

Familial tendency of tonsillitis in patients undergoing tonsillectomy surgery

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Abstract

Background: Tonsillitis is the commonest otolaryngological infection and many patient will end with surgery in the form of tonsillectomy which is till now one of the oldest and commonest operation done all over the world. The main indications for tonsillectomy are (recurrent infections, obstructive sleep apnea and peritonsillar abscess) and there's no documentation about the familial tendency of tonsillitis

The aim of the this research is to establishment the association of family history as risk factors for developing tonsillitis and to study how it influences the decision of surgery.

Patient and Methods: This is a cross-sectional study that has been done from the beginning of October 2013 to the 25th of March 2014 at Azadi Teaching Hospital and Kirkuk hospital. The study involved 200 patients who underwent tonsillectomy (case) as an indicator of patients having tonsillitis and 200 person not having any known criteria of tonsillitis (control). All patients were evaluated using history regarding (Family history , chronic disease, sinusitis and allergy)

Results and discussion : A total of 200 patients underwent tonsillectomy during the time period of the study. There were 98 male (43.4%) and 102 (56.6%) female with mean age of (7) years and range in age from 3 to 12 years old .The family history was positive in (80.5%) in case group in contrast to (18.5%) in control group, The results of this study were compared with the control cases of the study itself and the studies of other researches, demonstrate that family history is a risk factor for recurrent tonsillitis.

Conclusion and Recommendation : From this study, it be concluded that the presence of family history is a risk factor although there's no role of genetic predisposition to explain this result so we should spread awareness about tonsillitis, the proper antibiotic, adequate course of treatment and the adequate dose which are the mainstay of the prevention of the recurrent of tonsillitis thus reducing the complication and avoiding surgery .

Keywords: Familial tendency, tonsillitis, tonsillectomy

Introduction

Tonsils are collections of lymphoid tissue facing into the aerodigestive tract. The set of lymphatic tissue known as Waldeyer's tonsillar ring includes the adenoid tonsil, two tubal tonsils, two palatine tonsils, and the lingual tonsil.^[6]

Tonsillitis: It is inflammation of the tonsils most commonly caused by viral or bacterial infection. When caused by a bacterium belonging to the **group A streptococcus**, it is typically referred to as strep throat

The overwhelming majority of people recover completely, with or without medication. In 40%, symptoms will resolve in three days, and within one week in 85% of people, regardless of whether streptococcal infection is present or not.^[9]

Tonsillectomy: It's complete removal of tonsil tissue, The procedure is extremely important since the tonsil are the first line of defense mechanism in the body so it's essential that patient who do the surgery for tonsillectomy meet the criteria of it. It's one of the oldest operation that have done over years ,in fact tonsillectomy is a 3,000-year-old surgical procedure in which,traditionally, each tonsil is removed from a recess in the side of the pharynx called the tonsillar fossa.

The indication of the surgery never mention the familial tendency as risk factor but the surgeons have noticed that most of the cases that underwent tonsillectomy have family history with tonsillectomy. So the family history , other infections and allergy may predispose the patient to surgery.^[4]

The familial tendency for tonsillectomy may be misleading in that genetic factors are responsible for this relationship but yet no genetic factor has been discovered to has a role in this , actually it may be the nutritional , diet, hygiene and other factors that play important role rather genetics ,^[5]

One of the important factors that most of the patients that have done tonsillectomy are unfamiliar with the proper way to treat tonsillitis, indeed a lot of simple (uncomplicated) tonsillitis with wrong way of drug administration lead to complicated condition and recurrent infection are still the main indication for surgery.

Aims of the research

1- To identify if there's a correlation between having a positive family history of tonsillectomy surgery and the risk for developing tonsillitis with subsequent tonsillectomy and to know if family history of tonsillectomy surgery is

really a risk factor for the patients with tonsillitis to worth tonsillectomy.

Patients and Methods

This is a cross sectional study that has been started from the beginning of October 2013 to the 25th of march 2014 in the department of otolaryngology at both Azadi Teaching Hospital& Kirkuk hospital in Kirkuk city. The study involved 200 patients who underwent tonsillectomy (case) and 200 person who did not have tonsillitis (control). All patients were evaluated using full history including family history of tonsillectomy, sinusitis , allergy , and chronic disease according to a questionnaire form prepared for this purpose

The criteria for inclusion of patients in the study was as follows:

Cases: They had tonsillectomy during the time of study as an indicator of those patients with tonsillitis fulfilling criteria needed to warrant surgery.

Control: They had no tonsillitis and not fulfilling any criteria of patients with recurrent tonsillitis .

Data as age, sex, date of doing the surgery for the cases of tonsillectomy and having family , degree of family history and other chronic disease were obtained from the patients themselves.

Both cases and controls were categorized according to family history of tonsillectomy surgery into three groups:

1-First degree relatives: Involving mother,father,brothers,sisters and/or children.

2-Second degree relatives: Involving uncles,aunts,grandfather,grandmother and/or grandkids.

3-Third degree relatives: Cousins and/or nephews

Statistical analysis were carried out by using (2x2 Chi square) as a test of significant ,

Results

A total of 200 patients underwent tonsillectomy during the time period from the beginning of October 2013 to the 25th of march 2014. 98 (43.4%) were male and 102(56.6%) female , as shown in table (1).The family history is positive in (80.5%) in patients done tonsillectomy in contrast to (18.5%) in control group, as shown in table (2).

The first degree relatives were 43(21.5%) in case group in contrast to7 (3.5%) in control group, as shown in table(3).The second degree relatives were 19 (9.5%) in case group in contrast to 8(4%) in control group. As shown in table (3)The third degree relatives were 28(14%) in

case group in contrast to 13(6.5%) in control group, As shown in table (3)

Discussion

Tonsillitis is the commonest otolaryngological problem especially in children and although there are many known causes for the disease, family history has been noticed as a risk factor in spite of no clear genetic predisposition for it so our study tries to strengthen the idea of familial tendency and its correlation with the patients' degree of family relation. Regarding the number of female patients who underwent the surgery in comparison to male patients there was no significant difference as sex regarded, reflecting that there is no sex group predisposed for tonsillitis more than other. There was significant difference between those patients underwent tonsillectomy with positive family history of the surgery compared to those with no history of tonsillitis suggesting that family history of tonsillectomy is a real risk factor for the patient to get the disease and subsequent surgery and the results are compared with the study of (day case tonsillectomy in children) that was done in Al-Kindy medical college at Baghdad city in 2002, in which tonsillectomy in identical/non identical twin are reviewed showed that family history

were positive in 78% in a total of 500 patients underwent tonsillectomy^[11].

Family history in first degree relatives showed higher incidence than second and third degree relatives which may be due to closer relation of fathers and mothers to their children than uncles, aunts, cousins and nephews.

Conclusions

1. From this study, it can be concluded that the presence of family history is a risk factor although there's no role of genetic predisposition to explain this result but the life style, nutritional habits' hygiene and the misuse of antibiotic to treat tonsillitis all play role in explaining why tonsillitis runs in the family.
2. We recommend to spread awareness about tonsillitis, its causes, the proper antibiotic, adequate dose and the course of treatment, are the mainstay of the prevention of recurrent tonsillitis thus reducing the complication and avoiding surgery.
3. Detect the risk group for tonsillitis (patients with positive first degree relative, allergic and patients with sinusitis) and give them special attention and medical care to avoid complication, recurrent infection and subsequent tonsillectomy.

4. Making advanced researches about the possibility of a genetic association

with tonsillitis.

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Table (1): Percent distribution of study sample by sex among cases of tonsillectomy and control .

Sex	Case		Control		Total
	No.	%	No.	%	
Male	92	46%	100	50%	192
Female	108	54%	100	50%	208
Total	200	100%	200	100%	400

$\chi^2=0.641$

d.f=1

P value<0.01=significant

Table (2): Percent distribution of family history among cases of tonsillectomy and controls.

Family History	Case		Control		Total
	No.	%	No.	%	
Positive	161	80.5%	37	18.5%	198
Negative	39	19.5%	163	81.5%	202
Total	200	100%	200	100%	400

$\chi^2=153.77$

d.f=1 P value <0.01=significant

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Table(3): Percent of distribution according to degree of relatives among cases of tonsillectomy and controls.

1 st degree relative	Case		Control		Total	x ²	d.f	P value
	No.	%	No.	%				
Positive	43	21.5%	7	3.5%	50	29.622	1	>0.05
Negative	157	78.5%	193	96.5%	350			
Total	200	100%	200	100%	400			
2 nd degree relative	Case		Control		Total	x ²	d.f	P value
	No.	%	No.	%				
Positive	19	9.5%	8	4%	27	4.803	1	>0.05
Negative	181	90.5%	192	96%	373			
Total	200	100%	200	100%	400			
3 rd degree relative	Case		Control		Total	x ²	d.f	P value
	No.	%	No.	%				
Positive	28	14%	13	6.5%	41	6.114	1	>0.05
Negative	172	86%	187	93.5%	359			
Total	200	100%	200	100%	400			