



ASSESSING THE STATUS OF THE CONTRALATERAL EAR IN CHRONIC OTITIS MEDIA WITH DIAGNOSTIC OTOENDOSCOPY

Otolaryngology

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ABSTRACT

Background: Chronic suppurative otitis media doesn't seem to be an isolated event that occurs in a particular patient. It seems rather be the product of a series of events constitutional of the individual. The precise and critical evaluation of both ears plays a fundamental role in the prognostic evaluation of the patient. Otoendoscopy is an upcoming day care procedure in the field of otology. It has several advantages over routine otoscopy for e.g. better resolution, wider field of vision, camera connectivity etc. We aimed to study the status of contralateral ear in chronic otitis media patients and evaluate the usefulness of diagnostic otoendoscopy. **Methods:** A prospective study was done on CSOM patients attending ENT dept, ASRAMS using otoendoscopy, schuller radiography, pure tone audiometry, tympanometry and HRCT temporal bone. Data collected was analysed. **Results:** A total of 40 patients were evaluated out of which 70% were male, otoendoscopy revealed features of a diseased contralateral middle ear in 80% of them, PTA suggested hearing loss in opposite ear in 80% of them, schuller's radiography showed sclerosed opposite mastoid in 22.5% and CT scan needed to be done in 24 patients of which 10 had disease in opposite middle ear. **Conclusions:** It is imperative from this study that evaluation of contralateral ear in chronic otitis media is important to unmask the hidden pathology and otoendoscopy is very useful in diagnosing it.

KEYWORDS

CSOM, Contralateral ear status.

INTRODUCTION

Chronic otitis media is divided into mucosal type of chronic otitis media and squamous type of chronic otitis media. There are various theories on pathogenesis of chronic otitis media. Otitis media seems to exist through a continuous series of epithelial and subepithelial events, and, after the initial triggering episode serous or purulent becomes serous-mucoid, then mucoid, and, in the absence of therapeutic resolution, chronicity may ensue.^{2,3} Chronic suppurative otitis media doesn't seem to be an isolated event that occurs in a particular patient. It seems rather be the product of a series of events constitutional of the individual. The precise and critical evaluation of both ears plays a fundamental role in the prognostic evaluation of the patient, because the ear with established CSOM can serve as a guide for the probable evaluation in the contralateral ear.⁴ Otoendoscopy is an upcoming day care procedure in the field of otology. It has several advantages over routine otoscopy for e.g. better resolution, wider field of vision, camera connectivity etc.

Differential Diagnosis

It is important to consider other pathologies that could present with a similar clinical picture to chronic suppurative otitis media. Because otorrhea is one of the most common signs encountered in this entity and the most frequent age at presentation is usually less than 5 years, the presence of a foreign body in the ear canal needs to be ruled out. The presence of a foul-smelling odor emanating from the ear can help differentiate an otorrhea caused by a foreign body or chronic supportive otitis media. Other conditions that can be mistaken for chronic otitis media are myringitis and otitis externa (both share the signs of otorrhea), but with a physical examination, the diagnosis can be elucidated. More serious conditions that must also be ruled out are mastoiditis, abscess, and meningitis. In these cases, the presentation is more severe, and systemic symptoms are present.

Cholesteatoma
Petrositis
Langerhans cell histiocytosis
Neoplasia
Foreign body
Sigmoid sinus thrombosis
Otitic hydrocephalus
Extradural abscess
Meningitis
Brain abscess
Tuberculosis

Labyrinthitis
Wegener granulomatosis
Complications

Multiple complications can result from chronic suppurative otitis media such as polyps, osteitis, sclerosis, tympanosclerosis, labyrinthitis, and intracranial suppurative complications such as epidural, subdural, or brain abscesses. The most common complication is hearing loss, either conductive or sensorineural. Hearing loss is associated with language delays and behavioral problems

Aim and objectives : To study the status of contralateral ear in chronic otitis media patients. To evaluate the usefulness of diagnostic otoendoscopy.

METHODS

Study design: Prospective study
Study place and period Department of ENT, Asram Medical College and Hospital from october 2022 to October 2023.

Selection criteria :-

All patients presenting with unilateral otitis media were included in the study. Patients below 6 years of age, those presenting with bilateral COM, those being previously operated were excluded from the study. Procedure.

Patients were evaluated using 2.7 mm otoendoscope, pure tone audiometry, tympanometry, Schuller's radiography and HRCT temporal bone. Ethical approval Proper consent was taken from the participants and ethical clearance was taken from the institute.

Statistical analysis

Data were analysed using simple manual analysis and percentage.

RESULTS

A total of 40 patients were evaluated, out of which 28 were males and 12 females. M:F ratio= 2.3:1. Out of the 40 patients 16 had squamous variety of COM and 24 of mucosal variety.

Table 1: Distribution of patients according to type of disease

Type of disease	Number of patients	%
Squamous	16	40

Mucosal	24	60
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Table 2: Proportion of patients with different otoendoscopic findings in opposite ear

Otoendoscopic finding	Number of patients	%
Retracted TM	19	47.5
Myringosclerosis	9	22.5
OME	4	10
Retracted TM+ Myringosclerosis	5	12.5
Normal TM	8	20

On otoendoscopy, 32 had middle ear pathology in opposite ear, of which 19 had retracted tympanic membrane and 9 had myringosclerosis. Audiologic examination revealed 50% of the patients having a mild degree of conductive deafness in opposite ear.

Table 3: PTA results of opposite ear.

Audiogram	Number of patients	%
Normal	8	20
Mild conductive loss	20	50
Moderate conductive loss	11	26.25
Severe conductive loss	1	3.75

Tympanometric evaluation showed 22 patients having a Type B tympanogram for opposite ear and 7 with a Type C curve Schuller's radiography of patients suggested a bilateral sclerosed mastoid in 9 of the patients.

Table 4: Status of opposite mastoid as evident in Schuller's radiography.

Mastoid	Number	%
Normal	31	77.5
Sclerosed	9	22.5

HRCT of temporal bone was needed to be done in 12 patients, out of which 5 were having mucosal thickening in contralateral middle ear and 9 with a sclerosed contralateral mastoid.

DISCUSSION

Procedure of otoendoscopy was first described by Mer et al.. A total of 40 patients were seen out of which 70% were males. Most of them (60%) had a chronic otitis media of mucosal variety. This finding is supported by studies done by Prakash et al. Otoendoscopy revealed 80% of patients to have a diseased contralateral ear, 19 of them having a retracted tympanic membrane and 4 having Otitis media with effusion. Fluid levels in middle ear cavity due to otitis media with effusion is clearly seen in otoendoscopy than in routine otoscopy as per studies by Eichner et al. As per Deguine C. the images are of excellent resolution hence photographing these images provide excellent results. Audiometry of the patients suggested 80% of them to have some degree of conductive hearing loss in opposite ear which is consistent with studies done by Prakash et al and Chung et al 55% of patients had a Type B tympanogram in opposite ear which correlated with studies done by Prakash et al. and Selaimen et al. 4,9.

CONCLUSION

Evaluation of contralateral ear in a patient presenting with chronic otitis media in one ear is of utmost importance as majority of times there is hidden pathology in subacute stages in the opposite ear too which needs addressal for complete cure. Otoendoscopy can serve as a useful tool in diagnosing masked pathologies and keeping a record of it. Further studies are needed to validate its routine use. Funding: No funding sources Conflict of interest: None declared

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