

*Research Article***The role of endoscopic management of choanal adenoid in adult with persistent nasal symptoms****Mohammed A. Gomaa, Mostafa T. Abdel Hakeem and Ahmed M. Sayed Soltan**

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**Abstract****Puropose:** The aim of this study is to do trans nasal endoscopic management of choanal adenoid in the adult with persistent nasal symptoms even in the prescence of apparent cause of nasal obstruction.**Patients and methods:** The current study is a prospective study that done at the department of Otorhinolaryngology, Minia University hospital to describe transnasal endoscopic powered adenoidectomy using a microdebrider in patients with choanal adenoids . A total of 40 patients of different age groups and both sexes were involved in the study. We selected adult patients with bilateral nasal obstruction not responding to medical treatment. All the adult patients aged from (18 to 43 years) with adenoid hypertrophy were taken into study. In this study 40 adult patients having adenoid were found out by screening of adult patients having nasal obstruction in out patient clinic in the Department of otorhinolaryngology Minia University Hospital. These 40 patients were evaluated and studied. **Results:** The study was done on 40 patients, 13(32.5%) were only choanal adenoidectomy and 27(67.5%) were choanal adenoidectomy with other procedures. forty patients of our study were assessed Ninety days after surgery, As regard postoperative nasal obstruction, 13 patients (32.5%) had mild nasal obstruction, and 27 patients (67.5%) had moderate nasal obstruction, and no had severe nasal obstruction at 2 weeks postoperatively. In the present study all of our patients had no nasal obstruction (100%) at 3 months postoperatively. As regard postoperative snoring ,In the present study 5 patients (12.5%) had no snoring, and 35 patients (87.5%) had snoring at 2 weeks postoperatively. In the present all patients had no snoring (100%) at 3 months postoperatively. **Conclusion:** Choanal adenoid in adults is uncommon, but rather an important cause of nasal obstruction which is usually over-looked or misdiagnosed.**Keywords:** Adenoid, trananasal adenoidectomy, choanal adenoid, adult**Introduction**

Adenoid is the condensation of lymphoid tissue at the back of the nose or on the posterosuperior wall of nasopharynx. Adenoid is the part of Waldeyers Ring. It appears to have an important role in the development of an (immunological memory) in children (Wysoka J et al, 2003). Adenoid hypertrophy occurs physiologically in children between the age of 6-10 years, then atrophy at the age of 16 years (Yildirim N et al., 2008).

Adenoid enlargement is un common in adults and because examination of the nasopharynx by indirect posterior rhinoscopy is in adequate ,many cases of enlarged adenoid in adult is misdiagnosed and accordingly maltreated. Presence of lymphoid hyperplasia in the adult nasopharynx, including the persistence of

childhood adenoid is associated with chronic inflammation. Regressed adenoidal tissue may

re-proliferate in response to infections and irritants (Kamel RH and Ishak EA., 1990).

There is a wide choice of methods available to perform adenoidectomy. Routes for visualization and access to the adenoid may be transoral, trans nasal or a combination [Comparison of power (assisted adenoidectomy vs adenoid curette adenoidectomy Arch]. Combined method of conventional and endoscopic adenoidectomy allows the main bulk of the mass to be removed by adenoid curette and the remaining part under transnasal endoscopic control, using power shaver, suction cautery or sinus surgery forceps [Kamel RH and Ishak EA (1990) Huang HM, Chao MC,

Chen Ui., Hsiao HR (1998), Alaa A and Hamed Wahab (2003)]. The choanal location of the adenoid tissue cannot be visualized on plain lateral x-ray photos of nasopharynx but can be visualized by 1) sinoscopic evaluation. 2) CT nose and Para nasal sinuses.

### **Aim of the study**

The aim of this study is to do trans nasal endoscopic management of choanal adenoid in the adult with persistent nasal symptoms even in the presence of apparent cause of nasal obstruction like deviated nasal septum, chronic hypertrophic rhinitis, concha bullosa or nasal polyps. Because of without dealing with this choanal adenoid, patient will complain from persistent nasal symptoms.

### **Patients and Methods**

The current study is a prospective study that done at the department of Otorhinolaryngology, Minia University hospital from January 2018 and December 2018 to describe transnasal endoscopic powered adenoidectomy using a microdebrider in patients with choanal adenoids. A total of 40 patients of different age groups and both sexes were involved in the study. Informed consent was taken from each patient after explanation of the procedure to them. We selected adult patients with bilateral nasal obstruction not responding to medical treatment.

All the adult patients aged from (18 to 43 years) with adenoid hypertrophy were taken into study. In this study 40 adult patients having adenoid were found out by screening of adult patients having nasal obstruction in out patient clinic in the Department of otorhinolaryngology Minia University Hospital. These 40 patients were evaluated and studied.

Operative technique is as follows: under general anesthesia, all patients were intubated with endotracheal tube then were put for nasal procedures. The nasal cavity was decongested with topical solution 1% xylometazoline to facilitate the nasal passage during the procedure. 0 degree sinoscope, was passed transnasally.

A shaver blade (microdebrider) was introduced through the nose into the nasopharynx under telescopic visualization, Tissue was removed at

the site of the oscillating blade only, and the blade is kept under vision all the time using the telescope. The procedure started in the region of the choanae, progressing inferiorly and posteriorly. careful tissue removal was carried out with the protection of important near by structures like eustachian, torus tubaris and posterior pharyngeal wall. A small inferior rim of adenoid tissue was left to preserve the velopharyngeal sphincter. A surgical patty was then applied into choana to control bleeding. At the end, the post nasal space was examined to ensure latency of the choanal.

### **- Postoperative Follow up**

**In each visit we assess the following parameters:**

1. Improvement of nasal obstruction: Nasal obstruction was analyzed according to VAS (Visual Analogue Score) system. 2- Extend of intranasal crustations: Extent of intra-nasal crustations was analyzed according to endoscopic scoring of Lund and Kennedy. 3- Degree of tissue Healing and adhesions formation (Synechiae), Tissue healing was assessed also according to endoscopic scoring of Lund and Kennedy. all patients Follow up was carried-out two weeks, and one month, and three months postoperatively to assess the previous parameters.

The data was analyzed by SPSS windows version 19

### **Results**

The current study revealed that choanal adenoidectomy in adults gave the patients the most benefit if choanal adenoid is the only cause of nasal obstruction or with other causes of nasal obstruction like Hypertrophied inferior turbinate, Deviated nasal septum as regard operative time, postoperative nasal obstruction & postoperative complication mostly crustation after 2 weeks, 1month & 3 months post-operative.

Our study was done on 40 patients, 31(77.5%) were females and 9(22.5%) were males. Patients were in the age range of 18-43 years (mean  $22.9 \pm 7.4$ ) with significant difference regarding the age and sex.

The study was done on 40 patients, 13(32.5%) were only choanal adenoidectomy and 27

(67.5%) were choanal adenoidectomy with other procedures.

**As regard postoperative nasal obstruction:**

13 patients (32.5%) had mild nasal obstruction, and 27 patients (67.5%) had moderate nasal obstruction, and no had severe nasal obstruction at 2 weeks postoperatively.

In the present study all of our patients had different degrees of improvement of nasal obstruction that 40 patients (100%) had mild nasal obstruction, one month postoperatively months postoperative.

In the present study all of our patients had no nasal obstruction (100%) at 3 months post-operatively.

**As regard postoperative snoring:**

In the present study 5 patients (12.5%) had no snoring, and 35 patients (87.5%) had snoring at 2 weeks postoperatively.

In the present study 18 patients (45%) had no snoring, and 22 patients (55%) had snoring at one month postoperatively.

In the present all patients had no snoring (100%) at 3 months postoperatively.

**As regard postoperative crustations:**

In the present study 6 cases (15%) of this study had mild crustations, and 34 patients (85%) had moderate crustations at 2 weeks post-operatively.

In the present study 6 cases (15%) of this study had no crustations, and 54 patients (85%) had mild crustations at one month postoperatively.

In the present study all patients had no crustations (100%) at 3months post-operatively.

**Discussion**

variety of adenoidectomy techniques are present (B. Ron and Mitcheli, 2005)

The conventional way of adenoidectomy is well described by many authors (Kornblut, 1987)

Ample care is needed to ensure that adjacent structures ,such as the torus tubaris, soft palate, posterior choana, and post pharyngeal wall are not damaged especially in case of huge sized adenoid or lateral growth. when the post nasal space is filled with 50% of adenoid tissue it will cause significant obstructive symptoms (Khemaloglu, et al., 1999 ).

Traditionally, most surgeons do adenoidectomy by curettage method. The main drawbacks of the curette technique include, less precise removal and potentially less effective treatment, bleeding may be increased, risk of neck pain and velopharyngeal insufficiency, lack of vision. This procedure does not always remove the adenoid tissue completely (Cannon et al., 1999)

Excessive removal of adenoid tissue by curettage method may result in damage to the muscles ,the posterior choana, eustachian tubes, or other structures. As a result, many complications might be a result of aggressive adenoid-ectomy as velopharyngeal insufficiency and persistence of adenoid symptoms (Gelder., 1974)

Suction coagulation diathermy is one of the methods that have been tested and considerable benefits regarding precise removal of adenoid tissue (Walker., 2001).

Shrinking or removing the adenoid with heat requires a significant amount of thermal energy (heat). with large adenoids, this can take significantly longer and the adenoids may only be reduced, not completely removed. If the adenoid are not completely, they may continue to be a source of infection, or re growth and cause air way obstruction.

In this study, it was obvious that blood loss is much less by using transnasal endoscopic adenoidectomy. This is related to direct visualization which allows direct identification and treatment of the source of bleeding. The reduction of blood loss reduces the risk of hemorrhage. If the packing time to control is added -5 min- then it will give almost same result (Kolati., 1997). This is clearly as a result of better field visualization by direct vision while in conventional methods it needed multiple tries to remove adenoid tissue adequately without remnants which is time consuming. The using of powered assessed instrumentation is decreasing the cutting time as well (Costantini., 2008).

Ku-F P. K. M., Combined transoral and transnasal power-assisted endoscopic adenoid-ectomy, Ann. Coll. Surg. H.K. 6 (2002) 83-86).

Direct vision during the procedure help much to visualize the area and control the cutting field and avoiding injuring of important adjacent structures. Sinoscopic evaluation postoperatively emphasized the clear removal of adenoid tissue without disturbing the nasopharyngeal anatomy.

The use of trans nasal endoscopic adenoidectomy has many advantages such as better vision, accurate adenoid tissue removal mainly in the choanal adenoid of our study, the bleeding is controlled directly and the duration

of surgery is less. But still it has some drawbacks like bleeding might make telescopic visualization difficult. The most important prerequisite for doing such technique is vigilant and well trained surgeon (S. Rojas Khehk, C. Tolentino, H. Santana, A. Yamashita, A. Arrais)

Our experience with Trans nasal endoscopic adenoidectomy suggest that this technique combines the shortness of the procedure ,the ability to address the choanal adenoid sequentially with the use of shaver, and the visualization of endoscopy.

Using Trans nasal endoscopic powered adenoidectomy in patients choanal adenoid promise sufficient and secure method. It has less operative time, perfect removal and presents better control of bleeding .

### Conclusion

Choanal adenoid in adults is uncommon, but rather an important cause of nasal obstruction which is usually over-looked or misdiagnosed. Consequently, thorough comprehensive nasal endoscopy is essential as a routine part of examination of a patient with persistent nasal obstruction even in the presence of an apparent cause like septal deviation or turbinate hypertrophy. Furthermore, this concept is valid in cases complaining of symptoms that may be related to sinonasal problems as persistent chronic cough or dry mouth.

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