Clinical profile of patients with cholesteatoma at tertiary care hospital

Shailesh Bhaginath Nikam^{1*}, Anil Baburao Jatal²

¹Assistant Professor, ²Junior Resident, Department of ENT, Government Medical College, Aurangabad, Maharashtra, INDIA. **Email:** <u>nshailesh87@gmail.com</u>

Abstract

Background: Cholesteatoma is the most serious form of chronic ear infection. Cholesteatoma may remain clinically silent for a significant period of time until the disease has become quite extensive. Hearing loss and otorrhea are common manifestations, but other more serious intratemporal and intracranial complications may arise. **Aim:** To study the clinical profile of patients with cholesteatoma at our tertiary care hospital. **Material and Methods:** The 50 patients diagnosed with cholesteatoma were taken for clinical evaluation, investigations and surgical treatment. All the patients underwent complete history taking and clinical examination with otoscope and examination under microscope. Pure tone audiometry was performed by a calibrated audiometer in a sound-proof room and narrow band masking was used when appropriate. **Results:** Adults were most commonly affected (80%) as compared to children (0-15 yrs) (20%). Otorrhea was the most common presentation (98%) followed by hearing loss (72%) post auricular abscesses and fistulae were seen frequently (16%). Facial palsy was seen in 4% of pre-operative patients. **Conclusion:** Cholesteatoma was more common in adults than children with slight male preponderance. Otorrhea is the most common presentation followed by hearing loss in cholesteatoma cases. These are important anatomic considerations in the management of cholesteatoma. **Key Words:** Cholesteatoma, otorrhea, hearing loss, tympanic membrane

*Address for Correspondence:

Dr Shailesh Nikam, Assistant Professor, Department of ENT, Government Medical College, Aurangabad, Maharashtra, INDIA. **Email:** <u>nshailesh87@gmail.com</u> Received Date: 17/04/2020 Revised Date: 02/06/2020 Accepted Date: 23/06/2020

Received Date: 17/04/2020 Revised Date: 02/06/2020 Accepted Date: 23/06/202 DOI: <u>https://doi.org/10.26611/10161515</u>

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INTRODUCTION

Cholesteatoma is a progressive destructive middle ear disease. Most cases occur in children and young adults, but it can affect any age. It causes partial deafness, sometimes with unpleasant smelling discharge and pain. If the disease progresses, it can erode the inner ear causing total and permanent deafness and tinnitus. The inner ear also contains the balance organ. If cholesteatoma erodes into the balance organ, vertigo, a severe form of dizziness, results. Cholesteatoma can also attack the facial nerve causing facial paralysis. In rare cases the disease erodes upwards. The roof of the ear is the floor of the brain. If this thin plate of bone is breached, meningitis, brain abscess and death can result.^{1,2} Cholesteatoma may remain clinically silent for a significant period of time until the disease has become quite extensive. Hearing loss and otorrhea are common manifestations, but other more serious intratemporal and intracranial complications may arise. Cholesteatoma is the most serious form of chronic ear infection. The progression of the disease process is usually insidious but may be quite variable depending on the clinical circumstances. Signs and symptoms are dependent on the location and extent of disease. The aim of the present study was to study the clinical profile of patients with cholesteatoma at tertiary care hospital.

MATERIAL AND METHODS

The patients attending outpatient Department of ENT with complaints of ear discharge, earache and hearing loss were taken up for study. These cases of cholesteatoma were taken for clinical evaluation, investigations and surgical

How to cite this article: Shailesh Bhaginath Nikam, Anil Baburao Jatal. Clinical profile of patients with cholesteatoma at tertiary care hospital. *MedPulse International Journal of ENT*. July 2020; 15(1): 15-18. <u>https://www.medpulse.in/ENT/</u>

treatment. After discharge patients advised to come for regular follow up. Informed written consent is obtained from all the patients undergoing surgery.

Inclusion criteria

- Ear with discharge which may be blood stained, foul smelling (pungent / fishy odor).
- Cases with attic and posterosuperior quadrant pathology.
- Cases with evident intracranial complications.
- Congenital cholesteatoma with intact tympanic membrane.
- Patients giving informed and written consent.

Exclusion criteria

- All cases with central perforation.
- Safe dry ear.

Being an observational study and usage of standard technique of surgery there were no additional risks other than the documented complications that may arise out of the surgery. All the patients underwent complete history taking and clinical examination with otoscope. Pure tone audiometry was performed by a calibrated audiometer in a sound-proof room and narrow band masking was used when appropriate. The hearing of the patient was assessed by pure tone audiogram. Hearing loss up to 15 dB was considered normal, 15-25 as minimal hearing loss, 25-40 dB as mild, 40-55 dB as moderate, 55-70 dB as moderately severe, 70-90 dB as severe and above 90 as profound. Routine blood and urine examination, pure tone audiometry, tympanogram, X-ray mastoid and CT scan temporal bone was performed.

RESULTS

Adults were most commonly affected (80%) as compared to children (0-15 yrs) (20%). Ages were dispersed over a wide range of age groups with a mean age of 24 years. The median age was 22 years (range, 5 years to 55 years). There was a slight male preponderance (54%) (Male vs. Female was 54% vs. 46%). Our study showed that the majority of the cases 34 (68%) belonged to the poor class followed by 11 (22%) to middle class and 5 (10%) to upper class.

Table 1: Distribution in different age groups					
Age (Years)	Male	Female	Total	Percentage	
0-15 years	6	4	10	20%	
16-30 years	16	14	30	60%	
31-45 years	4	4	8	16%	
46-60 years	1	1	2	4%	
Total	27	23	50	100%	

Our study revealed otorrhea as the most common presentation (98%) followed by hearing loss (72%) post auricular abscesses and fistulae were seen frequently (16%) Facial palsy was seen in 4% of pre-operative patients. Otorrhea was foul smelling in 96% of cases in our study.

Table 2: Different	: modes of	presentation
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Symptom	No. of cases	Percentage
Otorrhea	49	98%
Hearing loss	36	72%
Postaural abscess or fistula	8	16%
Aural bleeding or aural polyp	5	10%
Earache	8	16%
Facial palsy	2	4%
Vertigo or tinnitus	2	4%

Our study revealed posterosuperior retraction (56%) to be the most common type in our cholesteatoma series followed by attic retraction (40%).

Table 3: Type of tympanic membrane pathology seen

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Tympanic membrane findings	No. of patients	Percentage
Postero superior retraction	28	56%
Attic retraction	20	40%
Postero superior perforation	01	2%
(marginal)		
Attic perforation	01	2%
Total	50	100%

Out of the 38 cases with hearing loss, conductive hearing loss was the most common 31 (82%) type.

Table 4: Type of Hearing Loss				
Туре	No. of patients	Percentage		
Conductive	31	82%		
Mixed	5	13%		
Sensorineural	2	5%		
Total	38	100%		

On X-ray mastoid, sclerotic mastoid was most commonly seen in 41 (82%) followed by diploc in 5 (10%) and pneumatic in 4 (8%) cases.

DISCUSSION

Our study regarding the distribution of cholesteatoma in different age groups revealed that adults were more commonly affected (80%) as compared to children (20%). There was a slight male preponderance (54%). Ages were dispersed over a wide range of age groups with a mean age of 24 years and median age of 22 years (range, 5-55 years.) In a similar study in Papua New Guinea patients Garap JP and Dubey SP³ found that adults were more commonly affected, and there was a male preponderance. The median age was 24 years (in our study =22 years). Our results are more or less consistent with this study probably because of the similar socio economic status of our patients. Another study in Ireland by Sheahan P et al.⁴ revealed a mean age of 34 years (our study= 24 years). This higher mean age in Irish people may indirectly be a result of better health consciousness, health care delivery system, better socio economic status leading to prompt diagnosis and treatment of predisposing factors for cholesteatoma development in children e.g. retraction pockets. Our study regarding the distribution of cholesteatoma in various socio-economic

groups revealed that the majority of our cases were poor (68%). The study by Garap JP and Dubey SP³ in Papua New Guinean patients, too revealed that the majority of them were poor. In a study in Greenlanders, Homoe P⁵ found that children had an increased risk of chronic otitis media when living in very crowded households. This may be one the reasons why most of our patients are poor who have presented to us with cholesteatoma. The diagnosis of cholesteatoma is usually made on otologic examination.^{6,7} Since the signs and symptoms of ear disease may be lacking, cholesteatoma may go undetected for many years in children and adults.⁸ Our study regarding the different modes of presentation of cholesteatoma revealed otorrhea as the most common presentation (98%) followed by hearing loss (72%), Postauricular abscesses and fistulae were seen frequently (16%). Facial palsy was seen in 4% of pre-operative patients. In a similar study to identify the common presentation(s) Garap JP and Dubey SP³ found otorrhea to be the most common presentation in all age groups. Postauricular abscesses and fistulae were seen frequently. 6% of patients had preoperative facial palsy. The results of our study are comparable with this study in Papua New Guinean patients. The reason may be that the socio-economic background of the poor Papua New Guinean patients correlates with the majority of poor patients (60%) in our study. In another study of clinical features by Sheahan et al.4 in Ireland revealed hearing loss (78%) to be the most common presenting symptom followed by otorrhea (60%). Among the results these two studies, our results correlate better with the former study probably because of the above mentioned reason.

CONCLUSION

Cholesteatoma was more common in adults than children with slight male preponderance. Otorrhea is the most common presentation followed by hearing loss in cholesteatoma cases. These are important anatomic considerations in the management of cholesteatoma.

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Source of Support: None Declared Conflict of Interest: None Declared

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