

Complications of chronic suppurative otitis media: A study in Azamgarh district Uttar Pradesh

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Abstract

Introduction and objective: Chronic Suppurative Otitis Media is commonly associated with complications. Both types of CSOM that is Tubotympanic disease and Atticoantral disease are associated with numerous complications. CSOM of AAD type is commonly associated with serious complications. Cholesteatoma has a bone erosion effect, which can lead to intracranial complications. Objective of this study was conducted to find the incidence of various complications in CSOM in distt Azamgarh, Uttar Pradesh. **Material and method:** Cross-sectional study was conducted in department of ENT government medical college Azamgarh, Uttar Pradesh, between January 2018 to January 2020. The data was analysed using Microsoft excel and SPSS version 20 statistical software. Descriptive statistics were used. The study was approved by the Institutional Ethics Committee. **Results:** Study comprises 140 male and 180 female study subjects. 190 cases had bilateral disease. 70 cases had right ear disease and 60 cases had left ear disease. Out of 320 cases 20% presented with complications. Out of which 50 cases had extracranial complication and 14 cases had intracranial complication. **Conclusion:** Facial palsy, semi circular canal fistula and mastoid abscess are most common extracranial complications. Brain abscess and meningitis are most common intracranial complications.

Keywords: Cholesteatoma; Extracranial complications; intracranial complications.

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Introduction

Chronic suppurative otitis media (CSOM) is most common cause of morbidity and mortality in poor sosciological class of indian population[1].Poverty and ignorance is mostly implicated in this scenorio. People neglect the otorrhea and are reluctant to consult the ent surgeon in early stages. Unqualified quacks worsen the situations. Cholesteatoma goes undiagnosed even in late stages[2].CSOM is a disease associated with complications if not managed in time. Because of unawareness, lack of literacy and delayed presentation the management turn into more complex. Although the occurrence of higher antibiotics, chronic otitis media create a risk to ENT surgeons due to the various intra cranial and extra cranial complications. Progressive erosion of the bone is caused by these complications therefore increasing the risk of damage to exposed labyrinth, the dura and facial nerve. Prior to antibiotic era, intracranial (IC) complications occurred in 2.3–4% cases. With the advent of newer antibiotics and newer surgical techniques, the complications have been greatly reduced from 2.3-4% to 0.15–0.04%. Similarly, decrease in mortality has been observed from 25 to 8%. Though there is an overall decline in the rate of complications of otitis media, life threatening complications are still seen to exist. The reasons behind this may be the changing virulence and susceptibility of bacteria, the state of individual patient and late presentation[3].CSOM remains a serious concern, particularly in developing countries and socio-economically poor regions[4]. Complications of CSOM can be classified as extracranial (EC) or intracranial (IC)[5,6].Extracranial complications include mastoid abscess, petrositis, labyrinthitis, facial

nerve paralysis (FNP), and Bezold's abscess.

Intracranial complications involves intracranial abscess, including extradural,subdural, perisigmoid sinus, epidural, and brain abscesses; lateral sinus thrombophlebitis (LST), meningitis, and otitic hydrocephalus. The pathophysiology of complications of CSOM remains somewhat of a mystery.Owing to the rarity of complications, few systematic studies have been performed. The pathways of EC and IC complications include thrombophlebitis of the venules of the adjoining cranial bones, bone erosion by pressure or enzymatic actions, preformed pathways, and hematogenous spread[7].This study was conducted to find the incidence of various complications in CSOM in Azamgarh district Uttar Pradesh.

Material and method

Study was conducted in department of ENT, government medical college Azamgarh, Uttar Pradesh. Cross-sectional study was done of records of patients admitted between January 2018 to January 2020. The data was analysed using Microsoft excel and SPSS version 20 statistical software. Descriptive statistics were used. Association between various variables was assessed.

Ethical approval

The study was approved by the Institutional Ethics Committee

Results and observations

Three hundred twenty study subjects were studied during this period. Age group was between 6 years to 60 years. There were 140 male and 180 female study subjects. 190 cases had bilateral disease. 70 cases had rt ear disease and 60 cases had lt ear disease. The otitis media with complications usually occurred between the ages of 8–55 years. Forty eight study subjects belongs to age below 10 years and only 16 study subjects belongs to higher age group 51-60 years. The majority of study subjects were in the age group of 21-30 years (Table 1)

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Table 1: Age sex wise distribution of study subjects

	Number	Percent
Gender		
Male	140	43
Female	180	57
Age (in years)		
0-10	48	15
11-20	80	25
21-30	112	35
31-40	32	10
41-50	32	10
51-60	16	5

Figure 1 depicts that the distribution of study subjects with and without complications. Out of 320 cases of CSOM, 64 cases (20%) presented with complications, 256 (80%) were without complications. (figure 1)

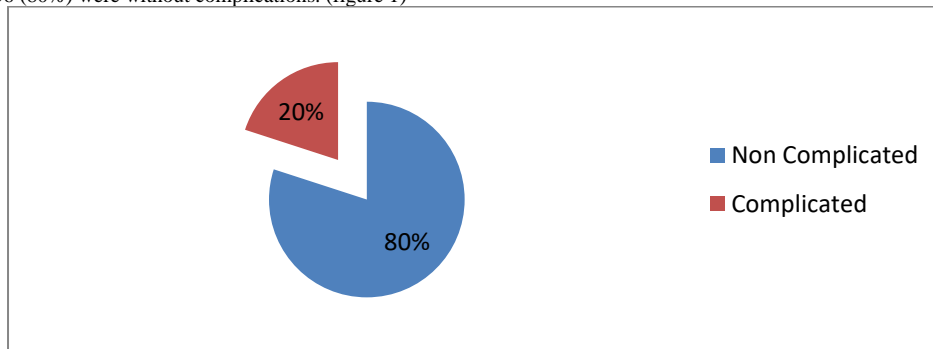


Fig 1: Incidence of complication

Figure 2 shows that the incidence of extracranial and intracranial complications in cases. Sixty four were identified with complications, in which, 50 cases had extracranial complication and 14 cases had intracranial complication. (figure 2)

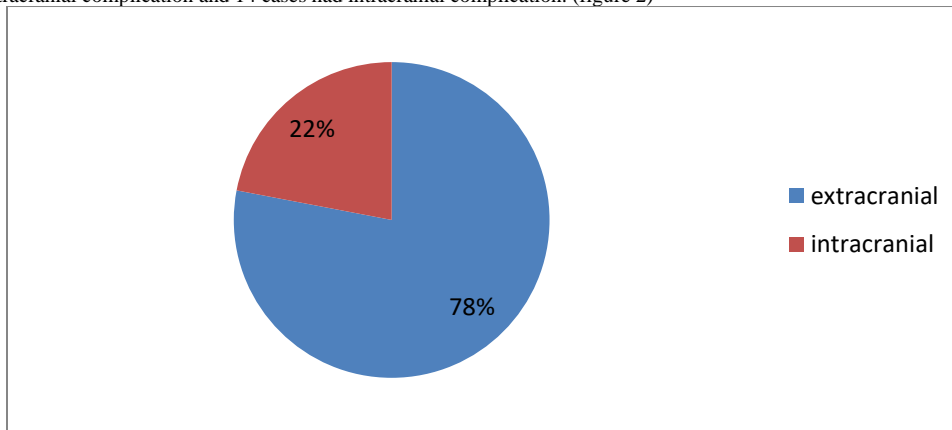


Fig 2: Incidence of extracranial and intracranial complications

Table 2 illustrates that the distribution of cases with respect to types of complications. Out of 50 extracranial cases, mastoid abscess, labyrinthitis, facial paralysis are most common extracranial complications. Majority of extracranial cases belongs to mastoid abscess (46%). Out of 14 intracranial cases, meningitis and brain abscess are most common intracranial complications. (table 2)

Table 2: Distribution of cases with respect to Types of complications.

Types of complications	Number	Percent
Extracranial (n= 50 cases)		
Mastoid Abscess	23	46
Labyrinthitis	12	24
Facial Paralysis	15	30
Intracranial (n= 14 cases)		
Meningitis	6	56
Brain Abscess	8	44

Discussion

CSOM is commonly associated with complications leading to

morbidity and mortality. Poverty and ignorance is the main cause of diagnostic delay[2]. In our study the age of the youngest patients was 6 years and oldest 60 years. Congenital cholesteatoma was seen in younger age groups. Acquired cholesteatoma was seen in 20 to 30 yrs of age gp. This was similar to a report by Sharma et al[3]. In our study male female ratio was 43% to 57%. A study by Dubey et al [7] showed similar gender distribution. In this study extracranial complications were more commonly seen. Most common extracranial complication was Mastoid Abscess. Next common complication was facial paralysis. A study by Mittal et al[1] showed similar finding. In this study intracranial complications were seen in 14 cases. Meningitis and brain abscess were most common intracranial complications. According to studies done by murthy et al [8], cerebellar abscess was most common. Previous studies of large series of patients have shown CSOM complication rates similar to the rates in our series. Kangsanarak et al[9] reviewed 17,000 patients with suppurative otitis media and found 102 cases with IC and EC complications; they calculated the prevalence of complications as 0.69% among the population with suppurative otitis media. In another series of 24,321 otitis media patients from a 13-year period, Kangsanarak et al[10] reported 87 cases with 140 IC complications, representing a prevalence of 0.36% for IC complications. Mustafa et al. [11] found that among 1,803 patients with chronic otitis media with cholesteatoma during a 10-year period (1994–2004) in Kosovo, 91 patients (5%) had complications.

Only a few studies have reported the incidence of facial nerve paralysis[12-14]. Similar finding shown in present study. Brain abscess is the most common IC complication that can be caused by extensive cholesteatoma. Temporal lobe abscess is most commonly found IC abscess. Prompt management with the support of a neurosurgeon gave a good result with zero mortality[7,10,15]

Conclusion

Ignorance, poverty and delay in proper diagnosis is the main cause of occurrences of complications of CSOM in India. Awareness about the disease, early diagnosis, proper investigations and judicious use of antibiotics can decrease the incidence of complications of csom.

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