | Culture | %age |
|------------------------|-----------------|---------|------|
| Staphylococcus Aureus | 75 | 41 | 54% |
| Pseudomonas Auerginose | 75 | 15 | 20% |
| Proteus | 75 | 7 | 10% |
| Mixed | 75 | 4 | 5% |
| Others | 75 | 2 | 3% |
| No Growth | 75 | 6 | 8% |

P-value=0.000(Significant)

DISCUSSION

Chronic suppurative otitis media is a persistent disease with insidious onset and can cause dangerous life threatening complications if left untreated or treated inadequately and are frequent in conjunction with cholesteatoma.

All the seventy-five cases of chronic suppurative otitis media presented with the common complaint of ear discharge (100%).

The most common pathogenic bacteria found in cases of chronic suppurative otitis media with cholesteatoma were *Staphylococcus aureus* 54%, *Pseudomonas aeruginosa* 20%, Mixed 10%, *Proteus* 5%, 8% cases showed no growth and others 3%. Our study differs from another study which showed *pseudomonas auerginosa* in 51% cases, *staphylococcus aureus* in 31% cases and *proteus* species in 17% cases. 12.5% cases of chronic suppurative otitis media with cholesteatoma showed no growth⁶.

CONCLUSION

Chronic suppurative otitis media is a common ailment in the domain of otorhinolaryngology. Only 8% cases showed no growth in cases of chronic suppurative otitis media with cholesteatoma while the rest of the cases showed bacterial growth.

Our study showed the most common organism found in the cases of chronic suppurative otitis media with cholesteatoma was *staphylococcus aureus* which was found in 54% of cases. *Pseudomonas aeruginosa* in 20% cases, *proteus* species in 5% cases and mixed bacterial invasion in 10% cases.

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