

Original Research Article

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Adenoid hypertrophy in adults

T. D. Thimmappa, K. S. Gangadhara*

Department of ENT, SIMS, Shivamogga, Karnataka, India

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***Correspondence:**

Dr. K. S. Gangadhara,

E-mail: drtdthimmappa@yahoo.com

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ABSTRACT

Background: Adenoid is a nasopharyngeal tonsil becomes active between 3 to 7 years of age. Starts involution by adolescence. Few of the occasions, the adenoid persists causing various symptoms including ear, nose, throat and facial deformities. It is also important while addressing the cause for nasal obstruction due to the co-existent adenoid tissue which may fail to diagnose pre-operatively becomes an on-table surprise.

Methods: Adult patients above 16 years are subjected to study. Routine clinical examination done followed by diagnostic nasal endoscopy and the size of the adenoid tissue and other associated findings are recorded.

Results: 100 patients were included in the study and gradings were done.

Conclusions: We conclude the presence of adenoid tissue is due to persistence of a childhood problem, which is supported by presence of associated findings like high arched palate, supernumerary teeth.

Keywords: Adult adenoid, Diagnostic nasal endoscopy, Adenoid grading

INTRODUCTION

Adenoid by meaning is a gland like organ; it is a nasopharyngeal tonsil a lymphoid tissue situated in the roof of nasopharynx. It develops from mesodermal cell origin at 16 weeks of intra uterine life by sub epithelial infiltration of lymphocytes. Santorni described the nasopharyngeal lymphoid aggregate as Lushka tonsil in 1724, Wilhelm 1870 called this tissue adenoid.

Adenoid along with other lympho reticular tissue of waldeyers lymphatic ring it traps virus bacteria, allergen etc, contributes for immunological homeostasis. At the time of birth it is small in size and becomes active between 3 years to 7 years of age.¹ It is clinically felt like a bag of worms. It starts its involution by adolescence. Histologically it is constituted by respiratory epithelium with cilia, crypts and germinal centre.

Adenoid harbors normal bacterial flora such as *Lactobacillus*, *Nocardia*, anaerobic *Peptostreptococci*,

alpha haemolytic *Peptostreptococci*, *Enterococci* and *Morexalla catrrhalis* in it. Its enlargement causes nasal, ear, sleep disturbances and generalized symptoms, may retard growth in children.

Adenoid is graded in to I-IV grades by examiners subjective perception. Grade I-clinically up to 25% obstruction of choanae, Grade II-clinically 25% to 50% block, Grade III-50% to 75% block Grade IV-75% to 100% obstruction.

Relationship with structures such as (a) vomer (b) torus tubaris and (c) soft palate are critical in grading of adenoid. Adenoid enlargement not in contact with any of the above structure is grade I, in contact with torus is grade II, contact with torus tubaris and vomer bone grade III and in contact with all above three organs even in rest is grade IV.

Grade I-adenoid tissue filling one-third of vertical portion of the choanae. Grade II-adenoid tissue filling from one-

third to two-thirds of the choanae.² Grade III-from two thirds to nearly complete obstruction of the choanae. Grade IV-complete choanal obstruction.

Various method are employed to remove hypertrophied adenoid few of them are adenoid shaving by curratage, debridement by a micro debrider, coablator and magnetic resonance generator etc.

It has been observed, while routine FESS surgeries in many of the adult patients with presence of adenoid in the nasopharynx. Sometimes we fail to take consent to address adenoid problem preoperatively. Thus we felt to assess and study the occurrence of adenoid tissue, in adults as a prime objective.

METHODS

It is a low risk, clinical prospective observational study. Patients who attend to the department of ENT, Government McGann teaching Hospital, SIMS Shimoga, Karnataka, India and referred from other departments with symptoms of nasal obstruction, headache, epistaxis, post nasal drip, etc. Features suggestive of adenoid are described in Table 1, 2 and 3. The period of study is between June 2017 to November 2018, after obtaining proper ethical committee clearance. Patients are subjected to routine clinical examination, external nasal examination, anterior rhinoscopy, posterior rhinoscopy and diagnostic nasal endoscopy. The presence of adenoid and its extension recorded and graded accordingly.

Inclusion criteria

All patients with symptoms described in Table 1, 2, 3 who are above 16 years of age are considered for the study.

Exclusion criteria

Patients below 16 years and subjects who have undergone adenoidectomy previously are excluded from the study.

Statistical tool

Descriptive statistics, frequency and percentages were calculated by using SPSS (version 24.0). Graphs were plotted by using Microsoft Excel.

RESULTS

100 Patients were included in the study, males are 51 (51%) and female 49 (49%) shown in Figure 1.

Clinically majority of the patients presented with nasal obstruction 88 cases (88%), headache 26 patients (26%), and bleeding nose 4 cases (4%), nasal speech 2 cases (2%), post nasal drip 14 cases (14%) and allergic symptoms 11 cases (11%) as shown in Table 1.

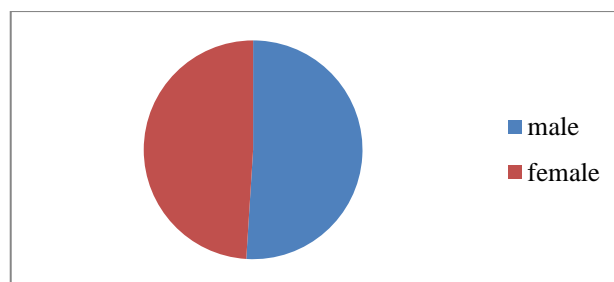


Figure 1: Sex distribution in adult patients with adenoid.

Table 1: Clinical symptoms of adenoid hypertrophy in adults.

Symptoms	No. of cases	%
Nasal obstruction	88	88
Headache	26	26
Bleeding from nose	04	04
Allergic symptoms	11	11
Speech complaints	02	02
Post nasal drip	14	14
Halitosis	05	05
Anosmia	02	02
Snoring	04	04

Table 2: Clinical signs of adenoid hypertrophy in adults.

Clinical signs	No. of cases	%
Deviated nasal septum	79	79
Spur	25	25
Concha bullosa	07	07
Hypertrophied inferior turbinate	12	12
Polypoidal mucosal change	04	04
High arched palate	04	04
Supernumerary teeth	01	01

Deviated nasal septum with spur was the most common anterior rhinoscopic finding 79 cases (79%), with spur 25 cases (25%), hypertrophied inferior turbinate 12 cases (12%), concha bullosa 7 cases (7%), high arched palate 4 cases (4%) and supernumerary teeth in 1 case (1%) shown in Table 2.

Other associated findings were tonsillar hypertrophy 10 cases (10%), bilateral OME 2 cases (2%), ASOM 1 case (1%), CSOM 1 case (1%) and retraction of tympanic membrane 1 case (1%) as shown in Table 3.

The patients above the age of 16 years are selected with no upper age limit. 16 to 20 years maximum cases are recorded 39 (39%), followed by 21-30 years 34 cases (34%), 31-40 years 17 cases (17%), 41-50 years 7 cases

(7%) and least occurrence is between age group 51-60 years 2 cases (2%) shown in Figure 2.

Table 3: Other associated findings.

Findings	No. of cases	%
Tonsillar hypertrophy	10	10
Tympanic membrane		
1. B/L OME	02	02
2. Central perforation	01	01
3. ASOM	01	01
4. Retraction	01	01

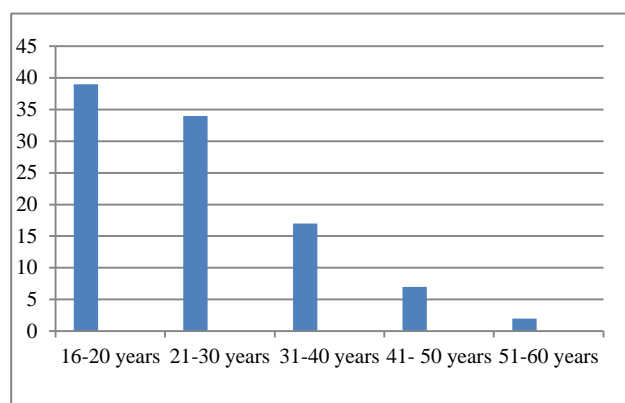


Figure 2: Age distribution.

Endoscopic finding of grade I adenoid hypertrophy was observed in 26 cases (26%) grade II in 48 cases (48%), grade III in 20 cases (20%) and grade IV in 6 cases (6%) as shown in Figure 3.

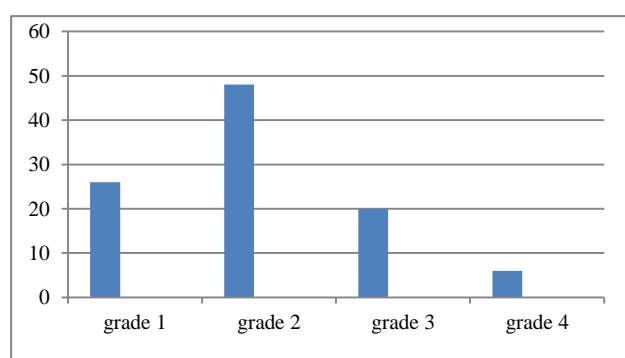


Figure 3: Grading of adenoid as per nasal endoscopy.

DISCUSSION

Adenoid in adults is not uncommon and often it is underestimated.³ Post nasal examination hypertrophy is inadequate tool; many cases of adult adenoid are not diagnosed. Cohen et al in his study slams X-ray of adenoid and lateral cervical radiograph.⁴ It will not acknowledge lateral extension of adenoid which is one of the main contributing factors in otitis media.⁵

Zero degree 4 mm wide angle nasal endoscope is reliable, safe, and easily tolerated which gives 3 dimensional picture of well illuminated and magnified image and play important role in differentiation of adenoid from other post nasal space mass such as cyst, tumor etc.⁶

Size of the adenoid alone is not very important, it is in ratio with nasopharynx is significant. Adenoid/nasopharynx ratio is calculated on lateral cephalometric graphics, significant obstruction was observed by Kamal et al, if posterior choana above 60% in grade 2 and 3 based on clinical and air flow models.⁷

Yildirim et al in his study observed adult adenoid was associated with nasal septum deviation in 25% of cases. Histopathological features of adenoid lymphoid tissue were dissimilar in two groups: numerous lymph follicles with prominent germinal centers was the chief finding in childhood adenoids where as in adults adenoids showed inflammatory cell infiltration with secondary changes (squamous metaplasia).⁸ In contrary our study showed 79% of DNS and 25% with spur.

The exact cause of adenoid hypertrophy in adults is not known but various etiopathological mechanisms and few theories have been proposed, Persistence of childhood adenoid, reactivation of atrophied adenoid. In our study 4 cases of high arched palate and 1 case of supernumerary teeth favours persistence and continuation of childhood adenoid pathology.

As reported by Finkelstein et al adenoid enlargement and obstruction in 30% of heavy smokers.⁹ Moazzzez et al stated that Infection such as bacterial and viral (Human Immunodeficiency Virus), allergies and immune-compromised state noticed as a result of organ transplantation and those who receive anti malignant drugs and corticosteroids.¹⁰

CONCLUSION

Adenoid hypertrophy in adults is not uncommon condition. Each patient with nasal obstruction should be subjected to nasal endoscopic examination and size to be assessed.

Grade 2, 3, 4 are most of the time symptomatic if adenoidectomy is not done while addressing septal deviations or polyp condition, symptoms of obstruction may not improve at all.

Endoscopic examination is safe, reliable and easily tolerated procedure hence should be practiced rather than X-ray nasopharynx gives only two dimensional view and having radiation hazard.

Adenoid hypertrophy in adults may be a persistence of childhood condition supported by associated findings like high arched palate, supernumerary teeth; it requires

further study with a large number of cases and longer duration for confirmation.

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Conflict of interest: None declared

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

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