

Original Research

Clinical presentation of 168 cases of Otitis Media – An observational Study

Jagveer Singh Yadav

Associate Professor, Department of E.N.T., Mahatma Gandhi Medical College & Hospital, Jaipur, Rajasthan, India

ABSTRACT:

Background: Acute otitis media (AOM) is an acute, suppurative infectious process marked by the presence of infected middle ear fluid and inflammation of the mucosa lining the middle ear space. The present study was conducted to record the sign & symptoms in patients with otitis media. **Materials & Methods:** The present study included 168 patients with symptoms of otitis media. General symptoms like fever, irritability & Gastrointestinal symptoms & local symptoms of cold, earache, hearing impairment, ear discharge, retro auricular pain, tinnitus, vertigo & facial asymmetry were noted. **Results:** In present study we included 168 patients of both gender with signs and symptoms of otitis media. We observed that 20-30 years aged individual had maximum patients (males- 20, females- 48) followed by 30-40 years (males- 16, females- 22), 40-50 years (males- 14, females- 16), 50-60 years (males- 6, females- 12) and 60-70 years (males- 4, females- 10). The difference was significant ($P < 0.05$). Our study showed that symptoms of cold (60), fever (20), earache (132), hearing impairment (44), ear discharge (122), tinnitus (14), retroauricular pain (8), vertigo (4) and facial asymmetry (2) occurred in respective number of patients given in parenthesis. The difference was significant ($P < 0.05$). **Conclusion:** Otitis media is a common ear problem most commonly seen in young adults. Female prevalence was observed. Symptoms of acute otitis media are so nonspecific that they are largely unhelpful in making a diagnosis. The basis for deciding whether to administer antibiotics should include not only this evidence but also parental values.

Key words: Deviated nasal septum, inflammation, otitis media, Tinnitus.

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Corresponding author: Dr. Jagveer Singh Yadav, Associate Professor, Department of E.N.T., Mahatma Gandhi Medical College & Hospital, Jaipur, Rajasthan, India

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INTRODUCTION

Acute otitis media is a disease of infancy and early childhood defined by the presence of inflammation and fluid in the middle ear and accompanied by at least 1 sign of acute illness.¹ In studies in which the content of the middle ear cavity was examined during attacks of AOM, both bacterial and viral pathogens were found. The two main types are acute otitis media (AOM) and otitis media with effusion (OME). AOM is an infection of abrupt onset that usually presents with ear pain. In young children this may result in pulling at the ear, increased crying, and poor sleep. Decreased eating and a fever may also be present. Acute Otitis Media is one of the commonest infections of the mucosal lining of middle ear cleft.

Adults make up less than 20% of patients presenting with acute otitis media.¹

OME is typically not associated with symptoms. Occasionally a feeling of fullness is described. It is defined as the presence of non-infectious fluid in the middle ear for more than three months. Chronic suppurative otitis media (CSOM) is middle ear inflammation of greater than two weeks that results in episodes of discharge from the ear. It may be a complication of acute otitis media. Pain is rarely present. All three may be associated with hearing loss. The hearing loss in OME, due to its chronic nature, may affect a child's ability to learn.²

The cause of AOM is related to childhood anatomy and immune function. Either bacteria or viruses may be involved. Risk factors include exposure to smoke, use of pacifiers, and attending daycare. It occurs more commonly among Indigenous peoples and those who have Down syndrome. OME frequently occurs following AOM and may be related to viral upper respiratory infections, irritants such as smoke, or allergies. Looking at the eardrum is important for making the correct diagnosis. Signs of AOM include bulging or a lack of movement of the tympanic membrane from a puff of air. New discharge not related to otitis externa also indicates the diagnosis.³

An integral symptom of acute otitis media is ear pain; other possible symptoms include fever, and irritability (in infants). Discharge from the ear can be caused by acute otitis media with perforation of the ear drum, chronic suppurative otitis media, tympanostomy tube otorrhea, or acute otitis externa. Trauma, such as a basilar skull fracture, can also lead to discharge from the ear due to

cerebral spinal drainage from the brain and its covering (meninges).⁴ The present study was conducted to record the sign & symptoms in patients with otitis media.

MATERIALS & METHODS

The present study was conducted in the department of ENT. It included 168 patients with symptoms of otitis media. All were informed regarding the study and written consent was obtained. Ethical clearance was taken from institutional ethical committee.

General information such as name, age, gender etc was noted. The case history and general physical examination was performed. General symptoms like fever, irritability & Gastrointestinal symptoms & local symptoms of cold, earache, hearing impairment, ear discharge, retro auricular pain, tinnitus, vertigo & facial asymmetry were noted. Results were tabulated and subjected to statistical analysis using chi- square test. P value < 0.05 was considered significant.

RESULTS

Table I Distribution of patients

	Total- 84	
Male	Female	P value
60	108	0.01

Table I shows that out of 68 patients, males were 60 and females were 108. The difference was significant (P- 0.01).

Table II Age & Gender wise distribution of patients

Age group	Males	Females	P value
20-30	20	48	0.01
30-40	16	22	0.5
40-50	14	16	0.21
50-60	6	12	0.02
60-70	4	10	0.01
Total	60	108	

Table II shows that age group 20-30 years had maximum patients (males- 20, females- 48) followed by 30-40 years (males- 16, females- 22), 40-50 years (males- 14, females- 16), 50-60 years (males- 6, females- 12) and 60-70 years (males- 4, females- 10). The difference was significant (P< 0.05).

Table III Symptoms of otitis media in patients

Symptoms	Number
Cold	60
Fever	20
Earache	132
Hearing impairment	44
Ear discharge	122
Tinnitus	14
Vertigo	4
Facial asymetry	2
Restoauricularl pain	8

Table III shows common symptoms such as cold (60), fever (20), earache (132), hearing impairment (44), ear discharge (122), tinnitus (14), retroauricular pain (8), vertigo (4) and facial asymmetry (2). The difference was significant ($P < 0.05$).

Table IV Signs in patients

Signs in patients	Number
Intact TM	95
Bulging TM	40
Discharge in EAC	42
Congested TM	88
Perforated TM	74
Mastoid tenderness	8
DNS	64
FNP	4

Table IV shows common signs such as intact TM (95), bulging TM (40), discharge in external auditory canal (42), congested TM (88), perforated TM (74), deviated nasal septum (64), mastoid tenderness (8) and facial nerve paralysis (4).

DISCUSSION

The common cause of all forms of otitis media is dysfunction of the Eustachian tube. This is usually due to inflammation of the mucous membranes in the nasopharynx, which can be caused by a viral URTI, strep throat, or possibly by allergies. Because of the dysfunction of the Eustachian tube, the gas volume in the middle ear is trapped and parts of it are slowly absorbed by the surrounding tissues, leading to negative pressure in the middle ear. Eventually, the negative middle-ear pressure can reach a point where fluid from the surrounding tissues is sucked into the middle ear's cavity (tympanic cavity), causing a middle-ear effusion. This is seen as a progression from a Type A tympanogram to a Type C to a Type B tympanogram.⁵

By reflux or aspiration of unwanted secretions from the nasopharynx into the normally sterile middle-ear space, the fluid may then become infected — usually with bacteria. The virus that caused the initial URI can itself be identified as the pathogen causing the infection.

In present study we included 168 patients of both gender with signs and symptoms of otitis media. We observed that 20-30 years aged individual had maximum patients (males- 20, females- 48) followed by 30-40 years (males- 16, females- 22), 40-50 years (males- 14, females- 16), 50-60 years (males- 6, females- 12) and 60-70 years (males- 4, females- 10). The difference was significant ($P < 0.05$).

Our study showed that symptoms of cold (60), fever (20), earache (132), hearing impairment (44), ear discharge (122), tinnitus (14), retroauricular pain (8), vertigo (4) and facial asymmetry (2) occurred in respective number of patients given in parenthesis. The difference was significant ($P < 0.05$). Literature revealed that Earache is an inconsistent finding, with a reported frequency between 21% and 83%. In a prospective Finnish cohort study,

earache was about 7 times more likely to be elicited from a child with AOM than from a child who did not have AOM (LR, 7.3).²⁶ However, a more important finding is that 40% (48/121) of the children with AOM in this study had no apparent earache (LR for no earache, 0.4). This means that earache is a more useful symptom for “ruling in” the diagnosis of AOM than for ruling it out.

Cough and rhinitis are relatively common symptoms among children with otitis media because AOM is associated with upper respiratory tract infection in 76% of cases.³⁰ Unfortunately, they are also nonspecific symptoms—equally likely to be found in a child with AOM as in a child without it (LR, 1.0).³ Fever, like earache, is also an inconsistent finding in AOM, occurring in 21% (70/335) to 84% (165/197) of patients. In 1 study, fever was an equally common finding among children with AOM and age-matched controls.⁴ In another study, the presence of fever actually decreased the likelihood of having AOM, with positive and negative LRs of 0.9 and 1.3, respectively.

We found that common symptoms seen in patients were cold, fever, earache, hearing impairment, ear discharge, tinnitus, retroauricular pain, vertigo and facial asymmetry. Ear ache and ear discharge was mostly seen in patients. This is similar to Pukander et al.⁷

Common signs found in our study were intact TM, bulging TM, discharge in external auditory canal, congested TM, perforated TM, deviated nasal septum (DNS), mastoid tenderness and facial nerve paralysis. Rea et al⁸ in their study found deviated nasal septum as major sign in their patients.

As its typical symptoms overlap with other conditions, such as acute external otitis, clinical history alone is not sufficient to predict whether acute otitis media is present; it has to be complemented by visualization of the tympanic membrane. Examiners use a pneumatic otoscope

with a rubber bulb attached to assess the mobility of the tympanic membrane.⁹

Antibiotic treatment has no effect on pain within the first 24 hours; however, the odds of having pain at 2 to 7 days if children are given antibiotics at the initial visit are reduced by 28%. Similarly, the early use of antibiotics has no effect on the deafness of AOM at 1 month after the episode. Although there is a trend to reduced hearing loss at 3 months, this may be due to chance alone because the 95% confidence interval crosses the odds ratio of 1.0.¹⁰

CONCLUSION:

Otitis media is a common ear problem most commonly seen in young adults. Female prevalence was observed. Symptoms of acute otitis media are so nonspecific that they are largely unhelpful in making a diagnosis. The basis for deciding whether to administer antibiotics should include not only this evidence but also parental values

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