RESEARCH STUDY

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Adenoid Hypertrophy in Adults and Nasal Obstruction

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Abstract

Background .To know the incidence of adenoid hypertrophy in adults causing nasal obstruction and other nasal complains.

Methods.Prospective studyof(140) adult patientstheir main chief complaint were nasal obstruction , presented to Otolaryngology department at Aljumhory Teaching Hospital in Mosul , from the period (september 2010 to september 2011) ,their age ranged from (21 to 53) years . They were investigated clinically, radiologicaly ,and nasal endoscopic examination was carried out (rigid and fibro-optic) . Adenoidectomy was performed for those with adenoid hypertrophy and sent for histopathological study .

Results:. we found adenoid enlargement in(24) patients (17.14%),in addition to nasalobstruction they were also complaining of Post nasal discharge (19) patients, followed by snoring (17) patients , headache and facial pain (15) patients, deafness and tinnitus (8) patients and other rhinologicalsymtoms. The patients were followed up for a period ranged from (4 -16) months. We found that (91.6%) were relieved of their nasal obstruction, (82.3%) were relieved from snoring .

Other nasal symptoms ; post nasal discharge, headache and facial pain, sore throat and tonsillitis, deafness , tinnitus ,rhinorrhia, Rhinolaliaclausa, otalgia were improved in (68.4% - 50%).

Conclusions: Nasal obstruction ,snoring ,post-nasal discharge ,and aural symptoms were often caused by adenoid enlargements in adults .

Because the examination of the nasopharynx was inadequate ,many cases of enlarged adenoid were misdiagnosed. Adenoid enlargements in adults should always borne in mind as a cause of nasal obstruction and other rhinological symptoms. Nasal endoscopic examination including the nasopharynx should be done for proper diagnosis.

Introduction: Santorini described the nasopharyngeal lymphoid aggregate or 'Lushka's tonsil' in 1724. Wilhelm Meyer coined the term 'adenoid' to apply to what he described as (nasopharyngeal vegetations) in 1870. The adenoid forms
part of Waldeyer's ring of lymphoid tissue at the portal of the upper respiratory tract. In early childhood this is the first site of immunological contact for inhaled antigens. Historically, the adenoid has been associated with upper airway obstruction, as a focus of sepsis, and more recently with the persistence of otitis media and effusion. The adenoid growth continues rapidly during infancy and plateaus between 2 and 14 years of age. Regression of the adenoid occurs rapidly after 15 years of age in most children[(1)]. The adenoid appears to be at its largest in the seven-year-old age group. However, clinical symptoms are more common in a younger age group, due to the relative small volume of the nasopharynx and the increased frequency of upper respiratory tract infections. The function of the lymphoid tissue of Waldeyer's ring is to produce antibodies. The adenoid produces B cells, which give rise to IgG and IgA plasma cells. Exposure to antigens via the nasal route is an important part of natural acquired immunity in early childhood. The adenoid appears to have an important role in the development of an (immunological memory) in younger children. It begins to atrophy and involute after puberty and disappear before the age of 20 years ,persistence of adenoid in adult life is not uncommon and nasopharyngeal lymphoid tissue can undergo prominent or even hyperplasia in adults. Nasal obstruction and snoring were often caused by adenoid enlargement in adults [(1)].The overall prevalence of adenoid hypertrophy in adults with nasal obstruction approached (63.6%) [(2)]

Methods: Our study include (140) adult patients presented to Otolaryngology department at Aljumhory Teaching Hospital in Mosul , from the period (september 2010 to september 2011) their chief complaint were nasal obstruction .Full history taking, ORL examination ,plain lateral X-ray were done for (85)patients of them ,and (105) patients occipitomental view of sinuses were performed , (11) patients CAT scan of brain and sinuses were done. Nasal endoscopic examination was carried out after

spraying the nose with Xylometazoline HCL(1%) and xylocain (4%) using 0.4mm endoscope ,and fibro-optic .All the patients have a history of receiving medical treatments .From the history and anterior rhinoscpic examination, the findings were often misleading giving a picture of hypertrophic inferior turbinate ,allergic and non allergic rhinitis ,deviated nasal septum ,nasal polyps . Eight patients of them were subjected to un-successful surgeries in the form of septoplasty , nasal polypectomy ,antral lavage ,SMD ,and one patient was subjected to maryngocentesis for unilateral secretory otitis media .

Results: The (140) patients complaining of nasal obstruction their age ranged from (21 to 53) years .(96) were male and (44) were female .The symptoms duration spanned between 6 months and 6 years. The cause of nasal obstruction for the (140) patients studied are shown in table(1); the deviated nasal septum was the most common cause(63) patients (45%) ,followed by the allergic rhinitis (26) patients (18.5%), then adenoid enlargement(24)patients(17.14%). The (24)patients with adenoid enlargement were (15)male and (9) female , their age ranged from 22 to 51 years, Three patients had a past history of adenoidectomy (12%),and one patient had history of tonsillectomy since childhood. Associated symptoms in the (24)patients with adenoid enlargement and nasal obstruction are shown in table(2) ;the most common symptoms were the post nasal discharge (19) patients (79%), followed by the Snoring (17) patients (70.8%).

Adenoidectomy was performed for the (24) patients diagnosed as adenoid enlargement , under general anesthesia using adenotomes and curettes ,some with the aid of endoscopy, additional procedures for associated pathologies were performed concurrently in (6) patients (Septoplasty, SMD,Antral wash out) ,all the adenoid specimens were send for histopathological study; and showed chronic inflammatory cell infiltration and secondary squamous metaplasia in the surface and fibrosis.

Table 1. Causes of nasal obstruction for the(140) patients studied

Aetiology of nasal obstruction	Number of patients	%
Deviated nasal septum -+ Allergic Rhinitis	63	45%
Allergic Rhinitis	26	18.5%
Vasomotor Rhinitis	05	3.5%
Adenoid enlargement	24	17.14%
Sinusitis	10	7.1%
Nasal polyp	05	3.5%
Hypertrophic inferior turbinate	05	3.5%
Nasopharyngeal carcinoma	01	0.7%
Lymphoma	01	0.7%
Total	140	100%

Table 2. Associated symptoms in the (24)patients with adenoid enlargement and nasal obstruction before and after adenoidectomy.

Associated symptoms	Number of patients	%	Patients Improved after adenoidectomy	
			No.	%
Post nasal discharge	19	79%	13	68.4%
Rhinorrhia	13	54%	8	61.5%
Headache and Facial pain	15	62.5%	10	66.6%
Snoring	17	70.8%	14	82.3%
Epistxis	4	16.6%	2	50%
Cervical Lymph Node	5	20.8%	3	%60
Deafness and / Tinnitus	8	33.3%	5	62.5%
Otalgia	4	16.6%	2	50%
Sore throat and Tonsillitis	6	25%	4	66.6%
Rhinolaliaclausa	5	20.8%	3	60%

Discussion: In our study the (24) patients complaining of nasal obstruction diagnosed as adenoid enlargement ,adenoidectomy was performed ,and confirmed histopathologically; The patients were followed up for a period ranged from (4 -16) months. Twenty two patients (91.6%) were relieved of their nasal obstruction, (82.3%) were relieved from snoring ,other nasal symptoms ; post nasal discharge, headache and facial pain, sore throat and tonsillitis, deafness , tinnitus ,rhinorrhia, rhinolaliaclausa ,otalgia were improved in (68.4%-50%).All the patients have a history of receiving medical treatments and (8) patients had subjected to surgical operations (Septoplasty, SMD,Antral wash out) for their complains with no history of improvement of their symptoms , So unless the possibility of adenoid in adults is borne in mind ,even with the presence of positive finding on nasal examination which can explain

the patient`s symptoms , its diagnosis can be easily missed(3) . Table (3) show the anterior rhinoscopic findings in the (24) patients with adenoid enlargement. In the present study we found mild deviated nasal septum in(16.6%) of patient with adenoid enlargement ;developmental nasal septum deviation affecting nasal physiology and predisposing to chronic sinonasal inflammation and post-nasal drip (4),and may also indirectly cause low grade chronic inflammation of the adenoid interfering with their physiological regression(5). In the present study ;(3) patients (12%) gave a history of past adenoidectomy ,this suggest that there was inadequate removal of adenoid tissue at the previous operation(6) ,and also indicate that the pathological processes leading to adenoid hypertrophy began in childhood .Adults adenoid hypertrophy occur secondary to chronic or recurrent infection ,or anatomical disturbancesthat cause chronic inflammation and persistence of nasopharyngeal tonsil (5. (Obstructive adenoid hypertrophy is usually associated with childhood. Less has been published on the adult form ,possibly due to its under diagnosis as a result of incomplete nasopharyngeal examination ,although it has also been overshadowed by accompanying rhinopharyngological disorder (7,8).In a survey of (15 000) adult(aged< 16years)the adenoid was present in(2.5%)(9). Various aetiopathogenetic mechanism have been proposed to explain the presence of lymphoid hyperplasia in adult nasopharynx ,including the persistence of childhood adenoid due to chronic inflammation (8) or re-proliferation of regressed adenoidal tissue in response to irritants or infection (7).Finklelstein et al (10) reported the presence of obstructive adenoids in 30% of heavy smockers. Adenoid hypertrophy caused by viruses in adults with compromised immunity,specially those receiving organ transplants and those with (HIV), is a well known phenomenon (11)

Conclusions: The adenoid enlargement in adults is not uncommon ,and often underestimated in adults with nasal obstruction and in order to not be missed and should always borne in mind as a cause of nasal obstruction and other rhinologicalsymtoms. The presence of a lymphoid mass in adult nasopharynx is suspicious especially when accompanied by unilateral middle ear effusion ,and malignancy should always be ruled out .Nasal endoscopic examination(anterior rhinoscopy and examination of the nasopharynx) is a very important tool in the clinical assessment of patients with nasal and aural disease, also X-R lateral view of the nasopharynx should be added in the investigation of patients with nasal obstruction. The adenoid in adults when removed should be sent for hitopathological study

Table 3.Anterior rhinoscopic findings in the (24)patients with adenoid enlargement.

	Anterior rhinoscopic Findings	No. of patients	
		No.	%
1	Hypertrophy inferior turbinates (pale)	7	29.16%
2	Hypertrophy inferior turbinates (congested)	6	24%
3	Mucoid nasal discharge	4	16.6%
4	Mucopurulent nasal discharge	3	12.5%
5	Mild deviated nasal septum	4	16.6%
Total		24	100%

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