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Research Article

A clinical study on complications of chronic suppurative otitis media and level of awareness in patients admitted at tertiary care hospital in central India

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ABSTRACT

Background: Chronic suppurative otitis media (CSOM) is a common public health problem in India. Though there is decline in the incidence of complications but they are still frequent due to poor socio-economic conditions, lack of awareness about health care and availability of trained specialist in rural settings. The objective was to study the complications of CSOM and level of awareness in patients admitted at Department of E.N.T. N.S.C.B. Medical College & Hospital Jabalpur M.P. India.
Methods: The present study comprises of 52 patients with complications secondary to CSOM admitted to the Dept. of E.N.T., N.S.C.B. Medical College Hospital Jabalpur M.P. India. An analysis was made regarding the demographic profile, clinical features, complications, awareness and the outcome of the study. Data was analysed with the help of Microsoft office excel.
Results: The total no. of 52 patients with complication of CSOM was included in the study. The most common age for complication was first three decade of life. Most of the patients belong to rural area and lower socioeconomic status. Majority of the patients presented with the history of ear discharge, headache, decreased hearing, ear ache, swelling behind the ear, fever, facial weakness & signs of raised intracranial tension. Intratemporal complications was seen in 46 (88.46%) of the patients while only 6 (11.53%) belongs to intracranial complications. Overall awareness was poor. Self-medication was used in 23 (44.23%) of cases and match stick with or without cotton was used in 31 (59.61%) of patients for cleaning practice.
Conclusions: Complications of CSOM pose a great challenge in clinical practice & Public health. Early intervention & awareness is required to decrease morbidity and mortality of the patients.

Keywords: Chronic suppurative otitis media, E.N.T., Level of awareness

INTRODUCTION

Chronic Suppurative Otitis Media (CSOM) is one of the most common diseases in clinical practice. In our country burden of the disease is too high considering the huge population. Prevalence of CSOM in the world is around 65-330 million/year. Majority of world CSOM burden is attributed by Southeast Asia, Western pacific and African countries. India falls into countries with highest prevalence (prevalence > 4%).[1] Though there is general decline in the incidence of complications, they are still frequently seen in our country. The causes are poor socio-economic conditions, lack of education and awareness as middle ear discharge is still being considered a nuisance rather than a potentially dangerous conditions. The lack of availability of trained specialist is also a major concern.[2]

CSOM is a disease condition characterized by persistent perforation of tympanic membrane with recurrent or persistent muco-purulent Otorrhoea.[3] The duration of the

Otorrhoea has been a subject of controversy among otolaryngologist with various definitions ranging from six weeks to three months from various studies.[4,5] The complications of Otitis media are divided into two main groups. Intra temporal complications include mastoiditis, petrositis, facial paralysis and labyrinthitis. The intracranial complications include extradural abscess, subdural abscess, and meningitis and brain abscess.

Development of complications depends on high virulence of organism, poor resistance of patients, inadequate antibiotic treatment of acute middle ear and mastoid infection, presence of chronic systemic disease and resistance of organisms to antibiotics which is becoming common these days.[1] Lack of awareness and ignorance further increases the chances of developing either extra cranial or intracranial complications. Complications of CSOM can be lethal if they are not identified and treated properly.

The present study was conducted to identify the clinical presentations of complication of CSOM and level of awareness in patients regarding these complications and utility of early clinical detection and the appropriate treatment modalities.

METHODS

Study setting: This cross sectional study was conducted at Department of E.N.T. N.S.C.B. Medical college Hospital Jabalpur (M.P) India.

Study period: 10 September 2010 to 9 September 2011

Inclusion criteria: All patients with intra temporal and intracranial complications who were diagnosed clinically or by CT scan were included.

Exclusion criteria: Cases without any complications, seriously ill and who were not interested to take part in the study.

Ethics Approval & consent: Research was initiated after acceptance of the study by the ethical committee of the N.S.C.B. Medical College Jabalpur India for research. Informed written consent was taken from participants. During processing of the data, strict confidentiality was maintained.

Methodology: This cross sectional study was conducted at Department of E.N.T., N.S.C.B. Medical college Hospital, Jabalpur (M.P). The total no. of 52 patients with complication of CSOM admitted to department of E.N.T., was included for the study. A thorough history and detailed general, otolaryngological, neurological, ophthalmological, CT head and temporal bone was done. Selection of antibiotics and surgical procedure on ear was done as per the extent and type of disease. The neurological consultation was done for intracranial complication.

RESULTS

The total 52 patients with CSOM was included in the study. The total number of male was 29 (55.76%) while the female was 23 (44.23%). The most common age group with complication was 11-30 years. There was total no. of 20 (38.47%) patients in this age group. This age group is followed by 12 (23.07%) were < 10 years, 9 (17.30%) were between 51-70 years, 6 (11.54%) were > 71 years and 5 (9.62%) were in the age group of 31-50 years (Table 1).

Table 1: Distribution of complicated cases of CSOM according to age and sex.

Age group	Gender				Total	
	Male		Female			
	Number	Percentage (%)	Number	Percentage (%)	Number	Percentage (%)
<10 yr	7	24.13	5	21.74	12	23.07
11-30yr	11	37.93	9	39.14	20	38.47
31-50yr	3	10.34	2	8.69	5	9.62
51-70yr	5	17.25	4	17.39	9	17.30
>71 yr	3	10.35	3	13.04	6	11.54
Total	29	55.76	23	44.23	52	100

The most of the patients 38 (73.07%) with complication of CSOM belongs to rural area while only 14 (26.93%) patients belongs to urban area (Table 2). The majority of patients 43 (82.70%) belong to Hindu religion followed by 7 (13.46%) belong to Muslim and 2 (3.84%) belongs to Christian community (Table 3).

Table 2: Distributions of complicated cases of CSOM according to locality.

Locality	Number of cases	Percentage (%)
Rural	38	73.07
Urban	14	26.93
Total	52	100

The most of the complicated cases 44 (84.62%) of CSOM belongs to lower socioeconomic status followed by 6 (11.54%) in middle while only 2 (3.84%) belongs to upper socioeconomic status (Table 4).

Table 3: Distributions of complicated cases of CSOM according to religion.

Religion	Number of Cases	Percentage (%)
Hindu	43	82.70
Muslim	7	13.46
Christian	2	3.84
Total	52	100

Table 4: Distribution of complicated cases of CSOM according to socioeconomic status.

Socioeconomic Status	Number of Cases	Percentage (%)
Upper	2	3.84
Middle	6	11.54
Lower	44	84.62
Total	52	100

The majority of cases 47 (90.38%) presented with unilateral involvement of ear while only 5 (9.62%) involved bilateral distribution (Table 5).

Table 5: Distribution of cases according to laterality of ear.

Laterality of Ear	Number of Cases	Percentage (%)
Unilateral	47	90.38
Bilateral	5	9.62
Total	52	100

Table 6: Distribution of patients according to frequency of presenting complaints in complicated case of CSOM (N=52).

S. No.	Variables	Frequency
1	Otorrhoea(Ear discharge)	52
2	Decreased Hearing	26
3	Swelling behind ear	23
4	Otalgia (Ear ache)	25
5	Vertigo	04
6	Headache	28
7	Fever	18
8	vomiting	03
9	Facial weakness	13
10	Signs of raised intracranial tension	03
11	Signs of meningitis	05

All the patients 52 (100%) were presented with the history of otorrhoea (ear discharge). In 28 (53.84%) patients showed the presenting complaints of headache followed by decreased hearing in 26 (50%), otalgia (ear ache) in 25 (48.07%), swelling behind the ear 23 (44.23%), fever in 18 (34.61%), facial weakness in 13 (25%), signs of meningitis in 5 (9.61%), vertigo in 4 (7.69%), vomiting and signs of raised intracranial tension in 3 (5.76%) of complicated cases of acute suppurative otitis media (Table 6).

The most of the patients 46 (88.46%) belongs to Intratemporal complications while only 6 (11.53%) belongs to intracranial complications (Table 7).

Table 7: Distribution of complication of CSOM according to site of involvement.

Distribution of Complication	Number of Cases	Percentage (%)
Intratemporal	46	88.46
Intracranial	6	11.53
Total	52	100%

The most important complication in intratemporal region is mastoiditis in 28 (60.87%) of cases followed by subperiosteal abscess in 21 (45.64%) patients. In subperiosteal abscess post auricular abscess involved in 18 (39.13%) of cases followed by Zygomaticotemporal in 2 (4.34%) and 1 (2.17%) in Bezolds abscess in neck. Sensorineural hearing loss was seen in 19 (41.30%) of cases followed by Labyrinthitis & facial palsy in 13 (28.26%) of cases, post auricular fistula in 11 (23.91%) of cases and petrositis in 1 (2.17%) were intratemporal complications of CSOM (Table 8).

Table 8: Distribution of cases according to intratemporal complications (N=46).

Intratemporal Complications	Number of Patients (frequency)	Ratio Percentage (%)
1. Sensorineural Hearing Loss	19	41.30
2. Mastoiditis	28	60.87
3. Subperiosteal Abscess		
a) Post auricular Abscess	18	39.13
b) Zygomaticotemporal	2	4.34
c) Bezolds (In Neck)	1	2.17
4. Post auricular Fistula	11	23.91
5. Labyrinthitis	13	28.26
6. Facial Palsy	13	28.26
7. Petrositis	1	2.17

Out of 6 patients of intracranial complication meningitis was seen in 5 (83.33%) patients while brain abscess was found to be associated in 1 (16.66%) of cases.

Table 9: Distribution of cases according to intracranial complications (N=6).

Intracranial Complications	Number of Cases	Percentage (%)
1. Meningitis	5	83.33
2. Brain Abscess	1	16.66

Table 10: Treatment seeking pattern of complicated cases of CSOM (N=52).

Treatment seeking pattern	No. of patients	Percentage (%)
Self –medication	23	44.23
From quacks	13	25.00
Traditional medical system	11	21.15
MBBS/ ENT surgeons	05	9.62

Table 11: Table showing ear cleaning practice of complicated cases of CSOM (N=52).

Ear cleaning practice	No. of patients	Percentage (%)
Match stick with or without cotton	31	59.61
Water	17	32.69
Cotton ear buds	04	7.70
Ear cleaning practice	No. of patients	Percentage (%)

According to treatment seeking pattern of complicated cases of CSOM self-medication was used in 23 (44.23%) of cases followed by 13 (25%) patients used treatment prescribed by quakes, in 11 (21.15%) patients took treatment by traditional medical system while only 05 (9.62%) consulted MBBS/ ENT surgeons in the past.

According to ear cleaning practices of complicated cases of CSOM match stick with or without cotton was used in 31 (59.61%) of cases followed by water used for cleaning purpose in 17 (32.69%) of cases. Only 4 (7.07%) patients used cotton ear bud for ear cleaning purpose in the past.

DISCUSSION

The present study was conducted to know the complications of chronic suppurative Otitis media and level of awareness in patients regarding complications admitted at Department of E.N.T Medical College Jabalpur. The total no. of 52 patients with complication of chronic suppurative Otitis media was included in the study. Male patients were affected more 29 (55.76%) as compared to the female 23 (44.23%). Similar results were obtained by the Hussain et al.[6] and Bento et al.[7]. The complications were mostly seen in first thirty years of life similar results were obtained by other Studies like Moustafa et al. (2009), Dubey et al. (2007), Agrawal et al. (2005) and Shamboul et al. (1992).[8-10]

The most of the patients 38 (73.07%) with complication of CSOM belongs to rural are and 44 (84.62%) to lower socioeconomic status this is due to fact that Poor living conditions, poor access to medical care, inadequate medical treatment, recurrent upper respiratory tract infections and nasal diseases have been recognized as risk factors for CSOM similar results were obtained by Arunabha et al were 60% of their patients were from low socio-economic class.[11] Thus improving living conditions with better sanitation and good access to medical care can reduce the incidence of CSOM and its complications.[12] The majority of patients 43 (82.70%) belong to Hindu religion because Hindu is majority community in the study population.

The majority of cases 47 (90.38%) were presented with unilateral involvement of ear. The reason for this difference is not clear. This agrees with other existing literature which had reported similar findings.[13,14] The prevalence of unilateral disease is believe to be good as it proffers a better prognosis in limiting the risk of disability from accompany hearing loss than for bilateral disease.

The most common symptom was a long standing otorrhoea followed by descending order of frequency were headache, decreased hearing , Otalgia (ear ache), swelling behind the ear, fever, facial weakness, signs of meningitis, vertigo, vomiting & signs of raised intracranial tension in complicated cases of acute suppurative Otitis media. Similar findings were in other studies.[7,15]

The most of the patients 46 (88.46%) belongs to Intratemporal complications while only 6 (11.53%) belongs to intracranial complications. The most important complication in Intratemporal region is mastoiditis in 28 (60.87%) of cases followed by Subperiosteal abscess in 21 (45.64%) patients. In Subperiosteal abscess post auricular abscess is seen in majority of the cases. Sensorineural hearing loss was seen in 19 (41.30%) of cases followed by decreasing order of Labyrinthitis & facial palsy, post auricular fistula and petrositis in Intratemporal complications of chronic suppurative Otitis media. Similar results were obtained by Moustafa et al.[8], Grewal et al. (1994)[16] as the most frequent complication was mastoiditis.

Out of 6 patients of intracranial complication meningitis was seen in 5 (83.33%) patients followed by brain abscess. Meningitis is also found to be commonest intracranial complications in some of the studies.[7,17] Other study found that brain abscess is the common complication.[18]

The overall awareness regarding problems associated with complications of CSOM was poor in patients.

According to treatment seeking pattern of complicated cases of CSOM self-medication was used in 44.23% of cases followed by 25% patients used treatment prescribed by quakes, 21.15% patients took treatment by traditional medical system doctors while only 9.62% consulted MBBS/ ENT surgeons in the past. The high percentage of self-medication by the patients was due to wide spread availability of ear drops as over the counter products in our country. The rural and poor patients believe in quakes and other traditional system leading to complications of CSOM. According to ear cleaning practices of complicated cases of CSOM match stick with or without cotton was used in 31 (59.61%) of cases followed by water used for cleaning purpose. Only 4 (7.07%) patients used cotton ear bud for ear cleaning purpose in the past. The patients still lack the basic knowledge of cleaning practice of ear leading to problems of ear infections.

CONCLUSION

Complications of chronic suppurative Otitis media are a great concern for clinical practice & public health. High level of awareness in patients regarding these complications and utility of early clinical detection and the appropriate treatment modalities are required to decrease the morbidity and mortality.

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