

Original Research Article

Status of contralateral ear in chronic otitis media and role of diagnostic otoendoscopy in it's assessment

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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, SMCH using otoendoscopy, schuller radiography, pure tone audiometry, tympanometry and HRCT temporal bone. Data collected was analysed.

Results: A total of 80 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.¹ 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.

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, Silchar Medical College and Hospital from March 2017 to February 2018.

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 80 patients were evaluated, out of which 56 were males and 24 females. M:F ratio= 2.3:1.

Out of the 80 patients 32 had squamous variety of COM and 48 of mucosal variety.

Table 1: Distribution of patients according to type of disease.

Type of disease	Number of patients	%
Squamous	32	40
Mucosal	48	60

Table 2: Proportion of patients with different otoendoscopic findings in opposite ear.

Otoendoscopic finding	Number of patients	%
Retracted TM	38	47.5
Myringosclerosis	18	22.5
OME	8	10
Retracted TM+ Myringosclerosis	10	12.5
Normal TM	16	20

On otoendoscopy, 64 had middle ear pathology in opposite ear, of which 38 had retracted tympanic membrane and 18 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	16	20
Mild conductive loss	40	50
Moderate conductive loss	21	26.25
Severe conductive loss	3	3.75

Tympanometric evaluation showed 42 patients having a Type B tympanogram for opposite ear and 14 with a Type C curve

Schuller's radiography of patients suggested a bilateral sclerosed mastoid in 18 of the patients.

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

Mastoid	Number	%
Normal	62	77.5
sclerosed	18	22.5

HRCT of temporal bone was needed to be done in 24 patients, out of which 10 were having mucosal thickening in contralateral middle ear and 18 with a sclerosed contralateral mastoid

DISCUSSION

Procedure of otoendoscopy was first described by Mer et al.⁵ A total of 80 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.⁴

Otoendoscopy revealed 80% of patients to have a diseased contralateral ear, 38 of them having a retracted tympanic membrane and 10 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.⁶ 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.^{4,8}

52.5% 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.

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