MANAGEMENT OF SECRETORY OTITIS MEDIA IN CHILDREN

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ABSTRACT

Objective: The purpose of this study was to know the different treatment options for otitis media with effusion.

Material and Methods: This descriptive study conducted at Khyber Teaching Hospital Peshawar Pakistan from June 2003 to June 2004. Only the diagnosed cases of secretory otitis media were included in the study. After taking history and thorough clinical examination, routine investigations and special investigations such as pure tone audiometry and tympanometry were carried out to assess the severity of hearing loss and to confirm the diagnosis of secretory otitis media. All patients were initially treated by systemic antibiotics, whereas in cases not responding to systemic antibiotics in two weeks time, tympanostomy tubes with adenotonsillectomy was offered. The follow up of cases was carried out from 6 months to 12 months

Results: The most common presenting symptom was conductive deafness in 27 patients (90%). The most common aetiological factor was hypertrophied adenoids in 25 cases (83.3%). All patients were initially treated by systemic antibiotics, mucolytics, nasal decongestants alone. Whereas in 20 cases (66.7%) after giving systemic antibiotics for a period of 2 weeks, when symptoms did not subside, then the patients were offered tympanostomy tubes with adenotonsillectomy. In this group the patients improved in hearing and feeling of blocked ears.

Conclusion: The children with secretory otitis media with effusion should have a course of systemic antibiotics; if effusion persists then surgical intervention in the form of myringotomy with or without grommet (tympanostomy tube) is advised.

KEY WORDS: Children, Secretory Otitis Media, Middle Ear Effusion, Antibiotics Therapy, Myringotomies.

INTRODUCTION

The secretory otitis media is defined as the presence of sterile fluid behind intact tympanic membrane.[1] Otitis media with effusion is the commonest cause of hearing difficulty and one of the most frequent reason for elective admission to hospital for surgery during childhood.[2] A variety of synonyms describes the condition. It has been termed catarrhal, exudative, seromucinous, serous, secretory and non suppurative otitis media. Following sequential discussions at international symposia the terms middle ear effusion and otitis media with effusion are currently acceptable and are frequently used.[3,4] Middle ear effusions frequently persist for a short time following episodes of acute suppurative otitis media. Otitis media with effusion runs relapsing and remitting course before ultimately resolves in later childhood. Fifty percent of ears resolve spontaneously within 3 months and only 5% persist for more than 12 months.[5] Recurrent acute otitis media occurs during the first several years of life in approximately 20 to 30% of the pediatric population. A clinical challenge closely related to recurrent otitis media is persistent otitis media, manifested by persistance during antimicrobial therapy of symptoms and signs of middle ear infection and or relapse of acute otitis media within 1 month of completion of antibiotic therapy.[6] Any condition which affect the proper function of the mucociliary system of the upper respiratory tract may predispose to development of middle ear effusion. There is a relationship between the presence of middle ear fluid and hearing impairment though in younger children the hearing loss is not always obvious.

Treatment varies widely and should depend not only on the duration and severity of the condition but also on the age and general condition of the child.

MATERIAL AND METHODS

It was a case series prospective study conducted upon 30 patients suffering from secretory otitis media in the department of ENT and Head and Neck Surgery, Khyber Teaching Hospital Peshawar, Pakistan from June 2003 to June 2004. All the patients were admitted and pertinent history, thorough clinical examination, routine investigations and special investigations such as pure tone audiometry and tympanometry were carried out to assess the severity of hearing loss and to confirm the diagnosis of secretory otitis media. All patients were initially treated by systemic antibiotics, whereas in cases not responding to systemic antibiotics in two weeks time, tympanostomy tubes with adenotonsillectomy was offered.

The follow up of cases was carried out from 6 months to 12 months. In this period the result of therapy and complications of treatment were studied, standard proforma was prepared dully filled for each patient.

RESULTS

Total 30 patients suffering from secretory otitis media were studied, 22 males and 8 females between 5 to 12 years of age with the mean age of 8.5 years Table-1. The most common presenting symptom was conductive deafness in 27 patients followed by popping in ears 2 patients (6.66%). In one case (3.33%) the blockage of ears and chappiness was found (Table-2).

The most common etiological factor was hypertrophied adenoids in 25 patients (83.3%), followed by upper respiratory tract infection in 5 patients (16.66%) (Table-3). The most common sign was immobile drum head in 25 patients (83.3%) followed by dull drum in 3 patients (10.0%), in 1 patient retracted drum was found (3.33%), and in one patient air bubbles with fluid level was found in (3.33%) (Table-4).

The severity of the hearing loss in majority of the cases was moderate in 22 patients (73.33%). In 6 patients (20%) it was mild whereas 2 patients (6.66%) showed severe conductive hearing loss (Table-5).

The systemic antibiotics were initially given in all cases. Out of 30 cases, 10 cases

Gender Distribution.

No.	Sex	Patients Number	%age
1.	Male	22	73.33%
2.	Female	8	26.66

Table-1

Presenting Symptoms of Secretory Otitis Media

No.	Symptoms	Patients Number (n = 30)	%age
1.	Conductive Deafness	27	90.0%
2.	Popping in ears	02	6.66%
3.	Blockage of ears and chappy feeling	01	3.33%

Table-2

Etiology of Secretory Otitis Media

No.	Etiology	Patients Number (n = 30)	%age
1.	Hypertrophied adenoids	25	83.33%
2.	Upper respiratory tract infection	5	16.66%

Table-3

Signs of Secretory Otitis Media

No.	Sign	Patients Number (n = 30)	%age
1.	Immobile drum head	25	83.33%
2.	Dull drum	3	10.00%
3.	Retracted drum	1	3.33%
4.	Air fluid level with bubbles	1	3.33%

Table-4

Severity of Conductive Hearing Loss

No.	Severity	Patients Number (n = 30)	%age
1.	Mild	6	20.0%
2.	Moderate	22	73.3%
3.	Severe	2	6.66%

Table-5

(33.33%) the dull retracted drum was improved in 2 weeks time, whereas the air fluid level with bubbles in tympanic membrane and immobile drum were improved in a period of 4 weeks time. The insertion of ventilation tube with adenotonsillectomy was carried out in rest of 20 cases (66.66%) which did not responded to systemic antibiotics. In this group the conductive deafness with popping in ears along with blockage of ears and chappy feeling improved in a period of 2 weeks. In this study of 12 months duration , 85 % of patients were followed up and there was no recurrence of the disease. In 2 cases tympanosclerosis occurred in the tympanic memberane, whereas in 1 patient a small pin hole perforation persisted, these two complications had no impact on the out come of the disease.

DISCUSSION

The secretory otitis media is frequently seen disease in children.[4] Recurrent otitis media occurs during the first several years of life in approximately 20 to 30% of paediatric population. A clinical challenge closely related to recurrent otitis media manifested by persistence during antiomicrobial therapy of symptoms and signs of middle ear infection (treatment failure) and or relapse of acute otitis media within 1 month of completion of antibiotic therapy.[5] Type1 allergy involving Th-2-type cytoxine and cellular profile may be a contributing factor in the persistence of Otitis media with effusion in atopic children.[7,8] The middle ear may serve as a target organ for allergic inflammation, suggesting that appropriate allergy management may be a useful adjunct to the management of otitis media with effusion. This disease in children is very common and if neglected or left untreated the education of the child and language development is affected.[9,10] This condition may also lead to certain sequale and complications.[11] The mechanism of middle ear effusion and the factors responsible for its production are much debated in literature and the same is the case regarding its management, where still controversy exists.

The aetiology is controversial, many predisposing factors have been identified which lead to the development of otitis media with effusion. In our study the most common findings were hypertrophied adenoids followed by upper respiratory tract infection. Similar results were also found in the literature[12,13] whereas in adults the most frequent cause for secretory otitis media was upper respiratory tract infection.[14,15] The clinical presentation in children was conductive deafness which was noticed by the parents and teachers or the deafness was picked up during screening. The academic achievements at school were studied in Sweden who had acute otitis media before the age of four years showed no harmful effect of middle ear disease in large samples.[16] In our society common man is uneducated about this condition and even doctors do not pay due attention to such cases. That is the one reason the common age group presented for management was a little higher in our study i.e. was 8.5 years.

Blue Stone reported that middle ear effusion was more frequent in children of 1-4 years of age than children aged 7 years and older.[17]

The follow up in our study was 85%, the drop out in follow up is universally accepted. Most of our cases when gets well they do not turn up with follow ups. One of the other reasons could be that most of our patients belonged to far flung areas where poverty and high illiteracy exists. Once felt well they never turned up for follow up. Patients who underwent grommet insertion appeared to be free of recurrence than the other groups in our study. Effusion recurred significantly earlier in patients without grommet insertion. Similar results were also reported in literature.[18,19] Patients who underwent adenoidectomy or adenotonsillectomy with myringotomy but without grommet insertions showed a very high recurrence rate. It is now clear that adenotonsillectomy do not provide any additional benefit as reported by Gates et al.[20] According to Maw[21] the incidence of tympanosclerosis and persistent of perforation of tympanic membrane is high in ears treated with grommets. In our study two cases developed tympanosclerosis with the use of long term ventilation tubes of Good type, the incidence of persistent perforation becomes higher.[22]

CONCLUSION

It is concluded that children with secretory otitis media should have a course of medical therapy. If effusion persists and is associated with bilateral hearing loss, surgical intervention in the form of myringotomy with or without grommet insertion is advised. If these children have chronic tonsillitis or adenoiditis, that should be dealt at the same time. For recurrent cases grommets should be used if the effusion is mucoid.

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