

CLINICAL MANIFESTATIONS OF ATTIC RETRACTION POCKETS

Neetu Shukla¹, Dheeraj K Singh², Garima Adhulia³, Mili Sengar⁴, Pankaj K Pathak⁵, Sunita Yadav⁶, Nandini Mishra⁷

Received : 18/12/2023
Received in revised form : 27/01/2024
Accepted : 13/02/2024

Keywords:

Retraction pocket, cholesteatoma, ear discharge.

Corresponding Author:

Dr. Mili Sengar,
Email: drmili85@gmail.com.

DOI: 10.47009/jamp.2024.6.1.206

Source of Support: Nil,
Conflict of Interest: None declared

Int J Acad Med Pharm
2024; 6 (1); 1043-1045



¹Associate Professor, Department of ENT, TSM Medical College, Lucknow, Uttar Pradesh, India.

²Assistant Professor, Department of Pharmacology, TSM Medical College, Lucknow, India.

³Assistant Professor, Department of Pharmacology, TSM Medical College, Lucknow, India.

⁴Associate Professor, Department of Community Medicine, TSM Medical College, Lucknow, India.

⁵Assistant Professor, Department of Community Medicine, TSM Medical College, Lucknow, India.

⁶Assistant Professor, Department of Pathology, Hind Medical Sciences, Barabanki, India.

⁷JR-III, Department of Microbiology, King George Medical University, Lucknow, India.

Abstract

Background: Retraction of the tympanic membrane is known by various names such as atelectatic otitis, adhesive otitis, marginal retraction pocket, myringomalacia and middle ear epidermatisation. The objective of the study was to study the clinical manifestations of attic retraction pockets. **Material and Methods:** Sixty patients having 76 ear diseased ears were enrolled in the study. These patients were selected among the Patients who attended the ENT OPD, with or without complain of ear discharge and having retraction pockets. **Results:** In the study 68 (89.47%) patients were having ear discharge and 8 (10.53%) patient have no history of ear discharge. Hearing loss and tinnitus were reported from 69(90.79%) and 44(57.89%) ears respectively. **Conclusion:** Retraction pocket has potential to develop in to cholesteatoma and other complications. Thus early diagnosis and management of retraction pockets is very important.

INTRODUCTION

Otologists regularly come across tympanic membrane retraction pockets. It is the tympanic membrane's medial displacement, which narrows the middle ear cavity. A "Retraction Pocket" is a small pocket created by the tympanic membrane retracting.^[1] The Greek words "Ateles" (meaning incomplete) and "Etasis" (meaning extension or ballooning) are the sources of the most widely used phrase, "atelectasis." The underlying condition is a dysfunction of the Eustachian tube, which causes the tympanic membrane to retract and atrophy, losing its organised layer of collagenous tissue and forming an effusion. The retraction pockets may stick to the underlying anatomy and extend up to the incus and the medial wall of the tympanic cavity. An adhesion like this can cause long-term pressure and perhaps cause the incus to erode.^[2] Certain retractable pockets are self-cleaning and stable. In other situations, the keratin that is created builds up in the retraction pockets and prevents it from migrating through the mouth of the pockets towards the outer ear canal. It may develop into more serious forms or consequences (polyps, infection,

perforation), and in rare circumstances, it may become cholesteatoma.^[3]

Retraction pockets frequently result in conductive hearing loss due to concomitant injury to the ossicular chain, and less frequently, sensorineural hearing loss due to labyrinthine fistulae that may occur in posterior locales. Retraction pockets can occur accidentally and show up as a symptomless entity, or they can cause hearing loss and ear discharge.^[4]

MATERIALS AND METHODS

The study was conducted in the Department of Otorhinolaryngology, Institute of Medical Sciences, Banaras Hindu University, Varanasi, during the period from September 2011 to July 2012 were selected. The objective of the study was to study the clinical manifestations of attic retraction pockets. Sixty patients having 76 ear diseased ears were enrolled in the study. These patients were selected among the Patients who attended the ENT Out Patient Department, with or without complain of ear discharge and having retraction pockets. These patients were of various socioeconomic status and age groups. They were of both sexes. After taking

detailed clinical history, general, systemic, local and otological examinations were performed.

The patients were fully investigated. Routine investigations were done. Otoscopy, Otomicroscopy, otoendoscopy and audiological assessment was performed. In all cases skiagram of mastoid were also done. HRCT scan of temporal bone was also performed in few cases where indicated. All the findings were carefully noted.

Inclusion criteria: 1. Patients who gave consent for the study 2. Patients having retraction pockets on tympanic membrane with or without ear discharge.

Exclusion criteria: 1. Having history of previous trauma and surgery of ear. 2. Having systemic diseases. 3. Very young or old patients. 4. Patients who left the study.

Pure tone audiometry was done in all patients. Following data were obtained –Type of hearing loss, air bone gap, degree of hearing loss. The findings were noted and analysed. During this study following observations were made.

Statistical Analysis: Data was entered in Microsoft Excel and frequency distribution was calculated.

RESULTS

The maximum representation of the participants was from the age group 16-20 (25.00%) followed by the group 11-15 years (23.33%). Thus the majority of the subjects were from the second decade of life age group between 11-20yrs of age. This age group (11

to 20) did contribute almost 50% of whole study objects. [Table 1]

The numbers of male patients were 37 (56.67%) and that of female patients were 23(43.33%) as shown in. [Table 2]

Out of 60 patients, 4(6.67%) were from high, 48(80.00%) were from middle and 8(13.33%) were from low socioeconomic status as shown in Fig 1. The socioeconomic pie study thus demonstrates that majority of patient (80%) belong to middle class background.

In the study 68 (89.47%) patients were having ear discharge and 8 (10.53%) patient have no history of ear discharge. Hearing loss and tinnitus were reported from 69(90.79%) and 44(57.89%) ears respectively. Complains of ear heaviness, earache and headache were reported from 12, 15 and 32 patients respectively. Only one (1.32%) patient had vertigo as shown in Figure 2.

21(27.63%) patients had ear discharge from 6-10 years, 14(18.42%) had 11-15 years. 8 patients had no complains of ear discharge as shown in Table 3.

Most of the patients were having scanty 49(72.06%), yellowish 53(77.94%), foul smelling 60(88.24%), thick 64(94.12%) and intermittent 51(75.00%) discharge as shown in Figure 3.

Out of 76 ears, 21(27.63%) ears had mild conductive hearing loss, 25(32.89%) had moderate to severe conductive hearing loss, 16(21.05%) ears had moderate hearing loss, 3(3.95%) severe hearing loss and 4(5.26%) ears had profound conductive deafness. Seven ears were normal. [Table 4]

Table 1: Age distribution of the study subjects

Sr No.	Age in years	Number	Percentage (%)	Cumulative
1	≤10	2	3.33%	3.33
2	11--15	14	23.33%	26.66
3	16-20	15	25.00%	51.66
4	21-25	10	16.67%	68.33
5	26-30	11	18.33%	86.66
6	31-35	7	11.67%	98.33
7	>35	1	1.67%	100
Total		60	100.00%	

Table 2: Sex distribution of the patients

Sr No.	Sex of the patients	Number	Percentage (%)
1	Male	37	56.67
2	Female	23	43.33
Total		60	100

Table 3: Duration of ear discharge

Sr No	Ear discharge	Number	Percentage
1	<1yr	4	5.26
2	1-5y	19	25
3	6-10y	21	27.63
4	11-15y	14	18.42
5	16-20	6	7.89
6	>20	4	5.26
7	absent	8	10.52

Table 4: Hearing loss as per pure tone audiometry

Sr no.	Type of hearing loss	Frequency	Percentage
1	Mild	21	27.63
2	Moderate	16	21.05
3	Moderate To Severe	25	32.89

4	Severe	3	3.95
5	Profound	4	5.26
6	Normal	7	9.21
Total		76	100.00

DISCUSSION

In present study the maximum number of patients having retraction pocket were in the age group 16-20 years with 15 (25.00%) followed by the group 11-15 years with 14 (23.33%). Another study showed that the age range was from 10 to 40 years. The maximum numbers of patients (60%) were between 14 and 30 years.^[5]

We found the number of male patients was 34 (56.67%) and female patients were 26 (43.33%). In another study, the incidence of otitis media in India is more common in males than females.^[6] The highest number of patients was in middle socioeconomic status 48 (80.00%). The low and high socioeconomic status was having 8 (13.33%) and 4(6.67%) respectively.

In most of the studies it is found that cholesteatoma and attic retraction pocket is more common in low socioeconomic groups but we found it more in middle class. It might be because of the fact that awareness of the disease is less in low socioeconomic group in developing country like India.

In present study 68 (89.47%) patients were having ear discharge and 8(10.53%) patient have no history of ear discharge. Hearing loss and tinnitus were reported from 69(90.79%) and 44(57.89%) ears respectively. One (1.32%) patient had vertigo.

In our study maximum patients having ear discharge from 6-10 years age group followed by 1-5 years. In a study of 95 cases of adults and children of stage 1 and 2 (Charachon classification) tympanic retractions were followed up over a period of five years and it was found that 16 percent deteriorated to stage 3 and had to undergo surgery.^[7] In present study, most of the patients were having scanty 49(72.06%), yellowish 53(77.94%), foul smelling 60(88.24%), thick 64(94.12%) and intermittent 51(75.00%) discharge.

In all the literatures, the most common type of discharge in attic retraction pockets or cholesteatoma was purulent, foul smelling and scanty. In present study out of 76, (27.63%) ears had mild conductive hearing loss, 16(23.19%)ears had moderate conductive hearing loss, 25(32.89%) ears had moderate to severe hearing loss,3(3.95%) severe

hearing loss and 4(5.26%) ears had profound deafness and 7 ears were normal.

In a study it was observed that 49% patients had pure conductive hearing Impairment, 29.2% had a mixed type of hearing impairment, 15.6% had a sensorineural hearing impairment and only 6.2% had normal hearing out of 94 patients.^[8]

CONCLUSION

Foul-smelling, and scanty discharges were the most typical kind in attic retraction pockets or cholesteatomas. Retraction pocket of pars flaccida should not be viewed as minor ear disease. Thus early diagnosis and management of retraction pockets is very important.

Acknowledgement: Nil

Conflict of interest: None.

REFERENCES

1. Urik M, Tedla M, Hurník P. Pathogenesis of Retraction Pocket of the Tympanic Membrane-A Narrative Review. *Medicina (Kaunas)*. 2021 Apr 28;57(5):425. doi: 10.3390/medicina57050425.
2. Parab SR, Khan MM. Endoscopic Management of Tympanic Membrane Retraction Pockets: A Two Handed Technique with Endoscope Holder. *Indian J Otolaryngol Head Neck Surg*. 2019 Dec;71(4):504-511. doi: 10.1007/s12070-019-01682-2.
3. Kennedy KL, Singh AK. Middle Ear Cholesteatoma. [Updated 2023 Jul 4]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2024 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK448108/>
4. Alper C, Olszewska E. Assessment and management of retraction pockets. *Otolaryngol Pol*. 2017 Feb 28;71(1):1-21. doi: 10.5604/01.3001.0009.5547. PMID: 28485292.
5. Kalra VK, Yadav SPS, Verma M, Singh B, Goel A. Treatment of Tympanic Membrane Retraction Pockets by Excision and Cartilage Tympanoplasty: A Prospective Study. *Indian J Otolaryngol Head Neck Surg*. 2018 Sep;70(3):392-394. doi: 10.1007/s12070-018-1388-2.
6. Danishyar A, Ashurst JV. Acute Otitis Media. [Updated 2023 Apr 15]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2024 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK470332/>
7. Charachon R, Barthez M, Lejeune JM. Spontaneous retraction pockets in chronic otitis media medical and surgical therapy. *Ear Nose Throat J*. 1992 Nov;71(11):578-83. PMID: 1493757.
8. Chao WY, Wu CC. Hearing impairment in chronic otitis media with cholesteatoma. *J Formos Med Assoc*. 1994 Oct;93(10):866-9. PMID: 7749340.