

Incidence of Cholesteatoma in Various Age, Sex and Socioeconomic Groups

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Forty cases of chronic suppurative otitis media with Cholesteatoma were included in this study. Purpose was to find out the incidence of Cholesteatoma in individuals of various age, sex and socioeconomic groups. It was found that most of the patients (85%) having chronic suppurative otitis media with Cholesteatoma were young and most of them (62.5%) were males. Majority of the patients (90%) were from rural areas. Most of the patients (77.5%) had lower socioeconomic status.

Key words: Ear, Chronic otitis media, Cholesteatoma.

Cholesteatoma is a cystic structure lined by keratinizing type of stratified squamous epithelium resting on fibrous stroma of variable thickness and may contain some element of original mucous lining¹.

According to another definition Cholesteatoma is an abnormal collection of viable and desquamated squamous epithelium in the middle ear or mastoid air spaces². Although cholesteatomas are more commonly found in the middle ear and mastoid, the disease can occur in the external ear canal³. It is not a genuine tumour but has a remarkable proliferative activity which causes serious destruction of mastoid bone⁴. Epithelium of the Cholesteatoma is characterized by a keratinocyte dysregulation with an aggressive growth that leads to the destruction of normal middle ear mucosa. Abnormal behaviour of Cholesteatoma seems to be induced by the presence of heavy immune cell infiltrate releasing different cytokines and growth factors in high amounts. Middle ear mucosa rests are often observed within the Cholesteatoma stroma or adjacent to the advancing front of the Cholesteatoma epithelium⁵.

Cholesteatomas are histologically benign, though biologically invasive lesions that arise from the migration of squamous epithelium of the ear. Acquired cholesteatomas usually arise in an antigenically active environment, i.e., a chronically and/or recurrently inflamed middle ear. In contrast, the congenital cholesteatomas occur in an uninfamed environment⁶. Cholesteatoma is more aggressive in children than in adults and it affects boys more often than girls⁷.

Pseudomonas aeruginosa is the most commonly involved organism in patients with Cholesteatoma. It is found in about 45.3% cases. Other organisms involved are streptococcus, bacteroids and peptococcus. Cholesteatoma can lead to a large number of extracranial and intracranial complications. Younger people are more susceptible to ear infection and its complications due to low resistance.

Patients and Methods

This study was carried out in the department of ENT, Mayo Hospital, Lahore. Forty cases of chronic suppurative otitis media with Cholesteatoma were included in this

study. Complete case histories of all the patients were recorded in a detailed performa. Each patient underwent a detailed examination of ear, nose and throat including examination of ear under the microscope. General physical and systemic examination was done in each case. Routine investigations including complete blood picture, urine analysis, x-ray chest PA view were done in all cases. Specific investigations such as blood urea, serum electrolytes, x-ray paranasal sinuses, x-ray soft tissue nasopharynx lateral view and x-ray mastoids were done where needed. CT Scan of patients with suspected intracranial complications was done.

Culture and sensitivity of ear discharge was also performed. Pre and postoperative audiograms were carried out in all cases. Modified radical or radical mastoidectomy was done in each case according to the extent of disease process. The material obtained during surgery was sent for histopathology to confirm the diagnosis and pathology of disease process.

Results

Forty cases of chronic suppurative otitis media with Cholesteatoma were included in this study. It was observed that Cholesteatoma is found more commonly in the younger age group. Sixteen patients (40%) were below 20 years of age and eighteen patients (45%) were between 20-30 years. Six patients (15%) were above 30 years of age. Thirty four patients (85%) were between 1-30 years age group. Table I shows the age distribution of these patients. Out of 40 patients, 25(62.5%) were male and 15(37.5%) were female. Table II shows the sex distribution of these patients. Thirty one patients (77.5%) were from lower socioeconomic class, 6 patients (15%) were from middle class and 3 patients (7.5%) were from upper class.

Table I: Age distribution of patients having Cholesteatoma. (n=40)

Age	No. of Pts.	%age
Below 20 years	16	40
Between 20-30 years	18	45
Above 30 years	6	15
Total	40	100

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Table III: Sex distribution of patients having Cholesteatoma. (n=40)

Sex	n=	%age
Male	25	62.5
Female	15	37.5
Total	40	100

Table III shows the socioeconomic status of these patients. Thirty six patients (90%) were from rural population and 4 patients (10%) were from urban population. This geographic distribution is shown in Table IV.

Table IV: Socioeconomic status of 40 patients.

Status	n=	%age
Lower	31	77.5
Middle	6	15
Upper	3	7.5
Total	40	100

Table V: Geographic distribution of 40 patients.

Distribution	n=	%age
Rural	36	90
Urban	4	10
Total	40	100

Discussion

Chronic suppurative otitis media is a common disease of younger age group. So the chances of having Cholesteatoma are more in this age group. In this study it was found that most of the patients having Cholesteatoma were young. Sixteen patients (40%) were below 20 years of age and 18 patients (45%) were between 20-30 years of age. Only 6 patients (15%) were above 30 years of age. Thirty four patients (85%) were between 1-30 years age group.

Cholesteatoma occurs more commonly in the males⁷. As the incidence of chronic suppurative otitis media is higher in the males so the chances of having Cholesteatoma are more in the males. In this study it was found that out of 40 patients with Cholesteatoma, 25(62.5%) were males and 15(37.5%) were females.

The lower socioeconomic class has a higher incidence of chronic suppurative otitis media⁸. This is due to poor general health, malnutrition and overcrowding⁹. So the chances of having Cholesteatoma are more in the lower socioeconomic class. In our study it was found that 31 patients (77.5%) were from lower socioeconomic class, 6 patients (15%) were from middle class and only 3 patients (7.5%) were from upper class. This study shows that there is high incidence of Cholesteatoma in the lower socioeconomic class. The incidence is low in the middle class and lowest in the upper class.

The incidence of having chronic suppurative otitis media with Cholesteatoma is higher in disadvantaged population of rural areas⁸. In our study it was found that out of 40 patients with Cholesteatoma, 36 patients (90%) were from rural areas and 4 patients (10%) were from urban areas.

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