

Comparison of clinical presentation between Chronic Otitis Media Mucosal with Squamous.

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ABSTRACT

Background

Chronic otitis media is a chronic inflammatory disease of the middle ear cleft which is manifested as deafness and ear discharge. It is a common condition affecting 0.5 – 30% of any community worldwide, and most common in developing countries. The prevalence mainly depends on age, low socio-economic status, overcrowding and limited medical facilities.

Objective

To compare the clinical presentation between chronic otitis media mucosal with squamous types.

Methods

A prospective, longitudinal and analytical study performed among 200 patients who have features of chronic otitis media and were attended to in the ear, nose and throat outpatient department of Dhulikhel Hospital - Kathmandu University Hospital, Dhulikhel, Nepal from January 2010 to January 2011. Patients who had already undergone surgery and came back to the hospital, with inadequate information were excluded from the study.

Results

The results showed that, out of 200 cases, 120 (60%) were chronic otitis media- mucosal and 80 (40%) were chronic otitis media – squamous. Patients < 30 years were affected in both groups. The male to female ratio in chronic otitis media mucosal was 1.14:1, whereas in chronic otitis media squamous, it was 1.96:1. Similarly in etiological factors, oil and water exposure (76%) was the most common cause in chronic otitis media mucosal, whereas in chronic otitis media squamous, oil and water exposure (62.5%) and recurrent upper respiratory tract infection (62.5%) were the most common causes. Of all the clinical features, ear discharge was the leading feature in both chronic otitis media mucosal (98%) and squamous (100%) cases. The complications were mainly seen in the chronic otitis media squamous and the most common complication was mastoid abscess (5%).

Conclusions

The frequency of chronic otitis media is higher in the younger age group and those lacking in health education. As a result, it is important to disseminate the health education regarding the ear disease which will help in decreasing the frequency of the disease in developing countries like ours.

Key Words

chronic otitis media, mastoid abscess, upper respiratory tract infection

INTRODUCTION

Chronic otitis media (COM) is a chronic inflammatory disease of the middle ear cleft which is complicated as partial or total loss of the tympanic membrane and ossicles and also causes irreversible sequelae which is manifested as deafness and ear discharge.^{1,2} This disease is classified into healed COM, COM (mucosal) active and inactive, COM (squamous) active and inactive as the old terminology of chronic suppurative otitis media tubo-tympanic and attic-antral has been abandoned.³ COM is a common condition affecting 0.5 – 30% of any community. It is most common in developing countries. The prevalence in our country is 3.5%.⁴ The prevalence mainly depends on age, low socio-economic status, overcrowding and limited medical facility.^{2,5}

The COM mucosal is characterised by either permanent perforation of the pars tensa without inflammation of the middle ear and mastoid if it is inactive. In inactive cases, there is chronic inflammation within the mucosa of the middle ear and mastoid, characterised by intermittent and mainly mucoid or mucopurulent discharge which is precipitated by upper respiratory tract infection and entry of water or oil instillation.⁶

The COM squamous is characterised by only the retraction pocket in the tympanic membrane if inactive types and inactive types there is cholesteatomawithin the tympanic membrane.⁶ There is a continuous foul smelling discharge in cases of COM squamous, and the chance of complications is higher than that of COM mucosal.

The various complications associated with COM squamous are mastoiditis, labyrinthitis, various types of subperiosteal abscess, facial nerve paralysis and petrositis. Intracranial complications include meningitis, extradural abscess, subdural abscess, brain abscess, lateral sinus thrombophlebitis and otitic hydrocephalus.⁷ However, these complications are also seen in COM mucosal but less frequently.

The main aim of our study is to compare the clinical presentation between COM mucosal with the squamous type.

METHODS

This study is a prospective, longitudinal and analytical study performed among 200 patients who have features of COM attended in ear, nose and throat (ENT) outpatient department of Kathmandu University Hospital, Dhulikhel, Nepal from January 2010 to January 2011. Patients who had already undergone surgery prior to their hospital consultation, and/or received little or no information were excluded from the study. The results were analysed using a simple manual analysis of frequency and percentage.

RESULTS

200 cases of COM were included in the study. Of the 200 cases 120 (60%) were COM mucosal and 80 (40%) were COM squamous as shown in Table 1. Tables 2, 3, 4, 5, 6 and 7 show age, sex distribution, the etiological factors, clinical features and complications are shown in.

Table 1. Distribution of types of COM. (n=200)

Types	Number (n=200)
COM-mucosal	120(60%)
CSOM-squamous	80(40%)

Table 2. Age distribution of patients in both COM mucosal and squamous.

Age group (years)	COM mucosal (n=120)	COM squamous (n=80)
0-10	40(34%)	7(8.3%)
11-20	26(22%)	26(33.3%)
21-30	35(29%)	20(25%)
31-40	5(4%)	13(16.7%)
41-50	3(2%)	7(8.3%)
>50	11(8%)	7(8.3%)

Table 3. Sex distribution of patients in both COM mucosal and squamous

Sex	COM mucosal (n=120)	COM squamous (n=80)
Male	64(53.3%)	53(66.3%)
Female	56(46.7%)	27(33.7%)

Table 4. Distribution of etiological factors in both COM mucosal and squamous

Etiological factors	COM mucosal (n=120)	COM squamous (n=80)
Over crowding	3(2.2%)	-
Oil/water instillation	91(76%)	50(62.5%)
LPR	3(2.2%)	-
Bottle feeding	13(11%)	-
Recurrent URTI	16(13%)	50(62.5%)
Family h/o CSOM	33(27%)	10(12.5%)
No factors	5(4%)	20(25%)

Table 5. showing distribution of clinical features in COM mucosal.

Clinical features	COM mucosal (n=120)
Ear discharge	117(98%)
Decrease hearing	97(80.7%)
Earache	16(13.5%)
Tinnitus	7(5.7%)
Itchiness	5(3.8%)
Vertigo	-

Table 6. Distribution of clinical features in COM squamous.

Clinical features	COM squamous (n=80)
Ear discharge	80(100%)
Decrease hearing	75(93.7%)
Earache	25(31.2%)
Tinnitus	15(18.7%)
Vertigo	3(3.7%)
Diplopia	1(1.2%)
Vomiting	1(1.2%)
Headache	1(1.2%)
Fever	5(6.2%)
Cholesteatoma	70(87.5%)
Polyp	15(18.7%)
Mastoid abscess	4(5%)

Table 7. Distribution of complications in COM squamous.

Complications	COM squamous (n=80)
Mastoid abscess	4(5%)
Petrositis	1(1.2%)
Meningitis	1(1.2%)
Labyrinthitis	1(1.2%)
Lateral sinus thrombosis	1(1.2%)

DISCUSSION

The COM is more prevalent in developing countries ranges from 0.5-30%.⁸ Mainly the affected groups are low socio-economic condition, young age group and with family history of COM.⁹

Our study showed that the COM mucosal was 120 (60%) and squamous 80 (40%). The majority of patients were of COM mucosal, which may be because in mucosal diseases there is profuse ear discharge, and as a result patients are more likely to visit the hospital more frequently. However, in squamous variety, discharge is minimal and patients tend not to visit the hospital until the discharge begins to smell or until there are complications.

Regarding the age group, patients of < 40 years were most commonly affected with about 89% in COM mucosal and 83.3% in COM squamous which contrasts with the study performed by the UK National study of Hearing which reported individuals in the 41-80 year age group were twice as likely to have COM as those aged 18-40 years.¹⁰ However, results from this study correlate with the study performed by Islam et al, Fakir et al and Siddique and Khan.¹¹⁻¹³ This contrasts with the age group of the study in the UK which could be because there are traditional trends which are specific to Nepal. For example, pouring oil into the ear canal during childhood is still thought by some to work, and young people frequently swim in

the river or pond water without aural protection.

As for the gender distribution, our study showed that the male sex were more commonly affected with male to female ratio of 1.14:1 in COM mucosal and 1.96:1 in COM squamous which is similar to a study performed by Siddique and Khan, Islam et al.^{11,13} but the contrast with the study performed by the UK National Study of Hearing which showed no difference between male and female.¹⁰ This result in our study could be because Nepal is arguably a male-dominated society. Generally speaking, men in the family are the head of the household, and they are more aware of their health than women of the household. As a result, their health is prioritised over women's. Other factors which may affect the male to female ratio in Nepal is that men are more likely to go swimming in public places such as rivers, rather than women. The male are more aware with their health than females and they also think that they must be healthy as they are the earners in the family. Other reason may be males more often take bath and swim in river.

In etiological factors, our study showed that oil and water exposure accounts for 76% of the cases and was mostly responsible for COM mucosal. Other factors include the patient's family history of COM, bottle feeding, recurrent URTI, overcrowding and laryngo-pharyngeal reflux (LPR). Similarly, in COM squamous, the oil and water instillation, recurrent URTI and family history of COM are mainly responsible. Oil and water exposure was the main cause of COM in our study as oil instillation is a traditional - method in our country during childbirth. The study also found that water exposure was a major cause for COM as people often swim in the rivers in Nepal without protection. Elsewhere, patient's with a family history of COM - were also prone to suffering from it as there have been cases of cross-contamination of infections among family members. Bottle feeding became a factor as bottle-fed children had lower immunity as compared to children who were fed breast milk. Recurrent URTI cause transient eustachian tube dysfunction and also the mucosa of eustachian tube continuous with that of middle ear mucosa which cause transmission of infection.¹⁴ Our study showed that overcrowding was also responsible for causing COM as it correlates with the low socio-economic status as seen in the study carried by Siddique and Khan, and Islam et al, Bennett and Haggard study.^{11,13,15} Our study showed that 2.2% had history of LPR, the causal relation could be like that of study performed by Poelmans et al.¹⁶

The most common clinical presentation of COM mucosal in our study was ear discharge (98%) and decreased hearing (80.7%). Similarly other presentations were earache, tinnitus and dizziness. These findings were similar to the study performed by Islam et al, Kanget al and Weilinga et al.^{13,17,18} The slight difference in our study was that ear discharge was the main presentation in our patients. It may be because patients were more annoyed by the discharge in the ear rather than hearing loss.

The most common presentation of COM Squamous was ear discharge (100%), decrease hearing (93.7%) and earache (31.2%). The presentations in our study is similar to that of Islam et al and Meimaneh et al^{13,19} But differs from the study performed by Weilinga et al¹⁸ which showed hearing loss (83%) to be more common than ear discharge (56%).

The cholesteatomatous findings were 87.5% in our study which is comparable to the study carried out by Islam et al¹³ which showed 76.6%, but more than that of the study conducted by Meimaneh et al¹⁹ showing frequency of 42% only. The increased cholesteatomatous finding in our study could be because of nose blowing habit in our patients which lead to change in middle ear pressure.

There were no complications in COM mucosal cases in our study whereas in COM Squamous there were total 8 (9.8%) complications out of 80 cases. The most common complication was mastoid abscess (5%) which is similar to study performed by Islam et al and Osma U et al^{13,20} whereas other complications were meningitis, labyrinthitis, petrositis and lateral sinus thrombophlebitis. The frequency of complication more in COM squamous which is similar to study performed by Youngs et al.⁵ There were no deaths reported because of complications in our study.

CONCLUSION

The results concluded that the frequency of COM occurs more in younger patients and those lacking health education. Thus, it is important to first tackle health education regarding ear diseases which will help in decreasing the frequency of the disease firstly. Similarly, early diagnosis and intervention could prevent the dreadful complications of ear disease.

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