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Clinico-Epidemiological Profile of Tubotympanic Type of CSOM.

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ABSTRACT

Background: The purpose of this study was to evaluate the clinical and epidemiological profile of patients diagnosed with tubotympanic type of CSOM. **Methods:** A prospective study was conducted on 110 patients at Teerthankar Mahaveer Medical College and Research Centre Teerthankar Mahaveer University, Moradabad, Uttar Pradesh over a period of 12 months. Patients clinically diagnosed as tubotympanic type of CSOM were included in this study. Each of these patients was subjected to complete history and thorough ENT examination after taking proper written informed consent. Clinical and laboratory data from the study was recorded as per the pro forma. **Results:** Analysis of collected data revealed that maximum cases were found to be in the second or third decade. There was a male preponderance with a male to female ratio of 1.3:1.0. Rural patients were more as compared to those from urban background. Of the total 112 ears examined 29 (25.9%) ears had normal hearing while, 71 (63.4%) ears had pure conductive hearing loss, and remaining 12(10.7%) with mixed loss. Medium sized central perforation with anteroinferior and posteroinferior quadrant involvement was most common and was seen in 37.5% ears. **Conclusion:** The result of the present study and its similarities with a number of published articles state that CSOM is a main source of tremendous health predicament.

Keywords: CSOM, tubotympanic, epidemiology.

INTRODUCTION

Chronic suppurative otitis media (CSOM) has remained a global health burden since time immemorial. CSOM is a disease of middle ear cleft characterized by perforated tympanic membrane (TM), otorrhoea and hearing impairment of more than three months duration. It occurs as a complication of acute otitis media, a common condition with an alarming propensity to become chronic in developing settings due to various factors, including inadequate treatment, frequent upper respiratory tract infections, nasal disease, poor living conditions with poor access to medical care, poor housing, hygiene and nutrition. These risk factors probably favour the development of CSOM by weakening the immunological defences, increasing the inoculum, and encouraging early infection.

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It often starts in infancy and may result in serious otologic and intracranial complications such as meningitis, focal encephalitis and otitic hydrocephalus. CSOM can, thus cause serious handicaps in terms of language skills and mental development. Long standing CSOM can result in a severe conductive hearing loss with significant drawbacks in learning, communication ard social adjustment. Its association with hearing impairment, death and severe disability due to central nervous system involvement and the high costs incurred in its management make CSOM a significant health problem in developing countries.[1,2]

CSOM has been classified into tubotympanic type (TT) and atticoantral type (AA) depending upon the site of perforation, its potential to produce complication and diversity in pathological process.[3,4]

In TT type of CSOM the perforation is typically present in the pars tensa of tympanic membrane. It is associated with non-offensive, mucoid or mucopurulent, intermittent, profuse discharge with conductive hearing loss, rarely exceeding 50 dB. Patients are generally not at risk of developing complications. The term "safe" otitis media is often applied to this condition. However, Browning who reported that some cases of intracranial abscess were associated with active TT disease has challenged this concept.[5,6]

An extensive study of this disease is necessary in our country as ear discharge and defness is a neglected

condition due to inadequate knowledge, funds, work force and facilities. CSOM can limit an individual's capability, employability and quality of life, therefore urging the need to improve access to good health care to step towards its eradication. Hence, this study is relevant in the present scenario.

MATERIALS AND METHODS

The present prospective study was conducted in the Postgraduate Department of Anaesthesiology, Government Medical College, Sr A prospective clinico-epidemiological study was conducted in the department of Otorhinolaryngology at a Teerthankar Mahaveer University, Moradabad over a period of 12 months. Patients diagnosed as tubotympanic type of CSOM were included in this study. Each of these patients was subjected to complete history thorough ENT examination and pertinent audiological and radiological investigations after taking informed consent. Clinical and laboratory data from the study was recorded as per the pro forma.

Inclusion criteria: Patients of tubotympanic type of chronic suppurative otitis media of > 6 yrs of age.

Exclusion criteria: Atticoantral type of CSOM, Otitis extema, Malignancy of middle ear, Children < 6 yrs of age.

RESULTS & DISCUSSION

The data collected from the clinico-epidemiological study of tubotympanic type of chronic suppurative otitis media carried out on 110 patients (112 ears as 2 patients had active bilateral ear disease) were analysed statistically and following observations were made.

Age distribution

Age range was from 6 to 70 years, with a mean age of 27.17 years with S.D. ±16.8. Maximum number of cases were found to be in the second and third decade with 25 (22.7%) cases each [Figure 1].

These findings were in consistent with the findings of Shreshtha & Sinha[7] and Singh & Safaya.[8] However, much earlier presentation were reported by Rupa V et. al.[9] and Vikram BK et. al.[10], suggesting that the disease was more frequently seen in children because of immature immunity and supplementary upper respiratory track contagion. As per WHO report, early prevalence of CSOM can be applied to the fact that CSOM persists up to early and middle adulthood; secondly most developing countries have predominantly young populations.[11] Delayed presentation in our study may be due to reluctance of the patients to seek medical help. They only think about the necessity of the medical contemplation once they accomplish the age of nuptials or employment.

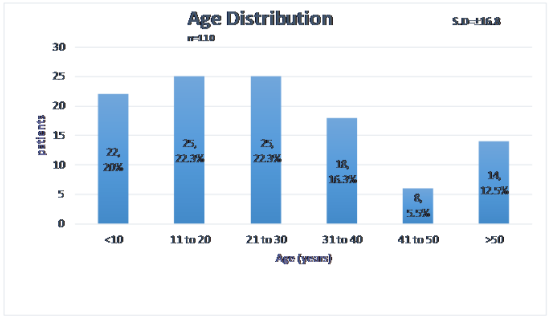

Figure 1: Age Distribution.

Sex distribution

Males distinguished females [Figure 2].There were 62 males (56.3%) and 48 females (43.7%) with a male to female ratio of 1.3:1.0. Analogous conclusion has been made by Chandra & Mishra,[12] Mukherjee P et. al [13] and Hossain MM et. al.[14] The predominant burden of the disease in males was due to their outdoor working habits exposing them for contamination and contagion.

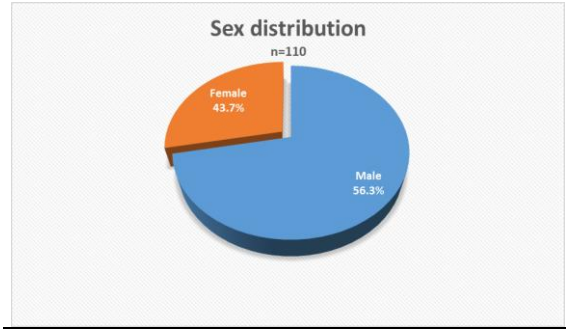

Figure 2: Sex Distribution.

Socio-economic status

The socio-economic status of patients was analyzed by modified Kuppuswamy scale[15] (2003) and majority of the cases belonged to lower middle class 40 (36.4%) [Figure 3]. This may be attributed to unhealthy living conditions, unbalanced diet, poor hygiene and the economic strains of the patients with regard to seeking health services.

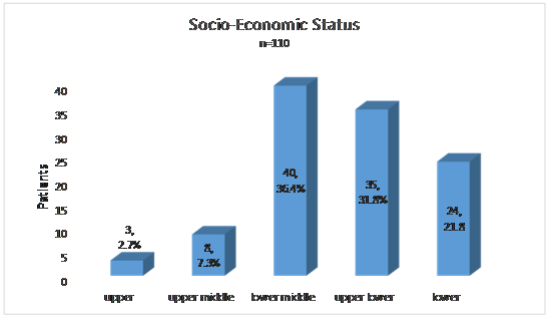

Figure 3: Socio Economic status.

Rural: Urban distribution

In our study, number of cases belonging to rural areas 87(79%) were in majority as compared to the urban areas 23(21%) [Figure 4]. Bandyopadhyay R et. al.[16], Dutton DB[17] and Tiwari R et. al.[18] corroborated similar findings. Malnutrition, poor living conditions, poor housing and sanitation, smoking and bathing in open ponds were some of the predisposing factors causing ear diseases in rural areas as compared to urban centres.[19]

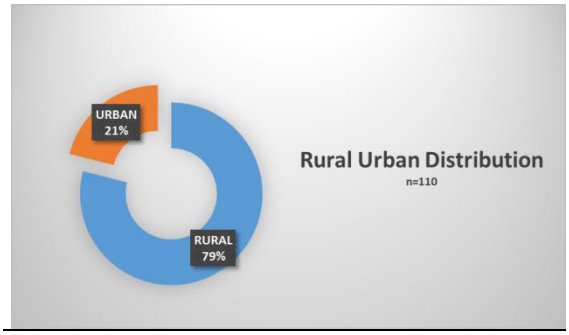

Figure 4: Rural urban Distribution.

Hearing loss

PTA revealed that 29 (25.9%) ears had normal hearing while 71 (63.4%) ears had pure conductive hearing loss, and remaining 12 (10.7%) had mixed loss. These findings were in consistence with the observation of De Azevedo AF et. al.[21] , Gulati et. al[22] , Siampara et. al.[23] and Muhaimeid et. al.[24]

Otoscopy

Antero-inferior and postero-inferior (AI+PI) quadrant 42 (37.5 %) was most commonly involved. The result of present study was in accordance with the findings of Gulati SP et. al,[22] Khanna V et. al.[20] and Choudhary & Alauddin[25] who observed central perforation in each and every patient subjected under surveillance.

Radiology

A plain radiograph of the mastoids, Schuellers view, was obtained for all the patients. In the involved ear, 94 (84%) cases had sclerotic mastoid and in contra-lateral ear 57 (52.8%) cases had pneumatized mastoid.

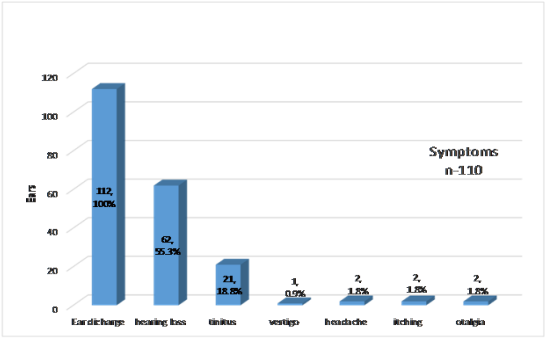

Figure 5: bar graph showing symptoms and their prevalence.

CONCLUSION

The result of the present study and its similarities with a number of published articles state that CSOM is a main source of tremendous health predicament. It is an infection commonly associated with poor socio-economic status or poverty related conditions such as malnutrition, overcrowding, substandard hygiene, frequent URTI and under resourced health care. Improvement of quality of life, early recognition and treatment is recommended in limiting disease burden.

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