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Study on management of secretory otitis media: a clinical study

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ABSTRACT

Background: The secretory otitis media is insidious in onset and usually runs long course. The clinical presentation varies accordingly. The condition occurs in childhood as hearing loss, as an educational or behavioral problem. In younger children it may present as speech and language, delay, or as articulation defect.

Methods: Fifty cases of suspected secretory otitis media under the age group of 13 years were selected for clinical pathological evaluation and management. Once the diagnosis was confirmed by pure tone audiometry as a secretory otitis media, the fluid aspiration was done and sent for culture sensitivity X-ray mastoid was taken in all cases.

Results: The fluid was aspirated through the tympanic membrane by way of sterile needle and sent for bacteriology. It was observed that, *Streptococcus pneumoniae* was the predominant organism isolated. Next in the order was *H. influenzae*, *N. catarrhalis*.

Conclusions: In the culture sensitivity there was preponderance of *Streptococcus pneumoniae* organisms in the fluid.

Keywords: Secretory otitis media, Pure tone audiometry, Management

INTRODUCTION

Although there is little disagreement about the sinister threat of secretory otitis media the disease of the middle ear, the pathologist and otologist have spent this century devising theories regarding its aetiology, terminology etc. This topic has remained and still remains as a focal point of discussion and argument generating more heat than light. Since the original description by Politzer there has been a vast literature relating to this condition. Over the years the changing nomenclature has indicated the current attitudes often in relation to supposed aetiology. It has been variously termed catarrhal, exudative, seromucinous, serous secretory and non-supportive otitis media. More recently middle ear effusion and otitis media with effusion have been current terminology. To many clinicians and lay persons it is known as 'glue ear'. An acceptable classification for otitis media with effusion should allow further sub division according to the nature of the effusion and duration of the condition. Secretory otitis media is one of the commonest chronic otological

conditions of childhood. Such cases need early detection and proper treatment. Antibiotics do not have much value this condition.^{1,2}

The secretory otitis media is insidious in onset and usually runs long course. The clinical presentation varies accordingly. The condition occurs in childhood as hearing loss, as an educational or behavioral problem. In younger children it may present as speech and language, delay, or as articulation defect. Often the hearing loss is first detected on routine screening examinations before 3 to 5 years of age, or later at pre-school testing. Sometimes attention is drawn to it by frequent episodes of otalgia which indicate an exacerbation of acute suppurative otitis media superimposed on the middle ear effusion.^{3,4} Occasionally, presentation is with complication such as otorrhoea, secondary to perforation of the tympanic membrane.

The commonest cause of deafness in children is secretory otitis media because of its various presentation the

diagnosis is missed hence child fail to thrive in studies at school.

METHODS

This was descriptive cross sectional study carried out at a tertiary hospital to know the management of secretory otitis media. In this study, children diagnosed to have secretory otitis media were admitted and evaluated for surgery. Thorough clinical examination was carried out and after obtaining the consent, cases were subjected for surgery. Totally 50 cases were recruited for a period of 12 months. All the patient details were filled in pre designed semi structured questionnaire.

Inclusion criteria were children diagnosed with secretory otitis media, children fit for surgery, children with good pre anaesthetic evaluation report.

Exclusion criteria were children with other associated conditions and with complicated otitis media.

Statistical analysis

The data was entered in Microsoft excel and was analyzed using SPSS. Proportions was used to describe the data.

RESULTS

These fifty cases of secretory otitis media under study were treated as per grouping given.

- Group A: Consisting of adenotonsillectomy aspiration, grommet insertion
- Group B: Adenoidectomy, grommet insertion
- Group C: Grommet insertion, aspiration
- Group D: Medical line of treatment consisting antibiotics, antihistaminics, steroids, nasal decongestants and ambroxol hydrochloride.

The fluid was aspirated through the tympanic membrane by way of sterile needle and sent for bacteriology. It was observed that, *Streptococcus pneumoniae* was the predominant organism isolated. Next in the order was *H. influenzae*, *N. catarrhalis*.

Table 1: Study of Healy and Teele.

Organisms	Frequency	Percentage (%)
<i>Streptococci</i>	24	57
<i>H. influenzae</i>	17	40
<i>N. catarrhalis</i>	09	21
<i>Diphtheroids</i>	09	21
<i>Streptococci</i>	24	57

Table 2: Comparing with Healy and Teele.

Organisms	No. of cases	Percentage (%)
<i>Streptococcus pneumoniae</i>	20	66
<i>H. influenzae</i>	12	40
<i>N. catarrhalis</i>	06	20
<i>Diphtheroids</i>	07	23.33

Table 3: Management.

Groups	Treatment	No. of Cases	Air Bone Gap		% of closure of air bone gap
			Before treatment	After treatment	
A)	Adenotonsillectomy Grommet insertion Aspiration	17	33.75	9.0	74.5
B)	Adenoidectomy Grommet	23	33.0	10	72.7
C)	Grommet insertion Aspiration	14	32.0	12.7	59.4
D)	Medical line	10	30	12.7	56.6

DISCUSSION

These 50 cases of secretory otitis media under study were treated as per groups Group A, B, C & D. In our study 20% of the cases were treated by medical line of treatment by amoxicillin, clavulanic acid, ephedrine hydrochloride and mucolytics like ambroxol for 10 days and there have not shown favourable result this is supported by previous study.⁵ Another 10% of cases were treated by amoxicillin and clavulanic acid and nasal decongestant ambroxol for 1 month shown favourable result this benefit was maintained for 12 months. A study

shown benefit of 8 months by giving amoxicillin and clavulanic acid for one month.⁶

In this the patients were asked to attend the OPD for the following (to see the grommet weather in position and to aspirate the glue) initially twice weekly for first two weeks then once in fifteen days for 2-3 months after words once in 3 months, six months nine months, few patients failed to attend the following.

In the follow up study the audiometry showed that there was reduction of air bone gap. This also noticed in the

Jacob Sade study follow up. Of the cases studied for results of management two patients had expulsion of grommet after two weeks later. Under microscope it has been re-introduced. As we aspirate the glue with the help of suction in the three patients the grommet had expelled out due to powerful suction.

In three patients there was mucopurulent discharge followed by grommet insertion (may be secondary to infection) discharge was sent for culture sensitivity. With appropriate antibiotics it was cured one patient was not happy after the Group A management. There was less fluid and more atelactic changes. This was supported by other studies shown that there was steady increase in number of myringotomy and ventilation tube insertion procedure.^{7,8}

CONCLUSION

Regarding the treatment given the more beneficial Group was A than Groups B, C & D. This could make out by closure of air bone gap after the treatment.

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Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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