

**Original article:**

**Association of age of patients and hearing loss : Qualitative study**

**<sup>1</sup>Dr Anshuman Roy, <sup>2</sup>Dr Mayur Ingale, <sup>3</sup>Dr James Thomas, <sup>4</sup>Dr. Poorva kale, <sup>5</sup>Dr Muneer K calicut**

<sup>1</sup>Senior Resident, Dept of ENT, BABA RAGHAV DAS MEDICAL COLLEGE, Gorakhpur, UP 273013.

<sup>2</sup>Assistant professor, Dept of ENT, Dr D. Y. Patil medical college, Pune.

<sup>3</sup>Professor & HOD, Dr. D. Y. Patil medical college, Pune.

<sup>4</sup>Resident, Dr. D. Y. Patil Medical College, Pune.

<sup>5</sup>Resident, Dr D. Y. Patil Medical College, Pune.

**Corresponding author:** Dr Mayur Ingale

---

**Abstract:**

**Introduction:** A survey conducted by Indian Council of Medical Research (ICMR, 1983) has reported that the major aetiological factor responsible for hearing loss in rural area is Chronic suppurative otitis media (42.4%). In urban areas it is responsible for 23.1% of all cases of deafness. With this view we studied association of age of patient and hearing loss in urban 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.

**Observations:** Patients of 11 to 50 years of age are included in the series. Patients less than 10 years were excluded to avoid the audiological misinterpretations, by improving patient reliability. Patients more than 50 years were excluded to avoid the factor of presbycusis.

**Conclusion:** In our study, the incidence of sensorineural hearing loss increased with advancing age, indicating that increasing age was risk factor in evolution of sensorineural hearing loss in patient with chronic suppurative otitis media.

**Keywords:** chronic suppurative otitis media

---

**Introduction**

Worldwide 360 million, i.e. 5% of World's population, have disabling hearing loss (WHO fact sheet, Feb 2013) of which half of the hearing disabilities are preventable.<sup>1</sup> Among the various causes of deafness Chronic suppurative otitis media is the major disorder in our country and also globally. WHO in 2004 mentioned, the worldwide prevalence of Chronic suppurative otitis media is 65-330 million people and 39-200 million (60%) suffer clinically significant hearing impairment

(WHO, 2004).<sup>2</sup> However with the advent of antibiotics and sophisticated techniques the complications of CSOM have tremendously come down (Miura et al, 2005) and the hearing impairment is now regarded the main health issue.<sup>3</sup> A survey conducted by Indian Council of Medical Research (ICMR, 1983) has reported that the major aetiological factor responsible for hearing loss in rural area is Chronic suppurative otitis media (42.4%).<sup>4</sup> In urban areas it is responsible for 23.1% of all cases of deafness. With this view we studied

association of age of patient and hearing loss in urban population.

**Methodology:**

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. 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. Age group was considered and noted statistically .

**Observations:**

Patients of 11 to 50 years of age are included in the series. Patients less than 10 years were excluded to avoid the audiological misinterpretations, by improving patient reliability. Patients more than 50 years were excluded to avoid the factor of presbycusis.

The following table shows the incidence of sensorineural hearing loss increases with advancing age, showing that age is risk factor in evolution of sensorineural hearing loss.

**Table No. 1 : INCIDENCE OF SNHL IN DIFFERENT AGE GROUPS**

Age Group of Patients	No. of Patients with CSOM	Incidence of SN component of hearing loss
11-20	35	2 (5.71%)
21-30	25	4 (16.00%)
31-40	24	5 (20.81%)
41-50	16	6 (37.50%)
<b>TOTAL</b>	<b>100</b>	

**Table No. 2 : AGE WISE DISTRIBUTION OF SAFE AND UNSAFE CSOM**

AGE GROUP (YEARS)	TYPE OF CSOM	
	SAFE	UNSAFE
11-20	17	18
21-30	14	11
31-40	12	12
41-50	7	9
	50	50

### Discussion

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.<sup>4,5,6,7</sup>

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).<sup>6,8</sup>

### Conclusion:

In our study, the incidence of sensorineural hearing loss increased with advancing age, indicating that increasing age was risk factor in evolution of sensorineural hearing loss in patient with chronic suppurative otitis media.

### References

1. WHO Fact sheet Feb'2013.
2. WHO. Chronic suppurative otitis media, burden of illness and management options. 2004, CHILD\_HEALTH/ISBN\_92\_4\_159158\_7.pdf
3. Miura MS, Krumennauer RC, Lubianca Neto JF (2005) Intracranial complications of chronic suppurative otitis media in children. Braz J Otorhinolaryngol 71(5):639-643.
4. Report on prevalence and aetiology of hearing impairment ICMR, New Delhi 1983.
5. Harada et al, Ototoxicity of Neomycin and its penetration through the round window membrane into the perilymph. Ann Otol Rhinol Laryngol 1986, 95(4 pt 1):404-8.
6. Podoshin L, Fradis M, Ben David J, Ototoxicity of ear drops in patients suffering from chronic otitis media. The Journal of Laryngology and Otology (1989), 103(1):46-50.
7. Yamasoba T, Tsukuda K. Ototoxicity after use of neomycin eardrops is unrelated to A1555G point mutation in mitochondrial DNA. J Laryngol Otol 2004; 118: 546-50.
8. Hui Y, Park A, Crysedale W, Forte V. Ototoxicity from ototopical aminoglycosides. J Otolaryngol 1997; 26: 53-6.