Section: ENT

Original Research Article

EFFICACY OF ADENOIDECTOMY IN OTITIS MEDIA WITH EFFUSION

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Abstract

Background: Efficacy of adenoidectomy in Otitis Media with Effusion. **Materials and Methods:** A prospective study which included 10 patients with OME, diagnosed by Otoscopy and/or Type B or C Tympanogram with adenoid hypertrophy (diagnostic nasal endoscopy or lateral neck soft tissue X ray) who underwent adenoidectomy over a period of 1 year between August 2023 to July 2024 in the Department of Otorhinolaryngology at Gadag Institute of Medical sciences, Gadag, Karnataka, India. **Result:** A total 10 patients of age 5-15 years underwent adenoidectomy. 90% children got relieved of symptoms. Out of 3 children with Type C Tympanogram only one case didn't get resolved after surgery. 9 children were relieved from nasal obstruction and snoring. **Conclusion:** Adenoidectomy is a valuable treatment option for otitis media with effusion (OME) in children. The evidence suggests that adenoidectomy is effective in reducing the risk of persistent OME and improving hearing outcomes.

INTRODUCTION

Otitis media with effusion (OME) is a common and debilitating condition in children, characterized by the accumulation of fluid in the middle ear without signs or symptoms of acute infection. OME can lead to hearing loss, speech delay, and behavioral problems, significantly impacting a child's quality of life. Despite its prevalence, the management of OME remains a topic of ongoing debate, with various treatment options available, including watchful waiting, medical therapy, and surgical intervention.

Adenoidectomy, the surgical removal of the adenoids, has been a long-standing treatment option for OME, particularly in children with recurrent or persistent disease. The adenoids, located in the nasopharynx, play a crucial role in the development of OME, as they can contribute to Eustachian tube dysfunction and middle ear inflammation. However, the role of adenoidectomy in the management of OME has been questioned in recent years, with some studies suggesting that the procedure may not be as effective as previously thought.

This article aims to review the current evidence on the effectiveness of adenoidectomy in the treatment of OME, including the pathophysiology, indications, surgical techniques, and outcomes.

MATERIALS AND METHODS

A prospective study in which 10 children of age group 5 to 15 years with OME (Otitis media with effusion) diagnosed by Otoscopy and/or Type B or C Tympanogram with adenoid hypertrophy (diagnostic nasal endoscopy or lateral neck soft tissue X ray) who underwent adenoidectomy in the Department of Otorhinolaryngology at Gadag Institute of Medical sciences, Gadag, Karnataka, India over a period of 1 year between August 2023 to July 2024.

Inclusion criteria

10 patients aged between 5 to 15 years with signs and symptoms of adenoid hypertrophy and OME who are not responding to conservative management

Exclusion criteria

Patients with discharging ear/perforation in tympanic membrane, patients with congenital deformity of ear, cleft palate and with bleeding disorders.

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Figure 1: Tympanic Membrane in Ototis Media With Effusion

Patients presenting with features suggestive of adenoid hypertrophy were evaluated for coexisting serous otitis media (Otitis Media with Effusion) by Otoscopy and DNE(Diagnostic Nasal Endoscopy).
Among them 10 children of age group 5 to 15 years with OME not responding to medical treatment were included in the study.
Surgical Technique: Under General Anaesthesia patient in Rose position, Boyle Davis mouth gag inserted and opened, fixed with Draffins Bipod. Nasopharynx examined by retracting soft palate using pillar retractor and adenoids palpated and medialised. Proper size Saint Clair Thompson Adenoid curette with cage introduced into nasopharynx orally till free edge of curette touches posterior free border of nasal septum and then pressed backwards to include hypertrophied adenoids. By aligning the neck with chest with gentle movement adenoids shaved off. Remaining part of adenoids curetted with Beckmann adenoid curette without cage. Hemostasis achieved by placing postnasal pack in nasopharynx for some time. Post operatively all patients treated with antibiotics, nasal decongestants & antihistamines. Patients followed at 3rd and 6th month after surgery with repeat Tympanometry, DNE, Pure Tone Audiometry.

RESULTS

A total of 10 patients underwent adenoidectomy belonging to age group 5-15 Years
Change in Tympanometry curve: Before surgery, 7 were having type B Curve and 3 with type C curve on tympanometry. After 6 months of surgery children with type B curve reduced to 0 and with type C curve to 1.
Size of adenoid tissue: preoperatively 6 children were having grade-II and 4 with grade-III adenoid hypertrophy which became 2 with grade-I and 1 with grade-II adenoids, showing after adenoidectomy less chance of recurrent adenoid hypertrophy.

Table 1: Results before and after surgery.

Parameters		Before adenoidectomy	After adenoidectomy
Tympanogram	B curve	7	0
	C curve	3	1
Adenoid hypertrophy	Grade I	0	2
	Grade II	6	1
	Grade III	4	0
Nasal obstruction/ Mouth breathing		10	1
Snoring		9	1

Clinical symptoms: 10 children suffered from nasal obstruction preoperatively which during follow up reduced to 1 patient following 6 months after surgery. 9 patients complained of snoring which reduced to 1 after surgery. 7 children were having hard of hearing before surgery which improved following surgery.

DISCUSSION

For serous otitis media due to adenoid hypertrophy, adenoidectomy will produce significant improvement in hearing loss. In several studies adverse effects have been reported on expressive verbal vocabulary, language cognition and speech perception tests. Persistence of disease may lead to complications like atelectasis, attic retraction, cholesteatoma and ossicular erosion.
The results suggest that adenoidectomy is an effective treatment option for serious otitis media with effusion (OME) in children. Procedure has been shown to reduce the risk of persistent OME and the need for tympanostomy tubes.[1,2] Additionally, adenoidectomy has been found to improve hearing outcomes and reduce the risk of OME recurrence.[3,4]
Adenoids play a role in the development of OME by contributing to Eustachian tube dysfunction and middle ear inflammation.[5] Adenoidectomy will reduce the inflammation and improve the function of the Eustachian tube, thereby reducing the risk of OME.[6]
Despite the evidence supporting the effectiveness of adenoidectomy in the treatment of OME, there are still some controversies surrounding the procedure. Some studies have suggested that adenoidectomy may not be as effective in children under the age of 4,[7] while others have raised concerns about the potential risks and complications of the procedure.[8]
Di Francesco et al,[9] mentioned that enlarged adenoid is an associated factor in OME (otitis media with effusion), once it obstructs the pharyngeal ostia of the auditory tube.
Ab-dul-Baqi et al,[10] mentioned that the removal of adenoid is presumed to be eliminated the mechanical

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obstruction effect of this enlarged tissue and/or the source of nasopharyngeal infection.

CONCLUSION

Adenoidectomy is a valuable treatment option for otitis media with effusion (OME) in children. The evidence suggests that adenoidectomy is effective in reducing the risk of persistent OME and improving hearing outcomes. While there are still some controversies surrounding the procedure, the benefits of adenoidectomy in the treatment of OME are clear. Adenoidectomy should be considered as a treatment option for children with serious OME who have failed medical management and have significant hearing loss or other complications. The decision to perform adenoidectomy should be made on a case-by-case basis, considering the individual child's needs and medical history.

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