

A study on clinical and epidemiological profile of chronic suppurative otitis media (CSOM) at a tertiary care center

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Abstract

Background: Chronic suppurative otitis media (CSOM) is one of the common problems encountered by individuals in India. It can cause permanent hearing loss at a very early age if not treated at earliest.

Objective: To study clinical and epidemiological profile of 123 CSOM cases observed at the S.S. Medical College & G.M. Hospital, Rewa.

Materials and Methods: The present study was a case series of 123 patients of CSOM who presented to the S.S. Medical College and G.M. Hospital, from November 2012 to February 2013.

Result: Male preponderance was seen with age ranging from 1 year to 70 years. Most patients 45(36.59 %) belong to the age group of 10–20 years. Most patients belong to poor socioeconomic status (SES class IV, V comprise more than three-fourth of patients). Most of the patients (81.30%) visited to an ENT specialist for the first time. Most of the patients belonged to rural background (65.04%). Bilateral CSOM was less frequent (only 17.07%). Safe CSOM was more common (89.43%) as compared to cases with unsafe CSOM (10.57%). Hearing complaints were present in 52.85 % cases.

Conclusion: CSOM is a common condition in developing countries and requires support and cooperation of both medical professionals and patients for the proper and timely management of the problem.

KEY WORDS: Chronic suppurative otitis media (CSOM), discharge, safe, socioeconomic status

Introduction

Chronic suppurative otitis media (CSOM) is an infection characterized by recurrent middle ear discharge through a persistent tympanic membrane perforation, which can be managed at the primary health care level thereby preventing the development of deafness and even fatal complications.^[1] Incidence of this disease is higher in developing countries especially among lower socioeconomic society because of malnutrition, overcrowding, poor hygiene, inadequate health care, and recurrent upper respiratory tract infection.^[2] CSOM

is an important cause of hearing loss particularly in the developing world.^[3] It can be found in all age groups and is a major social burden. It is the commonest childhood infectious disease worldwide^[4] starting early in life, but in our environment, presentation may be in adult life.^[5]

CSOM is usually classified into two types: tubotympanic and atticofacial depending on whether disease process affects pars tensa or flaccida of the tympanic membrane.^[2] Tubotympanic variety is often labeled as safe while atticofacial variety as unsafe.

The aims of managing the chronic discharging ear are early detection and timely, appropriate intervention to eradicate the disease permanently or to reduce its effects (i.e., ear discharge, hearing loss, and other complications) if eradication is not possible.^[6]

Materials and Methods

The present study was a case series of 123 patients of CSOM who presented to the S.S. Medical college and

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G.M. Hospital, Rewa from November 2012 to February 2013. The relevant data were collected with regard to age and sex distribution, type of CSOM, laterality, type of discharge, associated complaints, duration between incident and presentation, clinical presentation, radiological findings, management, and complications. X-ray mastoid bilateral Schuller's view and culture and sensitivity of discharge were carried out in selected cases.

Results

The male predominance (i.e., 59.35 %) was observed in the present study. The disease mainly affected young age group individuals as most of the participants belong to 11–20 years (36.59%) followed by the age group 21–30 years (22.3 %). Most of the participants belonged to poor socioeconomic status (SES class IV, V comprise more than three-fourth of patients). As per occupation, students were most commonly affected (43.91%).

Most of the patients (81.30%) visited to an ENT specialist for the first time. Most of the patients belonged to rural background (65.04%).

Tubotympanic (safe) type was the main type of CSOM (89.43%) followed by 10.57% atticointral (unsafe) type.

Mucopurulent discharge was seen in 61.8% of the cases followed by purulent discharge (37.4%) cases and mucoid discharge (0.8%).

Left ear was found to be affected most (46.34%) followed by right ear (36.59%) while bilateral disease was seen in only 17.07% cases.

As per size of perforation, medium-sized perforation was most common (i.e., 36.8%) followed by large 30.56%, small 18.75%, attic 6.94%; subtotal 4.17% and total 2.78%.

Discussion

Chronic otitis media is a permanent abnormality on tympanic membrane following a long-standing middle ear infection emanating from previous acute suppurative otitis media (ASOM), otitis media with effusion, or negative pressure to the middle ear.^[7] It is one of the common causes of hearing impairment in our country. CSOM is a disease of poor socioeconomic status and mainly affects children. Demographic pattern of the disease in this study is quite consistent with these facts. In this study, we found that disease mainly affected young age group. Most of the patients belonged to poor socioeconomic status (SES class IV, V comprise more than three-fourth of patients).

Male predominance (59.35%) was observed which was similar to other previous studies.^[8,9] However, this may not be attributed to the pathophysiology of the disease, but it might be because the attendance of male patients in hospitals is high, as females have lesser priority of getting medical attention in a country like India because of gender discrimination.

Table 1: Age-wise distribution of patients

Age	No.	Percentage
<10	14	11.38
11–20	45	36.59
21–30	25	20.32
31–40	18	14.63
41–50	14	11.38
>50	7	5.7
Total	123	100

Table 2: Distribution of patients according to specialist visit

Consulted specialist	No. of patients	%
First time	100	81.30
Second time or more than that	23	18.70
Total	123	100

Table 3: Distribution of patients according to rural/urban status

Rural/urban	No. of patients	%
Rural	80	65.04
Urban	43	34.96
Total	123	100

Table 4: Distribution of patients according to socioeconomic status (Modified B.G.Prasad's classification)

Socioeconomic status	No.	%
I	4	3.25
II	8	6.50
III	15	12.19
IV	31	25.20
V	65	52.84
Total	123	100

A large number of patients are presenting these days to the hospitals with increased awareness of the disease, accessibility of health services, and easy scope of treatment. In the present study, the commonest age group was 11–20 years. This was in accordance with the study by Laxminaidu and Arya and Mohapatra who reported the highest incidence among the 11–20 year age group.^[10] In a previous study, it was found that children are more prone due to a number of reasons such as susceptibility to upper respiratory tract infection, more horizontal nature of Eustachian tube, and immaturity of immune system.^[11] The speech and language of child should be continuously assessed and their performance in school should be constantly monitored for early diagnosis. Any complaint by child regarding this should be looked upon seriously and proper investigations like audiometry, tuning fork tests, and clinical examination should be done. The cause of CSOM should be sought for and treated. Visit to our institute was the first specialist consultation of most of the

patients (81.30%). This might be because of the nonavailability of the ENT specialist in rural areas as in our study most of the patients were from rural background (65.04%). Also in India, in rural areas, when an individual has discharging ear, it is common practice to put some oil and home remedies in the ear instead of visiting a doctor and patient gets temporary relief. This cycle goes on for several times and a case of ASOM gets converted into one of CSOM. Most patients belong to poor socioeconomic status (SES class IV, V comprise more than three-fourth of patients). This was similar to previous studies.^[12,13] Poor living conditions, overcrowding, poor hygiene, and nutrition have been suggested as a basis for the widespread prevalence of CSOM in developing countries.^[14] Low socioeconomic status are important causative factor in prevalence and persistence of infection. Improper hygiene and overcrowding also play a vital role in patterns of spread. The etiopathogenesis of CSOM is generally considered to be multifactorial, which commonly includes infection, impaired Eustachian tube function, immature immune status, and allergy

Tubotympanic type was the commonest as compared to atticointral variety of CSOM. This is in accordance with previous studies.^[15] Tubotympanic variety of CSOM is common than atticointral type in the present study. This might be due to large amount of discharge in tubotympanic type which encourages patients to seek medical attention than atticointral variety. Copious mucopurulent otorrhea is usually a feature of active mucosal CSOM, whereas scanty, foul-smelling, and sometimes sanguineous varieties are seen in active squamous CSOM (cholesteatoma).^[16] The copious amount of discharge and foul smell are the two important factors that usually bring patients to otorhinolaryngologists for diagnosis and treatment. Unilateral ear involvement was more common than bilateral. This corresponds with previous studies.^[8,17] Left ear was more commonly involved than right ear. Bilateral ear involvement was observed in fewer cases. The infection can spread from the middle ear to involve the mastoid, facial nerve, labyrinth, lateral sinus, meninges, and brain leading to mastoid abscesses, facial nerve paralysis, deafness, lateral sinus thrombosis, meningitis, and intracranial abscesses.^[9] Hearing impairment is one of the most important and preventable complication of CSOM. Thus, proper management is necessary to avoid complications. Potential loss of hearing as a result of otitis media (OM) has important consequences on the development of speech and cognitive abilities, including academic performance of children.^[14] CSOM is most often a recurrent rather than a constant disease. Chronicity of disease is defined in time and stage rather than a uniform pathological picture. The CSOM was the commonest type of OM with safe being commoner compared to unsafe. This pattern might be due to carelessness toward discharging ear during first few episodes of OM which leads to further complications.

Strength and Limitation of the Study

As far as concerned about the strength of the study, it keeps pace with the aim of the study and analyzed the

epidemiological pattern and clinical profile of the patients. As far as concerned about the limitation, none was felt to meet the requirements of aim of the study.

Conclusion

CSOM is a preventable cause of hearing impairment. Early diagnosis and management can prove to be effective in reducing socioeconomic burden and prevention of deafness. Thus, it is important to spread awareness among people for discharging ear for its early diagnosis and management. People should thus be encouraged for maintaining adequate hygiene and proper nutrition for a better outcome and to consult otorhinolaryngologist during initial episodes of CSOM rather than waiting for complications to occur. Early diagnosis thus leads to early management.

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