

## Current Indications of Tonsillectomy With or Without Adenoidectomy in Diyala Governorate

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### Abstract

**Background:**Tonsillitis refers to viral or bacterial infection of the palatine tonsils. It presents in acute or chronic state. Tonsillitis usually associated with adenoid hypertrophy especially in children. Tonsillectomy is considered to be one of the most common surgical procedures held in otolaryngological theaters. Usually both tonsils are removed and adenoidectomy may be performed at the same time.

**Objective:**This study is done because of limitation of data exist with respect to the recent prevalence of indications for tonsillectomy . We sought to determine the most common indications for tonsillectomy with or without adenoidectomy in Baquba Teaching hospital in Diyala governorate in different age groups and genders.

**Patients and Methods:**The study involved 100 patients selected randomly from October 2016 to March 2017 viewed at the E.N.T. (Otolaryngology) ward in Baquba Teaching Hospital. The age group ranged from 3-28 years . Before surgery a detailed history and examination were taken from the patients themselves or their parents . Those patients all have a previous history of tonsillitis that was influencing their life style or school performance.

**Results:** A total of 46% of our patients had infective causes or recurrent tonsillitis as an indication for tonsillectomy, while 27% had obstructive causes especially at night (obstructive sleep apnea) as an indication for surgery. In this study we found 6% of our patients, the surgery is indicated due to recurrent otitis media. Furthermore, 2% were due to peri-tonsillar abscess as indications for surgery.

**Conclusion:** In this study, we present that patients who undergoing tonsillectomy with or without adenoidectomy, recurrent infective tonsillitis is more than obstructive tonsillitis (OSA) as indications for surgery.

**Keywords:**O.S.A.=obstructive sleep apnea,O.M.=otitis mediaP.T.A.=peritonsillar abscess.

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## Introduction

Tonsillitis, or sore throat refers to viral or bacterial infection of the palatine tonsils. Acute tonsillitis is a sudden infection of one or both tonsils, usually associated with painful swallowing or odynophagia, swelling and redness of the tonsils. It may be associated with tonsillar exudate, cervical lymphadenopathy and fever more than 38.3 °C rectal [1].

Chronic tonsillitis refers to recurrences of acute tonsillitis five or more attacks of true tonsillitis a year; symptoms for at least 1 year. The patient usually have chronic throat pain, hypertrophied tonsils, enlarged and tender cervical lymph nodes and bad breath [2].

Adenoid hypertrophy is the abnormal growth of adenoid tonsil (also known as a pharyngeal tonsil or nasopharyngeal tonsil), which is located in the midline of the nasopharynx [3]. This usually lead to an obstruction of the nasal airway, otitis media, chronic middle ear fluid and a dentofacial growth anomaly (adenoid facies) [4]. Very little studies supports curative medical therapy for chronic infection of the adenoids. Therefore, the treatment of choice is adenoidectomy [1,4,5].

Tonsillectomy is considered to be one of the most common otorhinolaryngological surgical procedures . It is a surgical procedure that completely removes the palatine tonsil, involving its capsule, by dissecting the peritonsillar space between the pharyngeal wall and the tonsillar capsule. Usually both tonsils are removed

and adenoidectomy may be performed simultaneously [1,6].

The traditional dissection technique in tonsillectomy is called (cold dissection), includes removal of the tonsils from a recess in the side of the pharynx called the tonsillar fossa with metal instruments [7]. This is done with continuous haemostasis achieved through ligation of blood vessels during tonsil removal. Cold dissection tonsillectomy is considered to be the standard method and still effective and safe technique compared with other new technique (hot tonsillectomy), such as Electrosurgical dissection (diathermy), radiofrequency, coblation, and harmonic scalpel [8].

Tonsillectomy is indicated in patient who suffered from repeated attacks of acute tonsillitis, obstructive sleep apnea, nasal airway obstruction, diphtheria carrier state, snoring, and peritonsillar abscess. Also sometimes it may be performed on those who suffer chronically from tonsilloliths [9].

## Patients and Methods

The data of this study was conducted in ENT (Ear , Nose and Throat) ward of Baquba Teaching Hospital as a cross section study including 100 patients aged between 3 to 28 years who had undergone the procedure of tonsillectomy and adenotonsillectomy in the period between October 2016 to March 2017. All patients were examined by ENT specialist doctor and background data on patient characteristics were obtained. These procedures were

carried out by four skilled Otolaryngologists according to the indications as laid down by the American Academy of Otolaryngology. The patients were primarily send from the Ear, Nose and Throat (ENT) clinic to do tonsillectomy with or without adenoidectomy.

Case notes were taken from the patients before surgery. These notes included basic information such as, name, gender, date of birth, indication (s), and date and type of procedure. In addition to that a detailed history were obtained about the patient health state and any associated symptoms before the surgery.

The indications for tonsillectomy on the case notes included, recurrent tonsillitis (number of attacks per year and number of years ), obstructive (enlarged tonsils), obstructive sleep apnea, recurrent or chronic tonsillitis, recurrent otitis media secondary to recurrent adenotonsillitis, hearing loss, peritonsillar abscess, nephropathy, febrile convulsion, arthralgia, rheumatic fever, and none specific symptoms (listlessness and poor appetite).

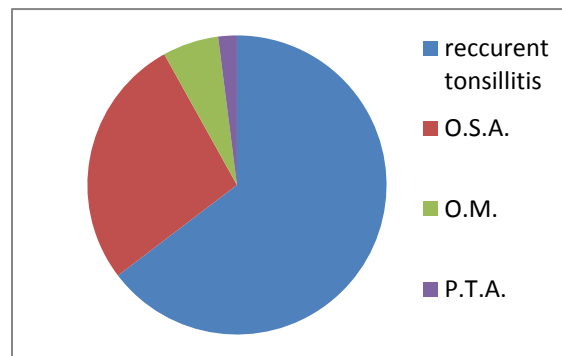
### Statistical Analysis

Values were expressed as mean  $\pm$  standard deviation. Statistical analysis of data was performed using Onaway ANOVA, and (Dunnett t ,2-sided) tests were conducted to compare the groups at p-value  $< 0.05$  as a level of significance.

### Results

A total of 100 patient case histories were reviewed in Baquba Teaching Hospital. The patient's age ranged from (3 to 28) years. There were a total of 58 males ranging age between were (4,5-24 ) years and 42 were females ranging in age between (3 -28) years. . A total of 46% (46 patients) of our patients had infective causes or recurrent tonsillitis as an indication while 27% (27 patients) had obstructive causes especially at night (obstructive sleep apnea) as an indication for surgery. In this study we found 6% (6 patients) of our patients, the surgery is indicated due to recurrent otitis media. Furthermore, 2% (2 patients) were due to peri-tonsillar abscess as shown in Figure (1).

In this study we found in females with age group ranging from 3 to 24 years), 42 cases the most common cause of tonsillectomy was (infective) recurrent tonsillitis (61.9%) , while in males with age ranging between (4,5-24) years the most common indications was (obstructive) obstructive sleep apnea (65.51%). Furthermore, we found that the peak of duration of infective indications (recurrent tonsillitis) was within (21-25) age group, whereas the lowest duration of recurrent tonsillitis was within (1-5) years age group as shown in with p value 0.05 Figure (3).

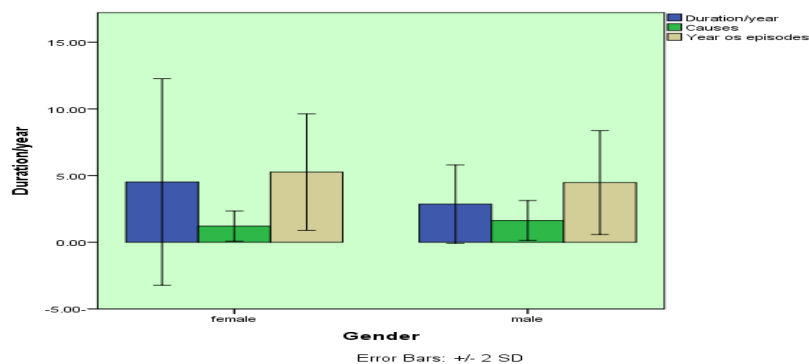


**Figure (1):** Explains the most common indications of tonsillectomy in Baquba Teaching Hospital. Recurrent tonsillitis was the most common indication for tonsillectomy while peri tonsillar abscess was the lowermost indication for tonsillectomy.

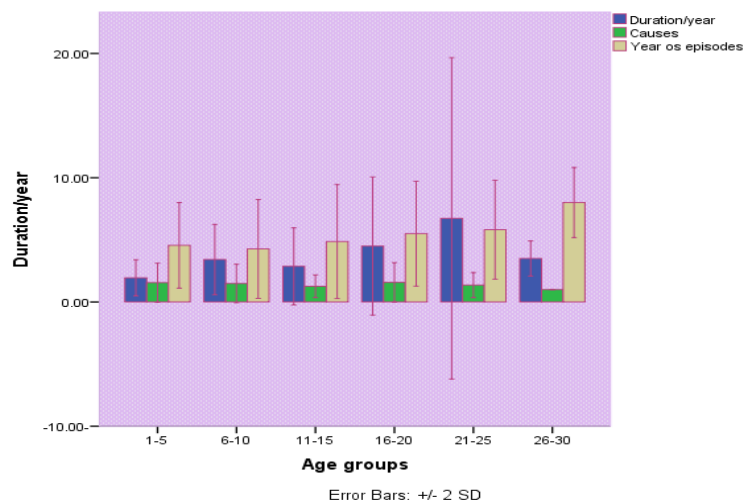
1. Recurrent tonsillitis.
2. O.S.A.=obstructive sleep apnoea .
3. O.M.=otitis media.
4. P.T.A.=peri tonsillar abscess

**Table (1):** Showing the most common indications of tonsillectomy in Baquba Teaching Hospital.

Cause	percentage
Recurrent tonsillitis (infective indications)	64%
Obstructive sleep apnea (obstructive indications)	27%
due to associated otitis media	6%
due to associated peri-tonsillar abscess	2%



**Figure (2)** Shows the relation between the duration of tonsillitis in years and gender as shown in the paragraph. Duration of infection is mainly correlated with females than males and episodes are more frequent in females than males. The most common cause was recurrent tonsillitis in both sexes.



**Figure (3)** Shows the duration of recurrent tonsillitis according to age group. The peak duration was within (21-25 years) age group. Whereas the lowest duration of recurrent tonsillitis was within (6-10years) age group. with p value 0.05

## Discussion

Tonsillitis and tonsillectomy are considered to be one of the most common presenting complaints and surgical treatments respectively [10]. In this study of 100 patient undergoing tonsillectomy with or without adenoidectomy between the age of 3 to 28 years seen in Baquba Teaching Hospital in Diyala governorate. It was noticed 46% of our patients had infective causes or recurrent tonsillitis as an indication for tonsillectomy, while 27% had obstructive causes especially at night (obstructive sleep apnea) as an indication for surgery as shown in figure (1).

Our study, results compares positively with a study done by Shamboul and Yousif done in Sudan. This study found infective tonsillitis accounting for 72.5% and upper airway obstruction accounting for 16.7% (11). Additionally, in a new study done in

Nigeria, recurrent infective tonsillitis was the commonest indication for tonsillectomy (45.9%) [7]. These significant results mean that infection was mainly higher as an indications for surgery.

Tonsillectomy, usually with adenoidectomy, is the key treatment for sleep apnea with adeno-tonsillar hypertrophy in childhood and is greatly effective in eradication of the symptoms of obstruction [7,9,12]. In our study we found that 27% had obstructive causes (OSA) as an indication for surgery. These results approve the fact that obstructive symptoms may reduce with growth and development especially as airway size and central body fat increase while lymphoid tissue regresses [7]. Therefore, recurrent infection remains the commonest indication for adult tonsillectomy in difference to the pediatric

population in which obstructive symptoms are the commonest indications [7,9,10,11,].

The infective indications for surgery in this study is more than obstructive indications may be due to antibiotic failure in the treatment of chronic and recurrent tonsillitis is higher than the treatment failure of acute tonsillitis. Therefore, Failure of medical therapeutic modalities of chronic or recurrent tonsillitis should be referred for tonsillectomy.

Moreover, This study found that the peak of duration of infective indications (recurrent tonsillitis) was within (21-25 ) years of age group with p value 0.05 as shown in figure 3. These results corresponds positively with study which proves that a significant decline of obstruction after the age of ten and a base at 18 years [15]. Similarly, infection as an indication was noticed more in older children and early adolescent by progressive shrinkage in adenoidal size with age [16].

Based on the results from the present study, 6% of our patients, the surgery is indicated due to recurrent otitis media. Casselbrant ML et al 2009 presented in a study that in children who undergoing adenoidectomy provided no additional advantage to insertion of tympanostomy tubes as an primary surgical procedure for otitis media with effusion and should be reserved for those patient who complain of nasal obstruction, recurrent rhinorrhea with or without chronic adenoiditis [17].

Recurrent acute tonsillitis lead to considerable morbidity ,including time lost from work or school [17,18]. The most important complication of acute tonsillitis is peritonsillar abscess. There is no good evidence on its incidence [18]. The results from the present study shows that 2% of collected patient have peri-tonsillar abscess as an indication for tonsillectomy.

### Conclusions

Tonsillitis and tonsillectomy are considered to be one of the most common presenting complaints and surgical treatments respectively [1,7,10]. In this study of 100 patient undergoing tonsillectomy with or without adenoidectomy, recurrent infective tonsillitis is more than obstructive tonsillitis (OSA) as indications for surgery. For better understanding and knowledge, Further studies are obligatory to recognize the indications of tonsillectomy and or adenoidectomy according to specific age group.

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