

CLINICOPATHOLOGICAL STUDY OF 100 CASES OF CHRONIC SUPPURATIVE OTITIS MEDIA IN TERTIARY HEALTH CARE CENTRE

V. P. Narve¹, Pallavi Gupta², Rajveer Basu³, Manish Sachan⁴, Kavish Jhavar⁵, Freni J.K⁶, Mohit Punjabi⁷

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ABSTRACT: AIM: To study the prevalence and clinicopathological profile of Chronic suppurative otitis media cases. **MATERIAL & METHODS:** The present study was conducted on 100 cases of CSOM attending ENT OPD, G.R. Medical College & J.A. Group of hospitals, Gwalior, M.P. from February 2013 to June 2013. It was a prospective tertiary hospital based study. **RESULT:** CSOM is found to be prevalent in the second and third decades of life in people belonging to lower socio-economic status coming to the hospital with the chief complains of ear discharge and hearing loss. **CONCLUSION:** CSOM is the most common cause of preventable hearing loss in our country which causes major handicap amongst the youth and increases the burden over the society. Its prevalence can be reduced by increasing the awareness in the society regarding ear discharge and hearing loss. **KEYWORDS:** CSOM, cholesteatoma, otorrhea, suppurative,

INTRODUCTION: Chronic suppurative otitis media (CSOM) is an important middle ear disease since prehistoric times ^(1, 2). CSOM is the commonest cause of persistent mild to moderate hearing impairment in children and young adults in developing countries. Studies in Bangladesh, India, various countries in Africa and amongst certain disadvantaged ethnic groups have shown that CSOM may have a prevalence of between 2&17% among children ⁽³⁾.

In India chronic suppurative otitis media is one of the most common conditions met with in the Ear, Nose & Throat outpatient department. Most cases are sequelae of acute suppurative otitis media, either which has not been treated or treated inadequately. The majority of the patients are children, who as a result of the disease loose effective hearing with the result that they can't pursue their studies. This handicap reduces their utility to the state, thus resulting in a great national loss.

CSOM is the name given to long standing inflammatory disease affecting mucoperiosteal lining of the middle ear. It is a destructive and persistent disease with irreversible sequelae and can lead to various intra and extra cranial complications. It is a disease of multiple etiologies and is well known for its persistence and recurrence inspite of the treatment.

Chronic suppurative otitis media ranges from a relatively benign condition to a cause of death. In most cases it is painless and the otorrhea may be intermittent, appearing only when an upper respiratory tract infection occurs. The effect on hearing is variable; the hearing loss is often slight even though both ears are affected. It may be accepted that the longer the ear discharge persists the worse the hearing gets and in some cases the deafness may be profound. This is especially so when nerve deafness is added.

A traditional way of sub diving chronic suppurative otitis media has been into 'safe' and 'unsafe' ear disease. The so called 'safe' disease was characterized by a central perforation of the pars tensa and was also called tubo- tympanic disease to indicate disease of the Eustachian tube and tympanic cavity. The inflammatory process affected the mucosa of the middle ear cleft. 'Unsafe'

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disease was typified by a marginal perforation of the postero-superior pars tensa or of the pars flaccida and was also called atticofurcal disease. Cholesteatoma was almost always present. Bone erosion, with potentially dangerous results, was an inherent pathological feature. Another synonym has been erosive middle ear disease.

An important factor responsible for the chronicity is the peculiar anatomy of the middle ear. The infection here keeps lurking in the small spaces of the middle ear and in the mastoid air cells. The middle ear is also liable to repeated infection from the nasopharynx along the Eustachian tube.

Another handicap is the amount of time that has to be spent in the treatment. In some cases, it is a matter of years and it is often given up because it is tedious and uncertain. It responds very poorly to routine antibiotics. This is probably due to the fact that many of the cases are due to mixed infections and in a majority of cases the organisms responsible are resistant to the commonly used antibiotics, which have been widely employed during the last 15 years. The antibiotics era has directly or indirectly resulted in a new breed of resistant organisms as a result of mutation. *Micrococcus pyogenes* and *Staphylococcus aureus* today present a serious problem. It is therefore; clear that the treatment may become progressively more difficult, because of the increased number of resistant organisms found in hospitals.

MATERIALS AND METHODS: The study was carried out in hundred patients attending outpatient department of otorhinolaryngology, G.R. Medical College & J.A. Group of hospitals, Gwalior (MP) between February 2013 to June 2013.

A baseline data of cases were recorded including history, general examination, systemic examination, and otorhinological examination. Data was collected as per variables like age, sex, presenting complaints, socio-demographic status, risk factors, type of CSOM and the laterality of ear involved.

RESULTS& DISCUSSION: Hundred patients with a history of ear discharge for more than 3 months were studied. Of them , 69% cases belonged to second and third decades (Table no. 1) .The reason for highest incidence of patients in this age group may be due to multiple reasons like low resistance or increased awareness in young patients about disease, seek treatment before joining jobs or accessibility to hospital is easier for this group of patients⁽⁴⁾. Aberg ⁽⁵⁾ reported a mean age of 41 years, Vartiainen ⁽⁶⁾a mean age of 38 years, Alho ⁽⁷⁾a mean age of 42 years, Maharjan M ⁽⁸⁾ reported a mean age of 34 years.

Majority of the patients in the study conducted were males (Table no.2) accounting to 57%. The percentage shows that there is not much difference in the sex prevalence. ⁽⁹⁾

Of all the cases, 67% patients belonged to the lower socio-economic group ^(10, 11) (Table no. 3). Families of a lower social class often have more children and live in more congested homes with poor sanitation and hygiene, all of which create environmental conditions conducive to transmission of infectious agents. In addition malnutrition, which commonly accompanies low socio-economic status, suppresses the immune system and places poor children at greater risk of disease.

Out of 100 patients under study, 58% of the patients suffered from bilateral CSOM (Table no. 4). Study done by Akinpelu OV et al. (2007) ⁽¹²⁾ and Maharjan M. et al (2009) ⁽⁸⁾ have similar results. 23% cases had complains in left ear.

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All the cases of CSOM under study presented with ear discharge. Hearing loss was associated with discharge in 92% of cases ⁽¹³⁾. Earache was the next most common complaint while swelling around the ear, vertigo, vomiting, facial nerve paralysis ⁽¹⁴⁾ and other complaints were seen only in complicated cases (Table no. 5).

Examination findings showed that most of the cases had mucopurulent discharge (63%) with medium sized (43%) central perforation ⁽¹⁵⁾. Mastoid tenderness, swelling around the ear, granulation tissues, polyp and facial paralysis were seen only in few cases ⁽⁹⁾.

Tuning fork tests were done to determine the type of hearing loss and 79% cases were found to have pure conductive deafness, while only 4% cases had sensorineural deafness. 17% patients showed mixed type of hearing loss. (Table no. 7). ⁽¹⁶⁾

Majority of the cases (77%) had safe CSOM with central perforation while only 23 cases had attic perforation with granulation tissue, cholesteatoma and polypoidal changes (Table no.8) ⁽¹⁶⁾

CONCLUSION: Chronic Suppurative Otitis Media (CSOM) with and without complications continues to affect a large number of patients particularly in developing countries. CSOM is a common health problem in our country, affecting especially the lower socio-economic group of people. It is an important cause of morbidity in very large group of Indian population in the form of preventable hearing loss. This morbidity becomes severe as duration of the disease progresses. Students with CSOM are facing learning difficulties due to deafness, which affect their education resulting in increased burden over country. Abscess related to mastoid is still the most common complication of CSOM followed by intra cranial complications. These complications were more in patients with unsafe perforations. These complications mandate close cooperation between ENT surgeons and neurosurgeons.

CONSENT: Written informed consent was obtained from all the patients for publication of this case study.

FUNDING: None

CONFLICT OF INTEREST: None

TABLES:

TABLE NO. 1: AGE WISE DISTRIBUTION

| AGE IN YEARS | No. OF CASES |
|--------------|--------------|
| 1-10 | 12 |
| 11-20 | 28 |
| 21-30 | 41 |
| 31-40 | 08 |
| 41-50 | 06 |
| >50 | 05 |
| Total | 100 |

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TABLE NO. 2: SEX WISE DISTRIBUTION

| SEX | No. OF CASES |
|---------|--------------|
| Males | 57 |
| Females | 43 |
| TOTAL | 100 |

TABLE NO. 3: DISTRIBUTION BY SOCIO-ECONOMIC STATUS

| SOCIAL CLASS | No. OF CASES |
|--------------|--------------|
| Lower | 67 |
| Lower Middle | 26 |
| Upper Middle | 05 |
| Upper | 02 |
| Total | 100 |

TABLE NO. 4: LATERALITY OF DISEASE

| SIDE | No. OF CASES |
|-----------|--------------|
| Bilateral | 58 |
| Right Ear | 19 |
| Left Ear | 23 |
| Total | 100 |

TABLE NO. 5: PRESENTING COMPLAINTS

| SYMPTOMS | No. OF CASES |
|-------------------------|--------------|
| Ear Discharge | 100 |
| Hearing Loss | 92 |
| Earache | 37 |
| Tinnitus | 18 |
| Swelling around the ear | 21 |
| Headache | 23 |
| Fever | 13 |
| Vomiting | 08 |
| Itching | 09 |
| Vertigo | 05 |
| Convulsions | 00 |
| Facial weakness | 01 |

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Table No. 6: EXAMINATION FINDINGS

| FINDINGS | NO. OF CASES |
|-------------------------|--------------|
| DISCHARGE | |
| Mucopurulent | 63 |
| Purulent | 22 |
| Mucoid | 15 |
| Foul smelling | 42 |
| Blood stained | 14 |
| Perforation | |
| Small | 31 |
| Medium | 43 |
| Large | 14 |
| Subtotal | 03 |
| Attic | 09 |
| Others | |
| Mastoid tenderness | 08 |
| Swelling around the ear | 07 |
| Granulation tissue | 11 |
| Polyp | 04 |
| Facial nerve paralysis | 02 |

Table No. 7: Type of hearing loss

| TYPE | NO. OF CASES |
|---------------|--------------|
| Conductive | 79 |
| Sensorineural | 04 |
| Mixed | 17 |
| Total | 100 |

TABLE NO. 8: TYPE OF CSOM

| TYPE OF CSOM | NO. OF CASES |
|--------------|--------------|
| Safe | 77 |
| Unsafe | 23 |
| Total | 100 |

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AUTHORS:

1. V.P. Narve
2. Pallavi Gupta
3. Rajveer Basu
4. Manish Sachan
5. Kavish Jhawar
6. Freni J.K
7. Mohit Punjabi

PARTICULARS OF CONTRIBUTORS:

1. Associate Professor & HOD, Department of Otorhinolaryngology, Gajraraja Medical College & Jayarogya Hospital.
2. Post Graduate, Department of Otorhinolaryngology, Gajraraja Medical College & Jayarogya Hospital.
3. Post Graduate, Department of Otorhinolaryngology, Gajraraja Medical College & Jayarogya Hospital.
4. Post Graduate, Department of Otorhinolaryngology, Gajraraja Medical College & Jayarogya Hospital.

5. Post Graduate, Department of Otorhinolaryngology, Gajraraja Medical College & Jayarogya Hospital.
6. Post Graduate, Department of Otorhinolaryngology, Gajraraja Medical College & Jayarogya Hospital.
7. Post Graduate, Department of Otorhinolaryngology, Gajraraja Medical College & Jayarogya Hospital.

NAME ADDRESS EMAIL ID OF THE CORRESPONDING AUTHOR:

Dr. V.P. Narve,
Associate Professor & HOD,
Department of ENT GRMC & JAH,
Lashkar, Gwalior, PIN – 475009.
Email – drvpnarve@gmail.com

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