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Original Research

Analysis of adenoidectomy in children with secretory otitis media

[1]Himanshu Kumar, [2]Saravjeet Singh

[1]Assistant Professor, Department of ENT, F H Medical College, Agra, Uttar Pradesh, India;
[2]Assistant Professor, Department of ENT, Krishna Mohan Medical College & Hospital, Mathura, Uttar Pradesh, India

ABSTRACT:
Background: Children who have hearing loss of greater than 30 dB are put below their typical grade in school and have a markedly reduced vocabulary. The present study was conducted to assess the effects of adenoidectomy in cases of secretory otitis media in children. **Materials & Methods: Results:** Out of 70 patients, 46 were boys and 24 were girls. Hearing loss (dB) was 16-25 (minimal) in 49, 26-40 (mild) in 20 and 41-55(moderate) in 1. Common symptoms were sore throat in 59, nasal discharge in 51, nasal obstruction in 37, fullness of ear in 29 and hard of hearing in 42. Tympanic membrane appearance was retraction in 12, air bubbles in 10, dull, lustreless, amber coloured in 48 patients. Impedance audiometry showed peak in 22 and no peak in 48 cases. Morbidity was sinusitis in 5 and tonsillitis in 11. The difference was significant (P< 0.05). The mean AG gap pre- operatively was 25.2 dB, at 1 month was 11.4 dB, at 3 months was 10.2 dB and at 6 months was 11.5 dB.The difference was significant (P< 0.05). **Conclusion:** One of the most frequent causes of hearing loss in children is secretory otitis media. The appearance of the tympanic membrane was amber, lustreless, retraction, and air bubbles. Tonsillitis and sinusitis were the morbidity.
Keywords: Children, Secretory otitis media, Hearing

Corresponding author: Saravjeet Singh, Assistant Professor, Department of ENT, Krishna Mohan Medical College & Hospital, Mathura, Uttar Pradesh, India

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INTRODUCTION

Children who have hearing loss of greater than 30 dB are put below their typical grade in school and have a markedly reduced vocabulary. Glue ear, also known as secretory otitis media, is the most prevalent cause of hearing loss in children.[1] The extensive yet ineffective use of antibiotics to treat acute otitis media has led to an increase in the prevalence of secretory otitis media (SOM) in recent years.[2] It is the most frequent cause of Pediatric surgery and the most prevalent reason for antibiotic prescriptions. Managing a child who has a history of otitis presents numerous complications. It has been demonstrated that rising antibiotic use is linked to the developing issue of antimicrobial resistance.[3]

The use of adenoidectomy in the treatment of SOM is growing. Adenoids must be removed in infants with SOM because of their enlargement, which obstructs their nasal passages and causes mouth breathing.[4] The enhancement of ET function is the other traditional justification for elimination. There are several ways to screen for secretory otitis media. When secretory otitis media occurs, the more popular pure tone audiometry can readily detect the conductive hearing loss, but it utterly fails to pinpoint the underlying cause.[5]The present study was conducted to assess the effects of adenoidectomy in cases of secretory otitis media in children.

MATERIALS & METHODS

The present study was conducted among70 children with secretory otitis media of both genders. Parents gave their written consent for the participation in the study.

Data such as name, age, gender etc. was recorded. A comprehensive systemic, ear, nose, and throat examination was conducted. The following symptoms were noted: sore throat, hard of hearing, snoring, nasal discharge, and nasal blockage. Otoscopic observations were noted. Both ears' hearing thresholds were evaluated using pure tone audiometry (PTA). According to Clark's classification, hearing impairment was categorized. Also, tympanometry was performed. Data thus obtained were subjected to statistical analysis. P value < 0.05 was considered significant.

RESULTS

Table I Distribution of patients

Total- 70		
Gender	**Boys**	**Girls**
Number	46	24

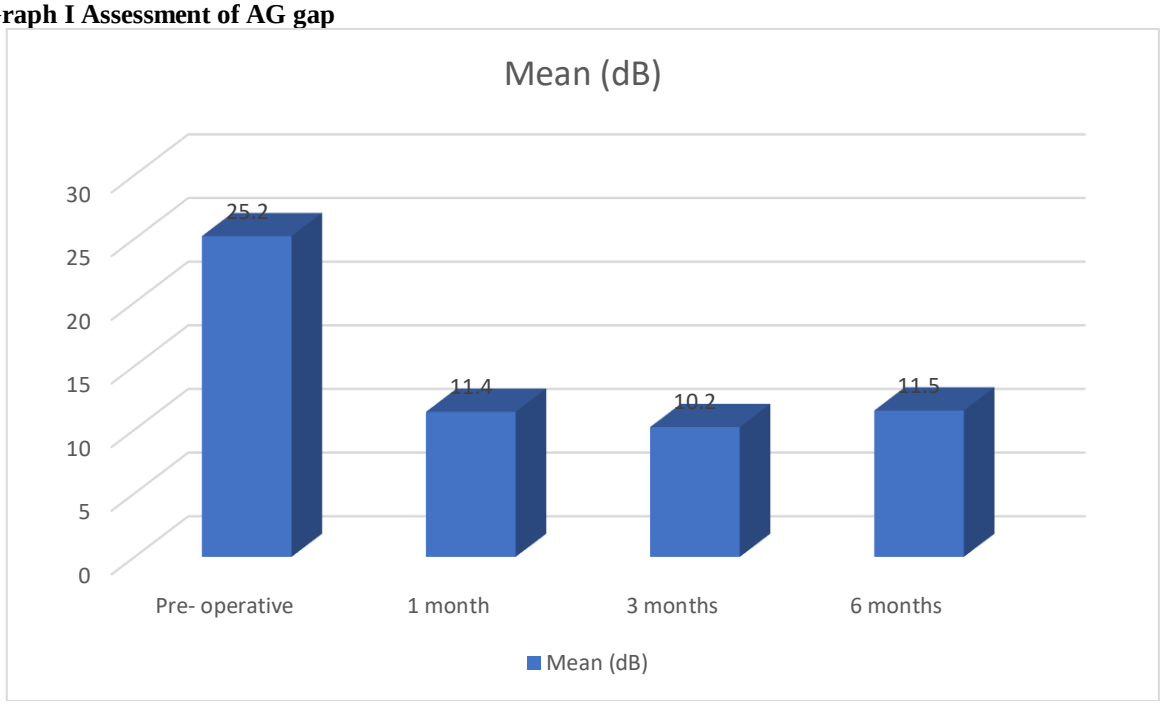
Table I shows that out of 70 patients, 46 were boys and 24 were girls.

Table II Assessment of parameters

Parameters	Variables	Number	P value
Hearing loss (dB)	16-25(minimal)	49	0.01
	26-40(mild)	20	
	41-55(moderate)	1	
Symptoms	Sore throat	59	0.05
	Nasal obstruction	51	
	Nasal discharge	37	
	Fullness of ear	29	
	Hard of hearing	42	
Tympanic membrane appearance	Retraction	12	0.01
	Air bubbles	10	
	Dull, lustreless, amber coloured	48	
Impedance Audiometry	Peak	22	0.01
	No peak	48	
Morbidity	Sinusitis	5	0.02
	Tonsillitis	11	

Table II shows that hearing loss (dB) was 16-25 (minimal) in 49, 26-40 (mild) in 20 and 41-55(moderate) in 1.Common symptoms were sore throat in 59, nasal discharge in 51, nasal obstruction in 37, fullness of ear in 29 and hard of hearing in 42. Tympanic membrane appearance was retraction in 12, air bubbles in 10, dull, lustreless, amber coloured in 48 patients. Impedance audiometry showed peak in 22 and no peak in 48 cases. Morbidity was sinusitis in 5 and tonsillitis in 11. The difference was significant (P< 0.05).

Graph I Assessment of AG gap



Graph I shows that mean AG gap pre- operatively was 25.2 dB, at 1 month was 11.4 dB, at 3 months was 10.2dB and at 6 months was 11.5 dB.The difference was significant (P< 0.05).

DISCUSSION

Intact hearing is very essential for a healthy human being. The relation between hearing loss and the impairment in the cognitive, linguistic and emotional development of children has been well established.[6] Even slight hearing loss, in the order of 10-15 db may

be sufficient to impair speech and language acquisition in infants and young children and may lead to a generalized educational retardation.[7]The hearing loss may be latent or overt with the child rarely complaining of it.Secretory otitis media (SOM) is one of the most common complaintsin childhood.[8,9]The present study was conducted to assess the effects of adenoidectomy in cases of secretory otitis media in school going children.

We found that out of 70 patients, 46 were boys and 24 were girls.103 children with bilateral OME, ages 2 to 12, were randomly assigned to one of three groups by Maw[10]: adenotonsillectomy (n = 34), adenoidectomy (n = 36), or neither (n = 33). A tympanostomy tube was inserted into one ear at random during surgery. The clearing of the effusion in the unoperated ear was noted at 3, 6, 9, and 12 months. According to certain studies, myringotomy and fluid aspiration can result in a dry tap rate of up to 34%. It has been discovered that the existence of otitis media with effusion is correlated with the size of the nasopharynx.

We found that hearing loss (dB) was 16-25 (minimal) in 49, 26-40 (mild) in 20 and 41-55(moderate) in 1. Common symptoms were sore throat in 59, nasal discharge in 51, nasal obstruction in 37, fullness of ear in 29 and hard of hearing in 42. Tympanic membrane appearance was retraction in 12, air bubbles in 10, dull, lustreless, amber coloured in 48 patients. Impedance audiometry showed peak in 22 and no peak in 48 cases. Morbidity was sinusitis in 5 and tonsillitis in 11. We found that mean AG gap pre-operatively was 25.2 dB, at 1 month was 11.4 dB, at 3 months was 10.2 dB and at 6 months was 11.5 dB.The prevalence of secretory otitis media in 200 school-age children (ages 5-7) was assessed by Yadav et al.[11] One hundred students were selected from two distinct schools serving the upper and middle classes. It was found that 20.75% of people had secretory otitis media overall. It was 13% in the other category and 28.5% in the lower socioeconomic group. Regular screening for secretory otitis media is necessary due to its high frequency.

The shortcoming of the study is small sample size.

CONCLUSION

Authors found that one of the most frequent causes of hearing loss in children is secretory otitis media. The appearance of the tympanic membrane was amber, lustreless, retraction, and air bubbles. Tonsillitis and sinusitis were the morbidity.

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