

Sociodemographic Characteristics of Chronic Suppurative Otitis Media In Bangladesh

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ABSTRACT

Objectives: To find out sociodemographic characteristics of Chronic Suppurative Otitis Media (CSOM) in Bangladesh.

Methods: It was a prospective study conducted in the department of otolaryngology & Head Neck Surgery, Bangabandhu Sheikh Mujib Medical University (BSMMU) and Dhaka Medical College Hospital (DMCH), Dhaka, from September 2010 to February 2011. Fifty cases were selected by random sampling. A descriptive analysis was performed for clinical features and results were presented as mean \pm standard deviation for quantitative variables and numbers (percentages) for qualitative variables.

Results: In tubotympanic group, 51.61% patients belong to 21-30 years age group, whereas for atticoantral, 63.15% patients belong to 11-20 years age group. People living in rural area (66%) were more sufferers. Bilateral involvement is more common in tubotympanic type of disease & unilateral involvement was more common in atticoantral type of CSOM.

Conclusion: CSOM is the most common chronic ear disease in Bangladesh. It is more common in rural peoples of younger age group in poor socioeconomic classes with male

predominance. Medical and surgical options are limited, with side effects and risks, and sometimes are not successful in eliminating disease. There is an urgent need to focus in the area of CSOM and hence prevent hearing loss.

Keywords: Chronic Suppurative Otitis Media, Tubotympanic, Atticoantral, Deafness.

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INTRODUCTION

Chronic suppurative otitis media (CSOM) is a chronic inflammation of the middle ear cleft in which the tympanic membrane is not intact and discharge is present.¹ It is most frequently caused by gram negative bacilli.² Low living standard, poor socioeconomic condition, lack of education, unawareness about CSOM and inadequate knowledge of getting the treatment are also responsible for occurrence and persistence of the disease.³ CSOM may be a consequence of acute suppurative otitis media acquired in infancy or childhood. It is classified into two main groups: tubotympanic and atticoantral disease. Former is considered as 'safe' from complication while the later has been considered to be a 'dangerous' form of the disease in view of the risk of intracranial suppuration⁴. Intracranial complications of CSOM, its morbidity and mortality are higher in our country because of poverty, lack of health education and medical facilities, maltreatment by quacks & lack of neurosurgeons.⁵

OBJECTIVE

General Objective

In this study our main goal is to assess sociodemographic characteristics of Chronic Suppurative Otitis Media in Bangladesh.

Specific Objectives

- To find out gender and age distribution of the patients
- To find out educational status, socioeconomic status and bathing habits of the patients
- To describe the residential area of the patients
- To classify type of hearing loss in the study group.
- To detect intracranial and extracranial complications of CSOM in the study group.

METHODOLOGY

Type of Study: Prospective study

Place of Study: Department of Otolaryngology & Head Neck Surgery, Bangabandhu Sheikh Mujib Medical University (BSMMU) and Dhaka Medical College Hospital (DMCH), Dhaka.

Study Period: September 2010 to February 2011

Study Population: Fifty cases were selected by random sampling. Out of these nineteen cases were atticoantral and thirty one cases were tubotympanic variety.

Sampling Technique: Purposive

Inclusion Criteria

- Patients of Chronic suppurative otitis media of both types Aged 7-55 years.
- From inpatient department.

Exclusion Criteria

- Patient below 7 years and above 55 years of age
- Patient with inadequate information, outdoor patients, Otitis Media with Effusion, Cleft palate and Down's syndrome

Method

During the study, detail history of the patient has been taken in a prescribed data sheet with the informed consent of the patient or from the patient's guardian. Each of the patient was under went thorough clinical examinations. Otological and microscopic examination findings were recorded and plotted on the data sheet. Some important relevant investigations were done and recorded. All the Collected data were analyzed properly.

Data Analysis

Statistical analysis was performed using the Statistical package for social science SPSS version 15.0. A descriptive analysis was performed for clinical features and results were presented as mean ± standard deviation for quantitative variables and numbers (percentages) for qualitative variables.

RESULTS

In table-1 shows distribution of the patients according to gender where most of the patients are male, 54%. The ratio of male and female is 1.2:1. In table-2 shows percentage of age distribution where in Tubotympanic group, 51.61% patients belong to 21-30

years age group, whereas for Atticoantral, 63.15% patients belong to 11-20 years age group.

In figure-1 shows residential area of the patients where People living in rural area (66%) are more sufferer.

In table-3 shows the patients from either having primary (48%) or illiterate (20 %) suffered more from CSOM. Also, the peoples taking bath in the ponds and rivers (62%) are more sufferers.

In figure-2 shows number of ear(s) involved where bilateral involvements are more common in tubotympanic type of disease & unilateral involvement is more common in atticoantral type of CSOM. In table-4 shows distribution of type of hearing loss where conductive type of hearing loss is more.

In table-5 shows complications of CSOM where 28% patients developed complications, 20% had extracranial and 08% had intracranial complication.

In figure-3 shows intracranial complications of CSOM where most common intracranial complication was meningitis.

In table-6 shows different types of extracranial complications where most common extra-cranial complication was mastoid abscess, followed by post-auricular sinus.

Table 1: Gender distribution of patients. (n=50)

Gender	n	%
Male	28	56%
Female	22	44%
Total	50	100%

Table 2: Age distribution of patients

Age group (years)	Tubotympanic (n=31) (%)	Atticoantral (n=19) (%)
	32.25%	63.15%
21-30	51.61%	10.52 %
31-40	9.67%	5.26 %
>40	6.45%	5.26 %

Table 3: Sociodemographic characteristics of the patients

Type of CSOM	Poor	Middle	Affluent/Rich	Total
Tubotympanic	20(40%)	8(16%)	3 (6%)	31(62%)
Atticoantral	16(32%)	2(4%)	1(2%)	19(38%)
Total	36(72%)	10(20%)	4(8%)	50(100%)
Educational status	No. of patients		Percentage (%)	
Illiterate/No education	10		20%	
Primary education	24		48%	
Secondary education	9		18%	
Higher Secondary education	5		10%	
Graduation	2		4%	
Type of disease	Ponds / River		Tap water /Tube well	
Tubotympanic	21(42%)		10(20%)	
Atticoantral	10(20%)		9(18%)	

Table 4: Distribution of type of hearing loss (n=71)

Type of CSOM	Type of hearing loss			Total
	Conductive	Sensory neural	Mixed	
Tubotympanic	48(67.60%)	0	1(1.40%)	49(69.10%)
Atticoantral	20(28.16%)	0	2(2.80%)	22(30.98%)
Total	68(95.77%)	0	3(4.20%)	71(100%)

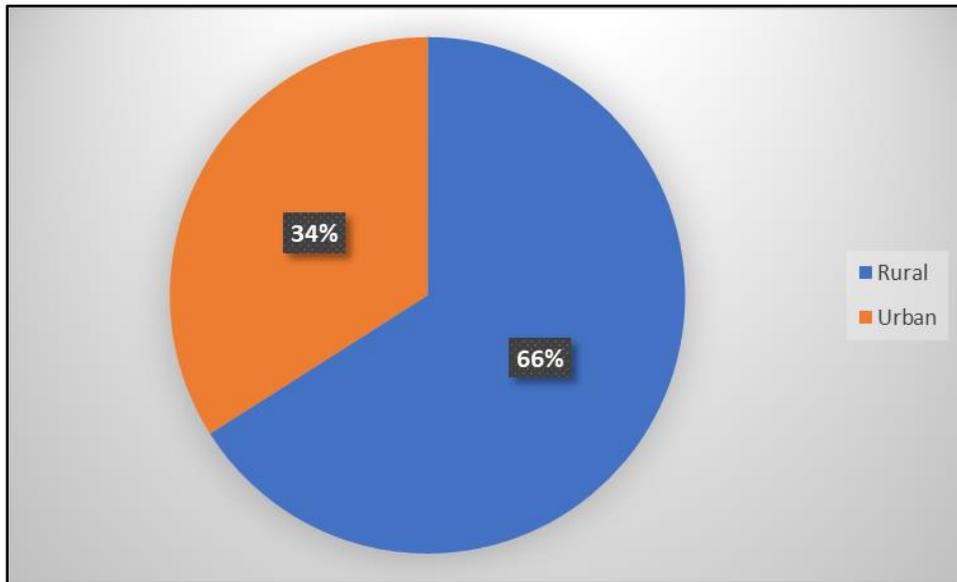


Figure 1: Residential area of the patients

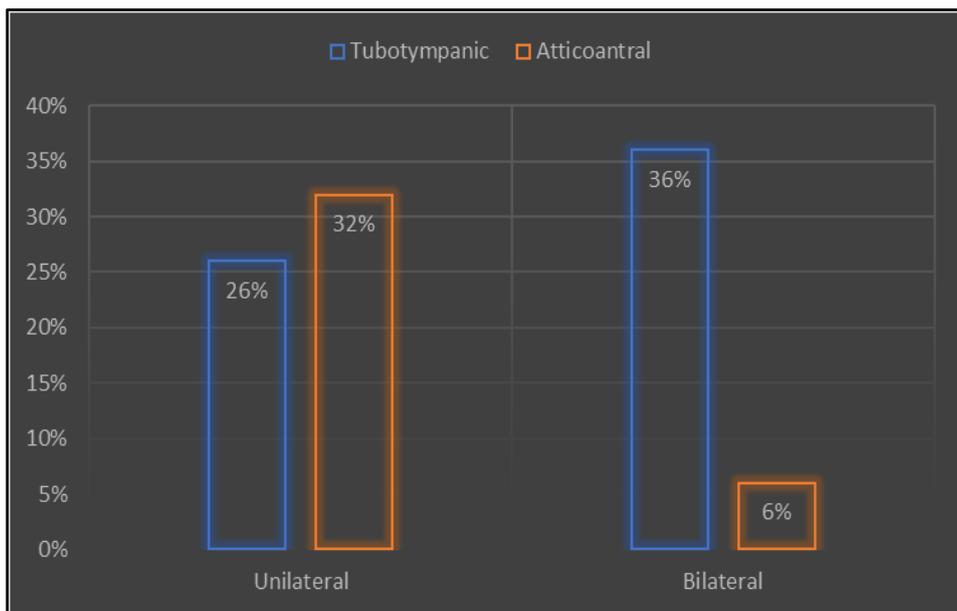


Figure 2: Number of ear(s) involved.

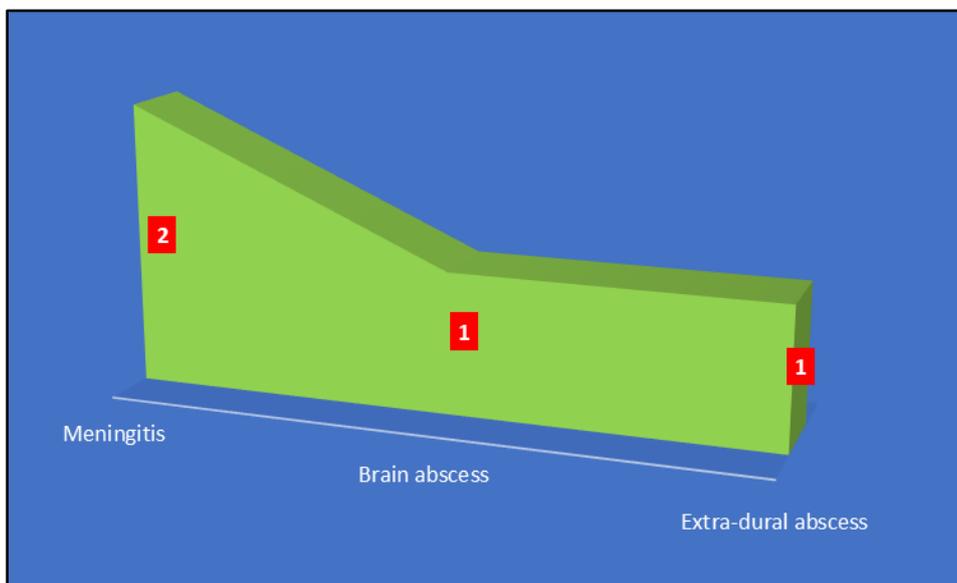


Figure 3: Intracranial complications of CSOM.

Table 5: Complications of CSOM (n=50)

Disease	Extracranial	Intracranial	Total
Tubotympanic	0 (0%)	0 (0%)	0
Atticoantral	10 (20%)	4 (08%)	14(28%)

Table 6: Different types of extra-cranial complications. (n=10)

Complications	No. of patients (n=10)
Mastoid abscess	4
Post auricular discharge sinus	3
Labyrinthitis	1
Facial paralysis	1
Bezold's abscess	1
Zygomatic abscess	0

DISCUSSION

CSOM with and without complications continues to affect a large number of patients particularly in developing countries.³ CSOM is a common health problem in our country, affecting especially the lower socio-economic group of people. Low living standard, lack of education, unawareness about CSOM and inadequate knowledge of getting the treatment are also responsible for occurrence and persistence of the diseases. Fifty patients of different age groups were included in the series. The tubotympanic type of CSOM was found in 62% of patients and atticoantral type in 38% of patients. The age range was 7 to 50 years. The majority was young adults in their 2nd and 3rd decade. In tubotympanic disease 32.25% was in 2nd decade and 51.61% in 3rd decade. In atticoantral disease incidence was highest 63.15% in 2nd decade which exactly corresponded with many works.⁴⁻⁶

Male to female ratio varies in different studies.^{4,6,7} In this series, male to female ratio was 1.2:1. Male predominance in this study could have partly been due to derivation of study population mainly from male dominated sections of society. Females are also reluctant to come forward for treatment in our country. The majority of the patients (72%) came from poor socioeconomic group, 40% in tubotympanic, and 32% in atticoantral type of CSOM. Rural peoples (66%) were more affected, which correlated with different studies.^{2,4-10}

In both the types people with primary level of education (48%) and illiterate (20%) were more commonly affected, as they were less cared with discharging ears. This was similar to findings of other studies.^{4, 5, 10} Bathing habit of the study population revealed that majority of the subjects in tubotympanic (42%) and in atticoantral (20%) variety had the habit of bathing in ponds or rivers, which was a factor for reactivation of ear infection and complications.^{3,4}

In this series, in tubotympanic variety the patients had tinnitus in 25.8% and mucosal polyp in 9.67% cases. No complications were found in tubotympanic type of disease. Majority of the atticoantral disease was associated with attic perforation 63.12%, cholesteatoma 78.94% and complications 28%. Fourteen (28%) patients developed complications, of which 10 had extracranial and 4 had intracranial complications. Most common intracranial complications were meningitis and brain abscess and extra-cranial complication was mastoid abscess, followed by post-auricular sinus, which was similar with some studies^{6,3}, and dissimilar with others.⁴

CONCLUSION

Chronic suppurative otitis media is the most common chronic ear disease in Bangladesh. It is more common in rural peoples of younger age group in poor socioeconomic classes with male predominance. Medical and surgical options are limited, with side effects and risks, and sometimes are not successful in eliminating disease. There is an urgent need to focus in the area of CSOM to prevent hearing loss and complications.

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