

FREQUENCY OF ADENOID HYPERTROPHY AMONG ADULT PATIENTS WITH NASAL OBSTRUCTION

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ABSTRACT

Objective: To find out the frequency of adenoid hypertrophy among adult patients with nasal obstruction.

Methodology: The study was carried out in CMH Bahawalpur and CMH Okara, from June 2015 to June 2017. Adult cases with nasal obstruction who reported in the ear, nose and throat (ENT) department in the above mentioned period were included in the study. Data was analyzed using statistical package for social sciences (SPSS) version 20. Frequency and percentage were calculated for qualitative variables while mean and standard deviation (SD) were calculated for quantitative variable.

Results: There were 3454 adult cases of nasal obstruction consented for research. The major cause of nasal obstruction was deviated nasal septum (DNS) in 1211 (35.06%) of individuals followed by inferior turbinate hypertrophy. Frequency of adenoid hypertrophy was 149 (4.31%). Among them, 21 (0.61%) had adenoid hypertrophy alone, 52 (1.51%) had associated nasal polyps, 39 cases (1.12%) had adenoid along with deviated nasal septum and 37 (1.07%) had adenoid hypertrophy along with inferior turbinate hypertrophy. Among the adults with adenoid hypertrophy, 95 (63.76%) were males. Age range was from 16 to 52 years.

Conclusion: Adenoid hypertrophy is prevalent in adults and is an important cause of nasal obstruction.

Key Words: Adenoid hypertrophy, Nasal obstruction, Frequency

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INTRODUCTION

In 1724 Santorini first described the nasopharyngeal aggregate of lymphoid tissue and Wilhelm coined the term "adenoid" for nasopharyngeal vegetations¹. These are collection of lymphoid tissue located in the nasopharynx along junction of roof and posterior wall. It forms part of Waldeyer's ring which comprises of lymphoid tissue of palatine tonsils, lingual tonsils, posterior pharyngeal wall tonsils and adenoids. In childhood, lymphoid tissue of pharynx is enlarged in size because of active role in developing immune system, but gradually they decrease in size with growing age. Adenoid hypertrophies from 6 to 10 years of age and gradually atrophies till 16 years of age². Adenoid hypertrophy is caused by infection, allergic rhinitis, malignancy, human immunodeficiency virus, smoking and other factors³. Hypertrophy of lymphoid tissue can cause cumbersome and quite serious nasal obstruction. As children are obligatory nose breathers, it may have a serious negative effect. Severe adenoid hypertrophy in children not only causes breathing difficulty and affects sleep, but

can also cause pulmonary hypertension and otitis media with effusion leading to hearing loss⁴. The treatment option for adenoid hypertrophy is surgical removal under general anesthesia.

Lymphoid tissue of adenoids can also be hypertrophied in adults. The main reasons are recurrent or chronic infections and allergy etc. Adenoidectomy is very commonly carried out in children to relieve them of the discomfort and agony of recurrent infections and more importantly nasal obstruction. However in adults, adenoidectomy is seldom carried out because it is overlooked by patients and medical practitioners alike. As adults are not obligatory nose breathers, they can fulfill the requirement with the help of oral breathing. Similarly, general practitioners have trend of relating adult nasal obstruction to deviated nasal septum and turbinate hypertrophy generally. Needless to say, adenoid hypertrophy is thought to be limited to childhood only. However, adenoid tissue can persist or remain hypertrophied in adulthood as well owing to the effect of chronic persistent infection, allergy, smoking or other

factors^{3,5}. We have carried out this research to see the frequency and presentation characteristics of adenoid hypertrophy in adults coming to ear, nose and throat outpatient department with nasal obstruction. This will have beneficial effect on understanding and treating adenoid hypertrophy in adults reporting with nasal obstruction.

METHODOLOGY

The study was carried out in CMH Bahawalpur and CMH Okara from June 2015 to June 2017. All the cases of adult nasal obstruction who reported in the outpatient department in the above mentioned period were included in the study. All the cases consented for the subject research. Ethical committees of the two institutions approved this study. Sample size was calculated with help of study done by Rout et al³, who showed frequency of adenoids in adults as 21%. Confidence interval was taken as 95% and margin of error 1.5%. Sample size was calculated by epitool online sample size calculator. The primary calculated sample was 2833. To account for design effect and non response, sample size was increased to 3500; however 46 cases did not consent for participation. Thus sample came out to be 3454.

All adults (>15 years of age) complaining of nasal obstruction and with deviated nasal septum, nasal polypsis and turbinate hypertrophy were included in the study. Children were excluded because adenoid hypertrophy is common among this age group. Moreover, individuals with recent history of adenoidectomy (surgery done within a year) and patients who declined to be included in the study were excluded. The tools which

were employed to look for adenoid hypertrophy in adults included: 1) endoscopic examination of nose and nasopharynx, carried out in OPD under local anesthesia; 2) x-ray soft tissue lateral view nasopharynx done in all cases to see adenoid hypertrophy radiologically; and 3) all the patients undergoing surgery & functional endoscopic sinus surgery (for deviated nasal septum, turbinate hypertrophy, nasal polyps and chronic rhinosinusitis respectively) were examined under general anesthesia for adenoid hypertrophy if any.

Data were analyzed using statistical package for social sciences (SPSS) version 20. Frequency and percentages were calculated for qualitative variables while mean and standard deviation (SD) were calculated for quantitative variables.

RESULTS

There were 3454 adult cases of nasal obstruction consented for the subject research in CMH Bahawalpur and CMH Okara. .

The major cause of nasal obstruction was deviated nasal septum (DNS) in 1211 (35.06%) of individuals. Other causes of nasal obstruction along with their frequencies are shown in Table 1.

Adenoid hypertrophy was seen in 149 (4.31%). Among them, 21 (0.61%) had adenoid hypertrophy alone, 52 (1.51%) had associated nasal polyps, 39 cases (1.12%) had adenoid along with deviated nasal septum and 37 (1.07%) had adenoid hypertrophy along with inferior turbinate hypertrophy. Table 2 shows the distribution of cases of adenoid hypertrophy. It shows majority of the cases (128, 85.91%) of adenoid hypertrophy were

Table 1: Causes of nasal obstruction among adults

S/No.	Disease	Frequency	Percentage
1	DNS	1211	35.06%
2	DNS + ITH	783	22.66%
3	ITH	694	20.09%
4	ENP	287	8.31%
5	DNS + ENP	164	4.75%
6	ITH + ENP	135	3.91%
7	ENP + Adenoids	52	1.51%
8	DNS + Adenoids	39	1.12%
9	ITH + Adenoids	37	1.07%
10	Adenoids	21	0.61%
11	ACP	16	0.46%
12	Nasal Tumors	15	0.43%
Total		3454	100%

DNS= Deviated nasal septum, ITH= Inferior turbinate hypertrophy, ENP= Ethmoidal nasal polyps, ACP= Antro-choanal polyp

Table 2: Frequency of adenoids

S/No.	Disease	Frequency	Percentage
1	ENP + Adenoids	52	34.89%
2	DNS + Adenoids	39	26.17%
3	ITH + Adenoids	37	24.83%
4	Adenoids	21	14.09%

Table 3: Gender wise distribution of cases of adenoid hypertrophy

Gender	Frequency	Percentage
Male	95	63.76%
Female	54	36.24%
Total	149	100

Table 4: Age wise distribution of cases of adenoid hypertrophy

Age Group (Years)	Frequency	Percentage
16-25	77	51.67%
26-35	43	28.86%
36-45	21	14.09%
46-55	8	5.37%
>56	0	0%
Total	149	100%

associated with other rhinological conditions i.e nasal polyps, turbinate hypertrophy and deviated nasal septum. Adenoids alone were enlarged in only 21 (14.09%) individuals.

The gender distribution of hypertrophic adenoid cases is shown in Table 3. Among them, 95 (63.76%) were males.

Age of patients ranged from 16 to 52 years. Majority (51.67%) of the individuals with adenoid enlargement were in age group between 16 to 25 years. Age-wise distribution of cases is shown in Table 4.

DISCUSSION

Adenoid hypertrophy is a common presentation in children. On the other hand, nasal obstruction in adults is almost totally attributed to deviated nasal septum or turbinate hypertrophy, with adenoid hypertrophy being the least likely causative factor in the minds of clinicians. Adenoid tissue undergoes atrophy during later part of childhood, but it can persist and become significant cause of nasal obstruction in adults. It is overlooked in adults because of associated rhinological conditions like deviated nasal septum & turbinate hypertrophy and incomplete examination of nasopharynx⁵.

In the present study, 4.31% cases of nasal obstruction had adenoid hypertrophy. In 3.7% cases there were associated other rhinological conditions i.e devi-

ated nasal septum and turbinate hypertrophy and in 0.61% cases, it was due to adenoid hypertrophy alone.

Rout et al³ showed a high frequency (21%) of adenoids in adults. In his work, he showed that deviated nasal septum was the commonest cause of nasal obstruction (45% cases) just like our results where deviated nasal septum was found in 35.1% cases. Hamdan et al⁶ also showed 62.3% cases of adenoid hypertrophy among adults with nasal obstruction. Hamad et al⁷ also showed frequency of 17.14% in adults presenting with nasal obstruction. Kapusuz et al⁸ has shown 26% cases of adult nasal obstruction to be related to adenoid hypertrophy. On the other hand, Al-Juboori⁹ has showed a very low prevalence i.e 0.18% of adenoid hypertrophy in adults.

In our research we found males to be the predominant gender involved; 63.76% of individuals were males. The results are synonymous with those of Rout et al³ where 70% adults of adenoid hypertrophy were males. This might be because of excessive exposure of males to outdoor allergens etc. The commonest age group involved was 16 to 25 years. This was also similar to that seen in work of Rout et al³ and Al-Jaboori⁹.

Proper endoscopic examination should be done in all adults presenting with nasal obstruction, because in many cases adenoid hypertrophy can co-exist along with other rhinological pathologies and disorders. Many

a times, enlarged adenoids are encountered accidentally during nasal surgeries or are diagnosed after failed previous surgeries¹⁰.

CONCLUSION

Adenoid hypertrophy is prevalent in adults and is an important cause of nasal obstruction. All the individuals reporting to ENT outpatient department with nasal obstruction should be evaluated for adenoid hypertrophy as well, along with treating the other associated rhinological conditions like deviated nasal septum, inferior turbinate hypertrophy and nasal polyps.

REFERENCES

1. Wysocka J, Hssamann E, Lipska A, Musiatowicz M. Naïve and memory T cells in hypertrophied adenoids in children according to age. *Int J pediatr Otorhinolaryngol* 2003; 67: 237-41.
2. Yildirim N, Sahan M, Karsliglu Y. Adenoid hypertrophy in adults: clinical and morphological characteristics. *J Int Med Res* 2008; 36:157-62.
3. Rout MR, Mohanty D, Vijaylaxmi Y, Bobba K, Metta C. Adenoid hypertrophy in adults: A case series. *Indian J Otolaryngol Head Neck Surg* 2013; 65:269-74.
4. Karodpati N, Shinde V, Deogawkar S, Ghate G. Adenoid hypertrophy in adults - A myth or reality. *Webmed central* 2013; 4:2-6.
5. Shetty S, Aroor R, Bhandary SK, Bhat VS, Saldanha M, Alva S. Adult adenoid hypertrophy, is it persistent childhood adenoid hypertrophy? *Med J DY Patil Vidyapeeth* 2016; 9:216-8.
6. Hamdan AL, Sabra O, Hadi U. Prevalence of adenoid hypertrophy in adults with nasal obstruction. *J Otolaryngol Head Neck Surg* 2008; 37:469-73.
7. Hamad KD, Alhamad R, Jassim AA. Adenoid hypertrophy in adults and nasal obstruction. *Kindy Coll Med J* 2014; 10:8-10.
8. Kapusuz Z, Ozkiris M, Okur A, Saydam L. The prevalence of adenoid hypertrophy in adults in a rural area of Turkey. *Tr-ENT* 2012; 22:225-7.
9. Al-Juboori AN. Adenoid hypertrophy in adults, a rare cause of nasal obstruction: an evaluation of 12 cases. *Intl J Clin Med Res* 2014; 1:1-4.
10. Khafagy YW, Mokbel KM. Choanal adenoids in adults with persistent nasal symptoms: endoscopic management to avoid misdiagnosis and unsuccessful surgeries. *Eur Arch Otorhinolaryngol* 2011; 268:1589-92.

CONTRIBUTORS

MAK conceived the idea, planned the study and drafted the manuscript. FUHN and AH helped acquisition and interpretation of data and did literature search. MK helped manuscript writing. All authors contributed significantly to the submitted manuscript.