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The Effect of Adenotonsillectomy on Quality of Life in Adults and Pediatric Patients

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Abstract: The aim of this study was to evaluate the benefits, impact and overall efficacy of tonsillectomy or adenotonsillectomy on quality of life in patients with recurrent, chronic tonsillitis or adenotonsillar hypertrophy before and after surgery in adults and children. This stusy is a multi-center retrospective study of all adults and children, who had undergone tonsillectomy in adults (14 years or older) and adenotonsillectomy in children for chronic, recurrent tonsillitis or adenotonsillar hypertrophy between September 2003-2008 in Ahvaz Imam and Apadana Hospitals. All 812 patients were asked by questionnaire to compare their symptoms 6 months period before and after tonsillectomy or adenotonsillectomy. Outcome measures included the frequency of tonsillitis per year, days off work (or school), doctor visits and feelings of well-being. A total of 812 patients (81 adults and 731 children) were enrolled in the study. The age of the patients ranged from 3-42 years. In adults group, there were 34 men and 47 women. In child group, there were 325 boys and 406 girls. The mean age of the children patients was 9 years and adults 26 years. The mean duration of symptoms was 4 years. The mean frequency of tonsillitis per annum, days off work (or school), doctor visits decreased postoperatively. We concluded that tonsillectomy in adult and adenotonsillectomy in children is benefit for patients with adenotonsillar hypertrophy and/or recurrent, chronic tonsillitis and results in significant improvement in overall quality of life, physical health and general well-being.

Key words: Quality of life, tonsillectomy, chronic tonsillitis, adenotonsillar hypertrophy, patient satisfaction, questionnaires

INTRODUCTION

The hypertrophy, recurrent and chronic infections of the palatine tonsils and adenoids, is one of the most common problems in the otolaryngology clinic (Ersoy *et al*., 2005). It is responsible for several alterations on children's development and behavior what worries parents and tonsillectomy or adenotonsillectomy remains a commonly performed surgical procedure for both children and adults. In the mid 20th century, over a million tonsillectomies, a year were performed on children and adult in the many countries (Derkay *et al*., 2006; Mitchell and Kelly, 2006). Tonsillectomy for recurrent tonsillitis is effective at significantly reducing the number and severity of sore throats in children and adults, who are severely affected. There is also anecdotal evidence that some children's quality of life is transformed by the surgery. This may be caused by a combination of factors that include the tendency of the frequency of recurrent sore throats to resolve over time and the elimination of a source of infection and of obstructive symptoms (Mitchell and Kelly, 2005; Glover, 2008). Chronic tonsillitis and recurrent tonsillitis are the most common indication for adult tonsillectomy. Chronic tonsillitis is poorly defined but may be the appropriate term for sore throat of at least 3 months duration accompanied by tonsillar inflammation. Tonsillectomy alone is performed in adult and adenotonsillectomy frequently in children older than 3 years old, whereas adenoidectomy alone is performed infrequently in individuals older than 14 (Alho *et al*., 2007). The rate of adenoidectomy is about 1.5 times as high in boys as in girls, while the rate of tonsillectomy is

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almost twice as high in girls as in boys (Burton and Glasziou, 2009; Russo *et al*., 2007). The aim of this study is to make a comparison between pre and postoperative signs and symptoms, by showing the results from tonsillectomy or adenotonsillectomy on the quality of life of patients.

MATERIALS AND METHODS

Study population and design: A multi-center, observational, retrospective study of all adults (14 years or older) and children who had undergone tonsillectomy in adults and adenotonsillectomy in children for chronic, recurrent tonsillitis or adenotonsillar hypertrophy between September 2003-2008 in Ahvaz Imam Khomeini and Apadana Hospitals. About 812 adults and children were sent a questionnaire regarding their symptoms in the 6 months before and 6 months after surgery. The study was approved by the University Hospital and Ahvaz Jondishapour University of Medical Sciences Ethics Committees and all subjects and their guardians in case of children, granted informed consent to participate.

Data collection: In order to evaluate patient's post adenotonsillectomy quality of life the questionnaire introduced by De Serres *et al.* (2000, 2002) has been used. Parents were applied a questionnaire. The questionnaire referred to the symptoms and effects related to the disease previously to surgery (in the last medical visit before surgery) and the 6 months postoperative follow-up. The questionnaire was not necessarily applied by the same team, which performed surgery. Patients were asked by same questionnaire to compare their symptoms 6 months period before and after tonsillectomy or adenotonsillectomy. Outcome measures included the frequency of tonsillitis per year, days off work (or school), doctor visits and feelings of well-being.

Inclusion criteria: The patients were included based on consensus of expert opinion and as follows: recurrent tonsillitis (three or more documented episodes of tonsillitis) in the 6 months prior to enrollment, or chronic tonsillitis as defined by 3 months of sore throat with or without halitosis not responding to appropriate antibiotic therapy.

Exclusion criteria: The patients with immunodeficiency, craniofacial anomaly, suspected tonsil malignancy and coagulopathies were excluded.

Statistical analysis: Results obtained between the groups were expressed as the number and percentage. SPSS 13.0, software was used for statistical assistance. Statistical analyses between groups were done by Chi-square test score, $p<0.05$ was considered as significant.

RESULTS AND DISCUSSION

A total of 812 patients (81 adults and 731 children) were enrolled in the study. The age of the patients ranged from 3-42 years. In adults group, there were 34 males and 47 females. In child group, there were 325 boys and 406 girls were engaged. The mean age of the children patients were 9 years and adults 26 years. The mean duration of symptoms was 4 years. A review of 812 patients revealed that, following tonsillectomy and/or adenotonsillectomy amount of time taken off work or school due to sore throat reduced from a mean of 8.78 (±6.75)-0.61 (±1.39) days, frequency of tonsillitis per annum decreased from 8.33 (±3.45)-1.41 (±1.45), days off work (or school), doctor visits decreased from 5.6 (±5.7)-0.4 (±0.6) postoperatively and >91% reported improved feelings of well-being, general health and energy (Table 1). About 92.1% would recommend tonsillectomy to family or friends if they had recurrent tonsillitis, 6.1% of patients noticed postoperative voice changes. There was a significant improvement on the quality of life of the adenotonsillectomized or tonsillectomized patients, which were confirmed through statistical validation ($p<0.05$). The researchers of this commentary have no conflicts of interests to declare. The study of the distribution of pharyngeal tonsils according to its size grading revealed that the most frequent grades were III and IV (Fig. 1).The present study adds to other studies that showed tonsillectomy is effective in adult patients with recurrent tonsillitis. W e found statistically significant changes in both disease specific and quality of life after

Table 1: Assessment of clinical improvement and quality of life before and after tonsillectomy or adenotonsillectomy

Disease severity variables	6 months before tonsillectomy Mean (±SD)	6 months after tonsillectomy Mean (±SD)	p-values
Frequency of tonsillitis per year	8.33±3.45	1.41±1.75	<0.050
Days off work (or school)	8.78±6.75	0.61±1.39	<0.050
Physician visits	5.6±5.7	0.4±0.6	<0.001
Feelings of well-being	0.5±1.1	8.09±11.12	<0.001

Data is expresssed as Mean±SD

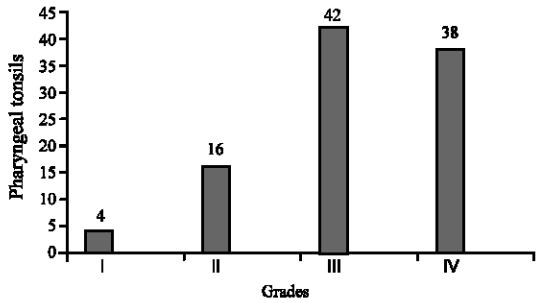

Fig. 1: Distribution of pharyngeal tonsils according to its size grading

tonsillectomy in adult patients. In agreement with this study (Bhattacharyya and Kepnes, 2002) of life, decreases health-care utilization and diminish the economic burden of chronic tonsillitis in the adult patient population. Similarly, Akgun *et al*. (2009) conducted a study on clinical improvement and quality of life measures in patients, who had undergone tonsillectomy for recurrent acute and chronic tonsillitis. They concluded that tonsillectomy is of benefit for patients with recurrent acute and chronic tonsillitis as well as significantly reduced general practitioner attendances and resulted in an improved feeling of health and well-being.

Koskenkorva *et al*. (2009) ased with their tonsillectomy. Surprisingly, the present study both adult and children patients showed significant improvement in quality of life. Flanary *et al*. (2003) evaluated the quality of life in patients with adenotonsillar hypertrophy and obstractive sleep apnea using general quality of life instruments as well as disease-specific instruments. The study showed that quality of life in children does improves previously. They suggested that the size and symmetry of the tonsils should be taken into account, when deciding which patients would benefit from tonsillectomy (Cruise, 2005 ; Harley, 2002; Webb *et al*., 2004).

CONCLUSION

In this study, retrospective questionnaire data must be interpreted with some caution but this study suggests that tonsillectomy is effective in reducing the incidence, duration and co-morbidity of recurrent sore throats in adults, this must be balanced against the post-operative problems in a minority of patients.

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