

Original article:

Study of pattern of hearing loss in CSOM in Indian Population

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Abstract:

Introduction: Chronic suppurative otitis media is the commonest cause of hearing loss. The deafness caused by chronic suppurative otitis media of safe type was usually considered to be purely of conductive type. With this background present study was planned to study of pattern of hearing loss in CSOM in Indian Population.

Methodology: One hundred patients of chronic suppurative otitis media with sensorineural hearing loss, either alone or more commonly, with mixed loss were studied in this series. The patients were carefully selected after proper history and careful examination to exclude the above mentioned criteria to rule out the other possible causes of sensorineural loss. Type of pathology in each of these ears was the main factor taken into consideration.

Results: In our study the pattern of hearing loss was 83% conductive and 17% mixed.

Conclusion : In the analysis of mixed hearing loss in safe and unsafe type of chronic suppurative otitis media was observed.

Keywords: chronic suppurative otitis media

Introduction:

Chronic suppurative otitis media is the commonest cause of hearing loss. The deafness caused by chronic suppurative otitis media of safe type was usually considered to be purely of conductive type. ¹In unsafe type of chronic suppurative otitis media, the sensorineural deafness is known, usually due to labyrinthitis. It has been observed in our clinical practice that many cases of safe as well as unsafe type of chronic suppurative otitis media without complications, shows a sensorineural element also. In some cases even dead ears are seen in safe type of chronic suppurative otitis media.² With this background present study was planned to study of pattern of hearing loss in CSOM in Indian Population.

Methodology:

One hundred patients of chronic suppurative otitis media with sensorineural hearing loss, either alone or more commonly, with mixed loss were studied in this series. The patients were carefully selected after proper history and careful examination to exclude the above mentioned criteria to rule out the other possible causes of sensorineural loss. Type of pathology in each of these ears was the main factor taken into consideration. The present work was approved by Institutional ethical committee. The sample size was determined with the help of expert with previous papers published concern with this issue. The routine OPD patients were included in present work.

Observations and results:

Table No. 1 : PATTERN OF HEARING LOSS

TYPE OF HEARING LOSS	INCIDENCE (n 100)	SAFE (n 50)	UNSAFE (n 50)
CONDUCTIVE	83%	92%	74%
MIXED	17%	8%	26%

In our study the pattern of hearing loss was 83% conductive and 17% mixed.

Table No. 2 : DEGREE OF SENSORINEURAL HEARING LOSS

BONE CONDUCTION THRESHOLD RANGE	No. of Patients with SN component of hearing loss
5 dB -10dB	-
10dB-15dB	-
15dB-20dB	-
20dB-25dB	2
25dB-30dB	4
30dB-35dB	2
>35dB	9

In our study the degree of sensorineural component of hearing loss was >35db in majority of the cases

The mean bone conduction threshold values were obtained by mean value of threshold at frequencies 250, 500, 1000, 2000 and 4000 Hz. These mean bone conduction thresholds were studied in various pathological lesions in middle ear.

Discussion

Sensorineural loss, either alone or with conductive loss may occur in acute as well as chronic suppurative otitis media. 100 cases of Chronic suppurative otitis media examined clinically and with aid of audiometry showed 17 patients with mixed hearing loss. This incidence of 17% suggests the need of further study of these cases, as was done in this series. The cases selected for the study were divided into four groups based on age group to which they belonged to. Incidence of sensorineural

hearing loss was found using bone conduction thresholds.

When the age of patients was compared with incidence of sensorineural hearing loss, a progressively increasing incidence of sensorineural hearing loss was found as age advanced. The incidence of sensorineural hearing loss was 11.43% in the age group of 11-20 years and progressively rose to 37.5% for the age group 41-50 years, indicating that age was risk factor in evolution of sensorineural hearing loss in patient with Chronic suppurative otitis media. Similar

correlation has been reported by Munker G (1981) , de Azevedo , Pinta DC et al (2007). This was against the conclusions by Cusimano F et al (1989),E S Kolo et al (2012) who found no correlation between age of the patient with CSOM and degree of hearing loss.^{3,4,5,6}

Bone conduction thresholds were used to define the degree of sensorineural hearing loss. In our study sensorineural hearing loss was defined as bone conduction loss of 20dB or more at frequencies 250 Hz,

500 Hz, 1000 Hz , 2000 Hz and 4000Hz. The degree of hearing loss was >35db in majority of the patients. This is consistent with the study done by de Azevedo et al (2007) in which hearing loss was 40dB in the diseased ear ,but was in disagreement with studies by Parparella et al (1970).^{7,8}

Conclusion:

In the analysis of mixed hearing loss in safe and unsafe type of chronic suppurative otitis media was observed.

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