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A Cross Sectional Study of Sociodemographic Profile of CSOM

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Abstract
Introduction: *Chronic suppurative otitis media is one of the most frequently encountered diseases in ENT. CSOM affects over 300 million individuals over the globe of which 60% suffer from significant hearing loss. Over 90% of the burden is borne by countries in South East Asia, Western Pacific and Africa. Chronic suppurative otitis media is the chronic inflammation of the middle ear cleft.1It is characterized by persistent discharge from the middle ear through a tympanic membrane perforation.*
Materials and Methods: *This is a hospital based cross sectional study in the department of ENT, M.G.M Medical College and Hospital, Jamshedpur for a period of one year from 1st January 2019 to 31st December 2019. All the patients of Chronic Suppurative Otitis Media attending the OPD of department of ENT, M.G.M Medical College and Hospital, Jamshedpur after fulfilling the inclusion and exclusion criteria were included in the study.*
Results: *The study found that 31-40 years was most commonly involved age group with female preponderance. Rural population mostly suffered from CSOM with left ear being more commonly involved. Purulent discharge was the commonest symptom with total perforation of tympanic membrane being the commonest presentation. Audiometry showed that 65.56% of the patients suffered from conductive type of hearing loss.*
Conclusion: *The study concluded that CSOM is a major health problem in the society involving all age groups with tubo-tympanic type being more common. Majority of the patients belongs to rural area and lower socioeconomic status with poor living standards with otorrhoea being the commonest presentation.*
Key Words: CSOM, *Audiometry, preponderance*

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I. Introduction

Chronic suppurative otitis media is one of the most frequently encountered diseases in ENT. CSOM affects over 300 million individuals over the globe of which 60% suffer from significant hearing loss. Over 90% of the burden is borne by countries in South East Asia, Western Pacific and Africa. Chronic suppurative otitis media is the chronic inflammation of the middle ear cleft.[1]It is characterized by persistent discharge from the middle ear through a tympanic membrane perforation. Chronic suppurative otitis media can be of 2 types, Tubotympanic disease (mucosal) and Atticoantral (squamosal) disease. Tubotympanic disease (mucosal) is a benign type of chronic suppurative otitis media involving anteroinferior part of middle ear cleft (Eustachian tube and Mesotympanum).[2]

The mucosal type of chronic suppurative otitis media is usually associated with co-existent sinus and nasal pathology which can worsen middle ear problems due to eustachian tube dysfunction. Middle ear cleft is a continuous airspace contained in bone lined by epithelium and in continuity with the atmosphere at the nose,nasopharynx.[3]

World health organisation defines chronic suppurative otitis media as a stage of ear disease in which there is chronic inflammation of middle ear cleft with tympanic membrane perforation and discharge and qualifies Otorrhoeato be present for two weeks or longer. India is among the highest (>4%) prevalence group.[4] In India, the overall prevalence is 46 and 16 per 1000 in rural and urban population respectively. Individuals in 41-80 age groups were twice as likely to have chronic otitis media as those in age 18-40 age group. Rhinosinusitis affects over 30 million individuals globally each year.[5]

Sinusitis causes inflammation of the middle ear mucosa with increased and persistent mucoid/mucopurulent discharge and causes active mucosal disease. Sinusitis is the significant aetiological factor for middle ear disease of COM –active mucosal type and treating sinusitis by FESS in subjects result in the good outcome of disease clearance.[6] Chronic otitis media active mucosal disease patients with coexisting active sinusitis have a chronically persistent ear discharge.[7]

Chronic suppurative otitis media is the commonest cause of hearing loss. The deafness caused by chronic suppurative otitis media of safe type was usually considered to be purely of conductive type. In unsafe

type of chronic suppurative otitis media, the sensori neural deafness is known, usually due to labyrinthitis. It has been observedin our clinical practice that many cases of safe as well as unsafe type of chronic suppurative otitis media without complications, shows a sensori neural element also. In some cases even dead ears are seen in safe type of chronic suppurative otitis media. CSOM mucosal type 70 percent and atticoantral or unsafe type 30 percent.

Therefore, this study aims to study the clinical profile of the patients of Chronic Suppurative Otitis Media and to analysis the epidemiological factors associated with CSOM.

II. Materials And Methods

This is a hospital based cross sectional study in the department of ENT, M.G.M Medical College and Hospital, Jamshedpur for a period of one year from 1st January 2019 to 31st December 2019. All the patients of Chronic Suppurative Otitis Media attending the OPD of department of ENT, M.G.M Medical College and Hospital, Jamshedpur after fulfilling the inclusion and exclusion criteria were included in the study.

Selection of Cases

All the cases of Chronic Otitis Media irrespective of age, sex, caste, religion, duration of illness & severity of illness attending the Outpatient Dept. & Inpatient Dept. of ENT of M.G.M Medical College and Hospital, Jamshedpur by taking detailed history & proper clinical examination.

Inclusion Criteria

- Patients with history of chronic discharging ear both unilateral & bilateral with perforation of tympanic membrane diagnosed as tubo-tympanic type of Chronic Suppurative Otitis Media.
- Patients with history of chronic discharging ear both unilateral & bilateral with perforation or retraction of tympanic membrane with or without cholesteatoma diagnosed as atticoantral type of Chronic Suppurative Otitis Media.
- Patients with history of hearing impairment (Documented with Pure Tone Audiometry, PTA) with previous history of discharge from ears with diagnosis of Chronic Suppurative Otitis Media.
- Patients presenting with features of complications of Chronic Suppurative Otitis Media either intracranial or extracranial.

Exclusion Criteria

- All patients of Acute Suppurative Otitis Media with perforation.
- Traumatic perforation of tympanic membrane.
- Patients presenting with otorrhoea and/or earache and/or decrease hearing with diagnosis of otomycosis or wax in the ear.

III. Methodology

All the patients included in the study population shall be subjected to thorough history taking, detailed clinical examination including tuning fork tests, Otoscopic examination, EUM (Examination under microscope), audiometric investigation in the form of PTA (Pure Tone Audiometry) & radiological investigation. Radiological investigations include X-Ray Mastoid (Law's lateral oblique view), HRCT Scan of temporal bone in cases of suspected features of complications of CSOM.

IV. Results

S.No	Age in years	No. Of Patients	Percentage
1	<10 years	17	9.43
2	11-20	31	17.2
3	21-30	35	19.4
4	31-40	45	25
5	41-50	40	2.22
6	>51	12	6.67

Table 1: Age Distribution

S.No	Sex	No of patients
1	Male	77 (42.78%)
2	Female	103 (57.2%)

Table 2: Gender Distribution

S.No	Type of population	No of patients
1	Rural	152 (84.44%)
2	Urban	28 (15.5%)

Table 3: Distribution of Rural and urban Population

S.No	Clinical Features	Number of Patients
1	Ear discharge only	47 (26.1%)
2	Hearing loss only	21 (11.67%)
3	Ear discharge + Hearing loss	42 (23.33%)
4	Ear discharge + Hearing loss + Earache/Tinnitus/Ear itching	58 (32.22%)
5	Ear discharge + Complications	12 (6.67%)

Table 4*:* Distribution of Clinical Presentation

S.No	Associated Features	No of patients
1	DNS	41 (22.78%)
2	Adenoid Hypertrophy	23 (12.78%)
3	Tonsillitis	52 (28.89%)
4	Pharyngitis	43 (23.89%)
5	Sinusitis	89 (49.44%)
6	Aural Polyp	28 (15.55%)

Table 5*:* Distribution of Associated Clinical Features

S.No	Side Involved	No of patients
1	Right	61 (33.89%)
2	Left	83 (46.11%)
3	Bilateral	36 (20%)

Table 6: Distribution of Side of Ear involved at Presentation

S.No	Characteristics of ear Discharge	No of patients
1	Discharge type	
	Purulent	74 (41.11%)
	Mucopurulent	48 (26.67%)
	Mucoid	31 (17.22%)
	Blood Stained	27 (15%)
2	Amount	
	Profuse	113 (62.78%)
	Scanty	67 (37.22%)
3	Odour	
	Foul Smell +	98 (54.44%)
	Foul Smell -	82 (45.55%)

Table 7: Characteristics of Ear Discharge and its Distribution

S.No	Duration in Months	No of patients
1	<12 months	31 (17.2%)
2	13-24	37 (20.5%)
3	25-36	48 (26.67%)
4	37-48	24 (13.33%)
5	49-60	19 (10.5%)
6	>61	21 (11.67%)

Table 8: Duration of Discharge

S.No	Type of perforation	No of patients
1	Small perforation (<25%)	18 (10%)
2	Medium (25-50%)	24 (13.33%)
3	Large (50-75%)	29 (16.11%)
4	Subtotal (>75%)	31 (17.22%)
5	Total	46 (25.56%)
6	Marginal	21 (11.67%)
7	Attic	11 (6.11%)

***Table 9:* Distribution of Types of Tympanic Membrane Perforation**

S.No	Type of Hearing loss	No of patients
1	Conductive hearing loss	118 (65.56%)
2	Sensorineural hearing loss	24 (13.33%)
3	Mixed hearing loss	38 (21.11%)

Table 9: Distribution of Audiological Findings

V. Discussion

This hospital based prospective study analysed the clinical profile and epidemiological factors associated with Chronic Suppurative Otitis Media in 180 patients fulfilling the inclusion and exclusion criteria for a duration of 1 year in the dept. of ENT, MGM Medical College and Hospital, Jamshedpur.[8]

The study found that 31-40 years was most commonly involved age group with 25% cases belonging to it. 9.4% of the cases were less than 10 years while 6.67 % cases were more than 51 years. Indorewala et al in their study found that the age of the patients ranged from 5 to 76 years with a mean age of 35 ± 15.8 years; the age group 21 - 40 years was the most affected group (36%).[9]

The male to female ratio was 0.75:1 which indicates female preponderance over male. Browning et al found the incidence of CSOM to be 1.9% in male and 1.2% in female.[10]

The study observed that 84.4% % of the cases belonged to rural population while 15.5% % cases were from urban locality. The study by Maharjan et al reflected that the prevalence of Chronic Suppurative Otitis Media is high in rural communities of Nepal, Bangladesh and aboriginal children of Northern and central Australia. Probably, the habit of swimming in polluted water in a pond or river regularly may be a factor responsible for discharging ear.[11]

The reason for higher incidence in the rural area could be due to lower standard living, poor hygiene, malnutrition, illiteracy, negligence on the part of patient and family members and lack of proper medical facilities in the rural areas.

It was observed that left ear was commonly involved (46.11% of the cases) followed by right ear in 33.89% cases and bilateral involvement was seen in 20 % cases. Similar to our study, Shivakumar et al also found that left side was more commonly involved than the right side.[6] Saha et al in their study found bilateral ear disease in 30% cases. Right ear disease was in 20% and left ear disease was in 50% of the cases.[7] However, no explanation has been given for more involvement of left ear than right ear.

In the study, we found that otorrhoea along with other symptoms like hearing loss and/or itching and/or earache and/ or tinnitus was the most common presenting symptom (32.22%). This was followed by otorrhoea only (26.1%), otorrhoea with hearing loss (23.3%), hearing loss only (11.67%). 6.67% cases presented with complications of CSOM. Kumaret al observed that otorrhoea was the commonest complaint with 81.25% patients presented to hospital, followed by hearing impairment in 62.50%, itching in the ear in 9.37%, tinnitus in 18.75%, trauma to the ear in 7.81% cases and earache in 3.12% cases.[8]

VI. Conclusion

The study concludes that chronic suppurative otitis media is still a major health problem in this part of the country. Individuals belonging to all age groups more or less suffer from CSOM. Tubo-tympanic variant is more common than atticoantral type. Overall female preponderance has been observed in the study probably due to lack of proper medical care in early stages in the rural areas. Majority of the patients belongs to rural area and lower socioeconomic status with poor living standards along with traditional habit of taking bath in ponds and other water bodies. This can be attributed to higher incidence of Chronic Suppurative Otitis Media in Jamshedpur and adjoining area in Jharkhand districts. Otorrhoea is the commonest clinical presentation of Chronic Suppurative Otitis Media. Majority of the patients have purulent ear discharge. Otorrhoea is followed by wide clinical presentations like decreased hearing (conductive hearing loss), itching in the ear, earache, tinnitus and features of complications like vertigo have been observed in our study. Otoscopic examination showed total perforation of tympanic membrane as the commonest clinical finding. Presence of nidus of infection in the upper airway in the form of pharyngitis, tonsillitis or sinusitis has been seen to be associated with Chronic Suppurative Otitis Media. By improving the living standards, health care facilities & awareness among the population particularly in lower socio-economic class and rural areas, the incidence & prevalence of Chronic Suppurative Otitis Media (CSOM) can be reduced. This in turn will help in substantial reduction in morbidity associated with chronic suppurative otitis media i.e. hearing loss which subsequently eases the social and economic burden on the health care delivery system of our country.

References

[1]. Benninger MS, Ferguson BJ, Hadley JA, et al. Adult chronic rhinosinusitis definitions, diagnosis, epidemiology and pathophysiology. Otolaryngology Head and Neck Surgery 2003;129(Suppl 3):S1-S32.

[2]. AhmadZ, Singh A,Goel S, et al.An evaluation of role of sinusitis as focal sepsis in chronic otitis media active mucosal disease.A cross-sectional survey. International Archives of Integrated Medicine 2015;2(7):11-15.

[3]. Mion O, de Mello JF,Lessa MM, et al. The role of rhinitis in chronic otitis media. Otolaryngol Head Neck Surg 2003;128(1):27-31.
[4]. Kim CS, Jung HW, Yoo KY. Prevalence of otitis mediaand allied diseases in Korea-results of a nation-wide survey,1991. J Korean Med Sci 1993;8(1):34-40.
[5]. BozkusF, BozanN, IynenI, et al. Analysis of sinonasal, pharyngeal and allergy-related risk factors for chronic suppurative otitis media.Acta Medica Mediterranea 2013;29:47-52.
[6]. Dayasena RP, Dayasiri MBKC, Jayasuriya C, et al. Aetiological agents in chronic suppurative otitis media in SriLanka. AMJ 2011;4(2):101-4.
[7]. Sharma K, Manjari M, SalariaN, et al. Middle ear cleft in chronic otitis media: a clinicohistopathological study.Indian Journal ofOtolaryngology and Head & Neck Surgery2013;65(Suppl 3):493-7.
[8]. PriyaK,KarthikeyanP,CoumareVN,et al. Evaluation ofEustachian tubefunction in chronic suppurative otitis media (tubotympanic type) with reference to its treatment outcome. Ind J of Otology 2012;18(4):179-83.
[9]. SinghPP, KuchhalV,BhattJ. Study of sinonasal disease in cases of chronic suppurative otitis media. Journal of Evolution of Medical and Dental Sciences 2014;3(13):3330-8.
[10]. Shrestha BL, Amatya RCM, Shrestha I, et al.Microbiological profile of chronic suppurative otitis media.Nepalese Journal of ENT Head and Neck Surgery 2011;2(2):6-7.
[11]. MoorthyPNS, KollojuS, MadhiraS, et al.Clinical study on deviated nasal septum and its associated pathology.International Journal of Otolaryngology and Head & Neck Surgery 2014;3(2):75-81.

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