

Clinical profile of patients with CSOM

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Abstract

Background: Chronic inflammation without resolution leads to perforation of the TM. In the absence of cholesteatoma, formation this perforation is generally in the tense portion of the TM and does not involve the tympanic ring. The margins of the perforation are originally lined with granulation but eventually become lined with squamous epithelium. It was a descriptive cross sectional study of hundred patients with CSOM of all age groups and both sexes, attending the Out Patient Department and those admitted in Otorhinolaryngology wards. Patients were selected randomly for the study. Out of 100 patients examined and analyzed, CSOM is found common in the age group 6-20 years (62%) and least number of patients were found in the age group 31-50 years (10%). A total of (22%) were found in the age group 21-30 years and (06%) in 0-5 years. the most number of patients according to age group (62%) goes in accordance with the student population (65%). Out of 100 patients examined and analyzed of the patients with CSOM are with Tubotympanic disease (88%) and (12%) were with Atticoantral disease.

Keywords: CSOM, Cholesteatoma, Tubotympanic Disease.

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INTRODUCTION

CSOM is defined as permanent abnormality of pars tensa or pars flaccida, most likely a result of earlier acute otitis media, negative middle ear pressure or otitis media with effusion. CSOM is a long standing infection of part or whole of middle ear cleft, characterized by ear discharge and permanent perforation. Perforation becomes permanent when its edges are covered by squamous epithelium. In fact, a neglected acute suppurative otitis media of several months duration may still be essentially a self limiting process that will tend toward complete resolution, whereas epitympanic cholesteatoma from the very first day of the otorrhea should be classified as a CSOM. Thus it is not the duration of discharge in days,

weeks or months but rather particular pathologic changes that cause an otitis media to be classed as chronic rather than acute and self limiting¹. It is usual to divide chronic otitis media into two varieties. "Tubotympanic" and "Atticoantral disease". In tubotympanic disease the mucosal factor is the important feature and in atticoantral disease the long standing erosion of bone by cholesteatoma is the significant factor. Serious complication may result from the atticoantral disease while tubotympanic varieties are seldom dangerous to life². Chronic inflammation without resolution leads to perforation of the TM. In the absence of cholesteatoma, formation this perforation is generally in the tense portion of the TM and does not involve the tympanic ring. The margins of the perforation are originally lined with granulation but eventually become lined with squamous epithelium. The squamous epithelium does not extend beyond the margins and thus does not cause accumulation of epithelial debris within the middle ear. Perforation which involves the bony tympanic ring are prone to ingrowth of squamous epithelium with cholesteatoma formation.³ Bone necrosis either in the ossicles or of the intercellular septums in the mastoid results from thrombosis of the small blood vessels in these areas. Necrosed bone may remain for long periods, promoting persistence of the infection. Changes in the mucous membrane of the middle ear cleft consisting of

hyperplasia with increase in intercellular fluid, hypertrophy with increased cells, fibrosis and polyp formation all result from chronic inflammation in the cleft. Metaplasia of the mucous membrane with formation of gland like structures may occurs. All these changes leads to pocketing of secretions in the recesses of he middle ear and to prevention of ventilation and drainage through the auditory tube.⁴ The inactive phase of chronic otitis media is characterized by perforation of the TM without drainage. This is the result of an acute or chronic process, trauma or rarely myringotomy. Minimal pathological changes are found. The auditory tube is usually patient to inflation by the Valsalva and other maneuvers. Symptoms are minimal and consist principally of a conductive hearing loss which is relatively mild when perforation is the only abnormality, but more severe if in addition the ossicular chain is involved. The margins of the perforations are covered with squamous epithelium. The remaining TM may be of normal thickness, or increased due to fibrosis or tympanosclerosis, or thin and atrophic with loss of the fibrous layer. The atrophic membrane is the residual of partial regrowth of membrane, a result of nature’s effort to close a larger perforation. The mucous membrane lining the middle ear is thin and translucent and has a velvety sheen. The architecture of the medial tympanic wall is seen clearly wen the perforation is large.⁵ Inactive chronic otitis media is a benign condition and has a little significance other than the hearing deficit and the lack of protection of the middle ear. The TM provides a ‘stopper’ in the pathway from the nasopharynx through the middle ear cleft and external auditory canal to the exterior. The stopper impedes the passage of large quantities of air and consequently discourages passage of infected material from the nasopharynx to the middle ear from nose blowing, sneezing or coughing. Equally important is the protection given the middle ear from infection carried via the external auditory meatus. Persons who have perforations of the TM should be warned against swimming and should use care to avoid water in the ear when bathing.⁶ Intermittency of drainage in case of perforated TM is usually the result of infection transferred through the auditory tube from the upper respiratory passage to the tympanum. The history indicates drainage for a period of a few days to a few weeks concurrent with an acute upper respiratory infection or with an active episode of allergic disorder of the upper respiratory tract. Hearing may be further reduced at the time of activity. The activity is often the result of over vigorous nose blowing, coughing or sneezing. During the active stage, secretion is present. It is usually mucoid to purulent and is odorless. After cleaning the ear the mucous membrane of the middle ear is found inflamed or oedematous.

METHODOLOGY

It was a descriptive cross sectional study of hundred patients with CSOM of all age groups and both sexes, attending the Out Patient Department and those admitted in Otorhinolaryngology wards. Patients were selected randomly for the study.

Inclusion criteria:

All cases of middle ear discharge for more than 3 months.

Exclusion criteria:

Condition which mimic CSOM like

- Otitis externa
- Acute suppurative otitis media.

A proforma is used for documenting age, sex, address, clinical information, including chief complaints, duration of symptoms, predisposing factors and any previous history of treatment. Other medical history like diabetes mellitus, Hypertension and tuberculosis etc were noted from each patient. Ear discharge is collected under aseptic precautions in clinically diagnosed cases of CSOM, Excess discharge was mopped out from external auditory canal. Then with the sterile swab, specimen was collected and sent immediately to Department of Microbiology with a requisition for culture and sensitivity.

RESULTS

Table 1: Gender

SL.NO.	GENDER	PERCENT
1.	Male	68
2.	Female	32
TOTAL		100

Out of 100 patients observed and analyzed, CSOM is found to be more predominant in males (68%) than females (32%).

Table 2: Occupation

SL.NO.	OCCUPATION	PERCENT
1.	Children ≤ 5	06 ₁
2.	Students	65
3.	Housewife's	08
4.	drivers	08
5.	Formers	02
6.	Business	09
7.	Professors	02
TOTAL		100

Out of 100 patients observed and analyzed, CSOM is found to be more among student population (65%)

Table 3: Age Distribution

SL.NO.	AGE	PERCENT
1.	0-5	06
2.	6-10	22
3.	11-15	12
4.	16-20	28
5.	21-25	11
6.	26-30	11

7.	30-35	01
8.	35-40	05
9.	40-45	03
10.	45-50	01
TOTAL		100

Out of 100 patients examined and analyzed, CSOM is found common in the age group 6-20 years (62%) and least number of patients were found in the age group 31-50 years (10%). A total of (22%) were found in the age group 21-30 years and (06%) in 0-5 years. the most number of patients according to age group (62%) goes in accordance with the student population (65%).

Table 4: Socio Economic Status

SL.NO.	SES	PERCENT
1.	Low	62
2.	Middle	24
3.	High	14
TOTAL		100

Out of 100 patients examined and analyzed, CSOM is found common in lower socio economic status (62%) and very less number of patients was found in higher socio economic status (14%)

Table 5: Presenting Complaints

SL.NO.	PRESENTING COMPLAINTS	PERCENTAGE
1.	Ear discharge	33
2.	Loss of hearing	16
3.	Both	51
TOTAL		100

Out of 100 patients examined and analyzed, majority of patients with CSOM presented with both ear discharge and loss of bearing (51%), (33%) of them presented with ear discharge and (16%) presented with only loss of hearing.

Table 6: Respiratory Infection

SL.NO.	RESPIRATORY INFECTION	PERCENT
1.	Normal	37
2.	URTI	53
3.	LRTI	04
4.	URTI-LRTI	06
TOTAL		100

Out of 100 patients examined and analyzed, major population in patients with CSOM was with respiratory tract -infection (63%). Among them URTI is more prone to cause CSOM (53%). (37%) of them were normal without any infection. Out of 100 patients examined and analyzed, the prima, pre and postauricular region, EAC appeared normal in patients with csom. Out of 100 patients examined and analyzed, there is no tragal or mastoid tenderness in patients with csom. Out of 100 patients examined and analyzed, major ofpatients with CSOM showed Profuse Ear discharge (57%) compared to Scanty (43%).

Table 7: Quantity

SL.NO.	QUANTITY	PERCENT
1.	Profuse	57
2.	Scanty	43
TOTAL		100

Out of 100 patients examined and analyzed, majority of patients with CSOM showed mucopurulent ear discharge (54%) followed by mucoid (33%) and purulent (13%)

Table 8: Quality

SL.NO.	QUALITY	PERCENT
1.	Mucopurulent	57
2.	Mucoid	33
3.	Purulent	13
TOTAL		100

Out of 100 patients examined and analyzed, majority of the discharge is yellow in colour(64%),(33%) were colour less and (3%) were yellow and blood tinched suggestive of AAD.

Table 9: Discharge

SL.NO.	QUALITY	PERCENT
1.	Colourless	33
2.	yellow	64
3.	Yellow+Blood tinched	03
TOTAL		100

Out of 100 patients examined and analyzed of the patients with CSOM are with Tubtympnic disease (88%) and (12%) were with Atticocontrol disease.

Table 10: CSOM

SL.NO.	CSOM	PERCENT
1.	TTD	88
2.	AAD	12
TOTAL		100

DISCUSSION

Our study showed that CSOM is found common in the age group 6-20 years (62%) followed by 21-30 years and is comparable with studies below. The cause for increased incidence in this age group could be due to recurrent respiratory tract. V.K. Srivastava *et al.*⁷ in 1979 studied that the common age group is 10-14 years (22%) J. Gulati *et al.*⁸ in 1969,found that the incidence of CSOM, is maximum in age group of 0 to 10 years. Poorey V.K. Iyer A² in 2002, common age group was first and second decades of life among them 1-10 years age group was more common (46%). Gupta Vineeta *et al.*³ 1998, found that maximum patients were in the age group of 21-30 years, which is different from out present study. In the present study, the disease is more prevalent in the poor socio economic group (62%) as compared to the other groups in the society and is comparable with study below. Poorey V.K. *et al.* in 2002, showed that the prevalence of the

disease in the low socio-economic group was (50%). In our study, majority of the patients presented with ear discharge and loss of hearing (51%) Majority of patients in our present study presented with ear discharge of 1-3 years of duration(45%) and is comparable with study below. J. Gulati *et al.*⁸ in 1969, showed that the duration of ear discharge varies from 6 weeks to 10 years. Present study shows that, majority of patient with CSOM were normal (64%) without any significant history of previous illness and there is no evidence suggestive of genetic susceptibility in CSOM. Few of our patients in the study group has the personal history of swimming, putting foreign materials in the ear, smoking alcoholism but in majority of them. There is no significant personal history (54%). Major population in our study group were under nourished (53%) and is comparable with studies below. This factor can also be compared to the low socio economic group in our study (62%). Poorey V.K. *et al.*² in 2002, Studied that prevalence of the disease in the low socio-Economic group was 50%. None of the patients in the present study has anemia, jaundice, cyanosis, Koilonychia, temperature, lymphadenopathy. The general examination of the patients were found normal. Major population in patients in the present study, with CSOM had/has RTI (62%). Among them URTI is more prone to cause CSOM (53%) and is comparable with studies below. J. Gulati *et al.*⁸ in 1969, Poorey V.K. *et al.*² in 2000 and BM Ahmad *et al.*⁹ in 2003 suggested that the disease typically follows viral infection of URTI which leads to pyogenic infection or is an associated symptom. The pinna, pre and postauricular region, EAC appeared normal in the present study of patients with CSOM and there is no tragal or mastoid tenderness. In the present study, majority of patients with CSOM showed profuse ear discharge (57%) compared to scanty (43%). Majority of patients with CSOM in the present study showed mucopurulent ear discharge (54%). V.K. Srivastava *et al.*⁹ in 1979, the commonest type of discharge was a purulent one and is more often associated with organisms like *S. aureus*, *Strep. pyogenes*, *Prof. Vulgaris* and *E. coli*, which differ from the present study.¹⁰ For most of the people in the present study, discharge is yellow in colour (64%), (33%) were colorless and (3%) were yellow and blood inched suggestive of AAD.

CONCLUSION

In the present study of A Bacteriological study of CSOM' out of 100 cases 68% were males and 32% were females. This shows the incidence of CSOM has got preponderance in male patients. CSOM is found to be more common among student population (65%). The cause for increased incidence in this group could be due to recurrent RTI. The minimum age of the patient is 1 year 3months and maximum age is 48 years. The maximum number of patients were in the age group 16-20 years (28%) next between 6-10(22%) years and 11-15(12%) years. The cause for increased incidence in this age group could be due to recurrent RTI. 62% of patients were of low socio-economic group and 24% were in middle SES group and only 14% were in high SES group. Majority of patients with CSOM presented with both ear discharge and LOH (51%). The presenting complaints were of 1-3 year duration. Most of our patients were normal (64%) without my significant history of previous illness.

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