

Retrospective Study of Various Complications of CSOM in a Tertiary Care Hospital

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Abstract:

Introduction: Chronic suppurative otitis media (CSOM), managed at the primary healthcare level, can help prevent deafness and fatal consequences.

Aim: This study aimed to analyze the management of CSOM-related problems and their diverse clinical manifestations.

Materials and Methods: One hundred patients with CSOM who visited the otolaryngology department of Bhima Bhoi Medical College and Hospital Balangir were included in this case series.

Results: There was a preponderance of males age three–60 years. The majority of patients 52 (47.27%) were aged between 10 and 20 years. Most patients had a low socioeconomic status. Most patients (n=96; 87.27%) initially visited an ENT specialist. The majority of the patients (64.5%) originated from rural areas (n=71). There were fewer instances of bilateral CSOM (n=19, 17.27%). Cases involving safe CSOM were more prevalent (n=97, 88.18%) than those involving hazardous CSOM (n=13, 11.81%). Complaints regarding hearing impairment were observed in 63.63% of cases.

Conclusion: CSOM is prevalent in developing nations and necessitates the collaboration and assistance of patients and medical professionals for effective and timely management.

Keywords: Chronic Suppurative Otitis Media, Pars Tensa Or Flaccida, Tympanic Membrane, Attico-Antral, Tubo-Tympanic Membrane.

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Introduction

Recurrent or persistent discharge via the perforated tympanic membrane is a hallmark of chronic suppurative otitis media (CSOM), an inflammatory disorder of the middle ear. Acute otitis media (ear infection) that is not treated properly or at all can lead to this condition and its sequelae, including mastoiditis, conductive hearing loss, and even intracranial problems in extreme instances. It is characterized by recurrent middle ear discharge due to persistent tympanic membrane rupture [1].

Owing to factors such as undernourishment, overcrowding, lack of cleanliness, insufficient medical treatment, and repeated infections of the upper respiratory tract, the prevalence of this disease is higher in developing nations, particularly among lower socioeconomic groups [2]. In developing countries, CSOM is the leading cause of hearing loss, posing a significant societal burden because of its prevalence across all age groups.

Although symptoms may not appear until adulthood in our environment, this infectious disease is most common in children around the world [4]. Tubo-tympanic CSOM and attico-antral

CSOM are the two main classifications used for this condition based on whether the disease process impacts the pars tensa or flaccida of the tympanic membrane [5]. Although the attico-antral variant is commonly deemed dangerous, the tubo-tympanic variety is generally considered safe. Early detection and timely and appropriate intervention are the primary objectives of ear management following chronic discharge. Reducing the effects of the disease (including hearing loss, ear discharge, and other complications) is an alternative approach, if eradication is not feasible. Therefore, this study aimed to analyze the management of CSOM-related problems and their diverse clinical manifestations.

Materials & Methods

One hundred patients with CSOM who visited the otolaryngology department of Bhima Bhoi Medical College and Hospital Balangir were included in the current case series. 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 were among the pertinent data gathered. In a subset of cases, Schuller's perspective and culture and sensitivity regarding discharge were implemented.

Statistical analysis: Data analysis was conducted utilizing Stata 13.1 (StataCorp LP, College Station, TX). Percentages were calculated. Statistical significance was set to indicate statistical significance.

Results

There was a preponderance of males spanning in age from three to 60 years of age. The majority of patients 52 (47.27%) were aged between 10 and 20 years. Most patients had a low socioeconomic status. Most patients (n=96; 87.27%) initially visited an ENT specialist. Most of the patients (64.5%) were from rural areas (n=71). There were fewer instances of bilateral CSOM (n=19, 17.27%). Cases involving safe CSOM were more prevalent (n=97, 88.18%) than those involving hazardous CSOM (n=13, 11.81%). Complaints regarding hearing impairment were observed in 63.63% of cases. In 68 instances, mucopurulent discharge was observed, followed by purulent discharge in 41 instances and mucoid discharge in two instances. The majority of cases (63 cases) involved the left ear, followed by the right ear (52 cases), and bilateral disease was observed in only 19 cases. In 40 cases, perforations of medium size were the most prevalent, followed by those of large (33 cases), small (21 cases), attic (7 cases), subtotal (4 cases), and total (3 cases) sizes.

Discussion

Chronic otitis media refers to a persistent abnormality of the tympanic membrane that develops after an extended period because of acute suppurative otitis media, otitis media with effusion, or negative pressure on the middle ear infection [1]. It is the most prevalent etiology of auditory impairment in Japan [5]. Socioeconomically disadvantaged infants are primarily afflicted with CSOM. In this study, the demographic pattern of the disease was consistent with these facts. This study revealed that the disease primarily affects individuals in their youth. Most patients belonged to the low socioeconomic status group. A similar male preponderance was noted, which is consistent with the findings of previous studies [3,4] [8,9]. Nevertheless, this observation cannot be ascribed to the pathogenesis of the ailment; rather, it could be a result of the higher volume of male patients seeking medical attention in hospitals, given that gender discrimination in a country such as India assigns females a lower priority for such care.

Currently, hospitals are receiving an escalating volume of patients due to heightened disease awareness, improved accessibility to health

services, and simplified treatment protocols. The most prevalent age range in the current study was 10–20 years old. This finding is consistent with the research conducted by [2, 10], which indicated that the age group of 11–20 years had the highest incidence. A prior investigation determined that children are more susceptible to various factors, including upper respiratory tract infection susceptibility, eustachian tube horizontality, and immune system immaturity [11]. Continuous assessment of children's speech and language, as well as ongoing monitoring of their academic performance, is imperative to facilitate early diagnosis. Serious attention should be given to any complaint made by a minor regarding this matter, and appropriate investigations, such as audiometry, tuning fork tests, and clinical examination, should be conducted. Therefore, the etiology and treatment of CSOM should be investigated. A visit to our institution marked the initial consultation with a specialist for the majority of patients (n=96). This might be because of the non-availability of ENT specialists in rural areas; as in our study, most of the patients were from rural backgrounds (n=71).

In India, in rural areas, when an individual has a discharging ear, it is common practice to put some oil and home remedies in the ear instead of visiting a doctor, and the patient gets temporary relief. This cycle was repeated several times, and a case of ASOM was converted into one of the CSOM. Most patients have poor socioeconomic status. This finding is similar to those of previous studies [12,13]. Poor living conditions, overcrowding, poor hygiene, and poor nutrition have been suggested as the basis for the widespread prevalence of CSOM in developing countries [14].

A low socioeconomic status is an important causative factor for the prevalence and persistence of infection. Improper hygiene and overcrowding also play a vital role in the 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. Tubo-tympanic type was the commonest as compared to the attico-antral variety of CSOM. This is in accordance with previous studies [15].

The tubo-tympanic variety of CSOM was more common than the attico-antral type in the present study. This might be due to the large amount of discharge in the tubo-tympanic type, which encourages patients to seek medical attention more than the atticoantral 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 ear involvement. This finding is consistent with the results of previous studies [9,10]. The left ear was more commonly affected than the right. Bilateral ear involvement was observed in fewer patients. The infection can spread from the middle ear to the mastoid, facial nerve, labyrinth, lateral sinus, and meninges. and the brain, leading to mastoid abscesses, facial nerve paralysis, deafness, lateral sinus thrombosis, meningitis, and intracranial abscesses [4]. Hearing impairment is one of the most important and preventable complications of CSOM. Therefore, proper management is necessary to avoid complications. The potential loss of hearing as a result of otitis media (OM) has important consequences for the development of speech and cognitive abilities, including the academic performance of children [12,13]. CSOM is most often recurrent, rather than constant. The chronicity of a disease is defined in terms of time and stage, rather than a uniform pathological picture. CSOM was the most common type of otitis media, with safety being more common than safety. This pattern might be due to carelessness toward the discharging ear during the first few episodes of OM, which leads to further complications.

Conclusion

CSOM is a preventable cause of hearing impairments. To reduce the socioeconomic impact, timely detection and treatment strategies must be implemented. Raising public awareness of the importance of ear discharge is essential for its early diagnosis and treatment. Individuals should prioritize good hygiene and nutrition to improve their prognoses. It is recommended to seek the expertise of Otorhinolaryngologists during the initial stages of CSOM to prevent complications. Prompt diagnosis allows prompt intervention.

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