

## Complications Post-Tonsillectomy in Patients Operated in the Hospital Escuela, Tegucigalpa, January-July, 2019

Enid Gabriela Valle Rodriguez<sup>1</sup> and Oscar Fawed Ortega Reyes<sup>2\*</sup>

<sup>1</sup>Doctora en Medicina y Cirugía, Universidad Católica de Honduras, Honduras

<sup>2</sup>Director International of Health and Social Research, Madrid, Spain and Consultant in Research Methods at Nation level, Honduras

**\*Corresponding Author:** Oscar Fawed Ortega Reyes, Director International of Health and Social Research, Madrid, Spain and Consultant in Research Methods at Nation level, Honduras.

**Received:** July 13, 2019; **Published:** July 26, 2019

### Abstract

**Background:** Tonsillectomy, with or without adenoidectomy, is one of the most frequent surgical procedures performed by otolaryngologists. In the United States, more than 530,000 procedures have been achieved annually.

**Objectives:** To determine post-tonsillectomy complications in patients operated at the Hospital Escuela, Tegucigalpa, January-July, 2019.

**Methodology:** Cross-sectional retrospective study, conducted at Hospital Escuela, 2018. With a universe of 31 patients from the available files, a 95% CI sample of 29 patients. With a Simple Random Probabilistic sampling type. Data were collected through the systematic review of clinical records of patients who underwent surgery for tonsillectomy. With statistical tests of frequencies and percentages. Including all those patients who have entered an operating room with direct cause of surgical intervention. This process is under the norm of good practices in research with human beings established by CITI Program Miami College.

**Results:** With ages between 32 - 44 years old (41%), men were the most affected (55.1%) and most of them came from urban areas. The most frequent difficulty was intubation (7) during the intervention, followed by burns (5), in the immediate postoperative period, the pain obtained the highest frequency (21), followed by a general malaise (11). Of the long-term complications there was the case of a stenosis (1). In relation to the clinical manifestations, it was found that snoring was the main one (29).

**Conclusions:** Tonsillectomy is one of the most frequent interventions in otorhinolaryngological practice considering an intervention that leads to a high rate of complications.

**Keywords:** Otolaryngology; Tonsillectomy; Complications; Operating Room; Honduras

### Introduction

Tonsillectomy, with or without adenoidectomy, is one of the most frequent surgical procedures performed by otolaryngologists, with more than 530,000 procedures per year in children under 15 years of age in the United States. Its main indication corresponds to tonsillar hypertrophy with obstructive apnea of secondary sleep, followed by recurrent tonsillitis [1].

This procedure has evolved in the last two decades. The selection of patients and their preoperative evaluation has improved, new surgical techniques have been developed and new and non-traditional tonsillectomy indications have appeared. Despite being considered a relatively simple surgical procedure, it is not exempt from complications [2].

Among them are described adverse effects related to anesthesia, hemorrhage, infection and dehydration. Complications can occur within the first 24 hours of the procedure and even weeks to months after the procedure. Depending on the time of onset of these can be

classified into: intraoperative, immediate postoperative (< 24 hours), late postoperative (less than 2 weeks) and long-term (more than 2 weeks) [3].

Post-tonsillectomy mortality is an uncommon event. However, given that it is an elective procedure whose objective is to improve the quality of life of normally healthy and young patients, mortality is unacceptable. A rate is estimated between 1 in 16,000 to 1 in 35,000 based on data from 1970 [4].

There are no current data, but a prospective national audit of 33,921 tonsillectomies conducted in the United Kingdom reported only one case of death [5]. Approximately one third of the deaths are attributable to hemorrhage, while the rest are related to aspiration, cardiopulmonary failure, hydroelectrolytic alterations or secondary to anesthesia. Similarly, when studying cases of malpractice in relation to post-tonsillectomy complications, hemorrhage was responsible for 54% of fatal cases, followed by anoxic events (18%) [6].

In contrast to that reported in previous studies and based on a survey study, Goldman [7] attributed the majority of post-tonsillectomy deaths to adverse drug effects (22%) or unknown causes (31%). 16% of the events were secondary to hemorrhage. The authors conclude that post-amygdalectomy mortality is an event related to multifactorial stress of the respiratory tract, where narcotics, the retention of anesthetic agents and the increase of upper airway collapsibility play a role in physiopathology [2].

**Postoperative pain:** It is without a doubt the most frequent complication; and it is also very difficult to evaluate clearly. Along with the differences that arise from the use of different types of surgical technique, many studies have been conducted to determine which medical therapy is the best to reduce postoperative pain [8].

The main clinical manifestation in benign pathologies is odynophagia and in malignant adenopathies. The male-female ratio is 4: 1. The presence of malignancy is more frequent in people older than 40 years and in children it is associated with constitutional symptoms, cervical adenopathies, significant asymmetry or rapid tonsillar growth [9].

Studies have identified risk factors for the detection of malignancy in the tonsils, which include tonsillar asymmetry, ulcerated lesions, weight loss and cervical lymphadenopathy; dysphagia without other signs of acute infection with ipsilateral otalgia, difficulty in the mobility of the tongue, nasal voice and halitosis. Symptoms such as changes in the tone of the voice, sialorrhea and trisms are indications of deep invasions in the case of tumors [9].

## Methodological Design

With a cross-sectional retrospective study type, carried out in Hospital Escuela, during the months of September-December 2018. Being the universe 31 patients of the available files that were found in file, in the established period, therefore, a sample to 95% IC of 29 patients. With a Simple Random Probabilistic sampling type.

Data were collected through the systematic review of clinical records of patients who underwent surgery for tonsillectomy. After this, the instruments were entered using the epiinfo V7 software, using the Microsoft Word package to export graphics and tables corresponding to each of the aforementioned.

With statistical tests of frequencies and percentages, in this sense what refers to a descriptive statistic that evidenced the situation found. Including all those patients who have entered an operating room with direct cause of surgical intervention.

The study did not intend to follow up or contact the participants at any time, so the only thing that did not file personal data or identification of them, the description is limited to generating a situational analysis of the possible complications aroused among those intervened. This process is under the norm of good practices in research with human beings established by CITI Program Miami College.

## Results

In reference to sociodemographic variables, ages between 32-44 years were the most frequent with more than 41%. Men were also the most affected with 55.1% and mostly came from urban areas (See table 1).

Age range	Frequency	Percent
19 - 31	10	34.4%
32 - 44	12	41.3%
45 - 57	7	24.1%
Total	29	100,00%
Sex	Frequency	Percent
Female	13	44.8%
Male	16	55.1%
Total	29	100,00%
Procedence	Frequency	Percent
Urban	22	75.8%
Rural	7	24.1%
Total	29	100,00%

**Table 1:** Distribution of the sociodemographic variables of the population under study (n = 29).

The findings indicate that during the surgical intervention, the most frequent difficulty was intubation (7), followed by burns (5), in the immediate postoperative period, the pain obtained the highest frequency (21), followed by a general malaise (11). Of the long-term complications there was the case of a stenosis (1) (See table 2).

Intraoperative Complications	f
Dental trauma	2
Joint dislocation TMP	0
Burns	5
Hard Intubation	7
TET ignition	0
Laryngospasm	0
Pulmonary edema	0
Aspiration of blood and secretions	0
Hemorrhage	3
Immediate and late postoperative complications	
pain, otalgia reflects	21
nausea, vomiting, dehydration	11
Pulmonary edema	1
Hemorrhage	1
infection	5
Long-term complications	
Oropharyngeal stenosis	1
Eagle syndrome	0
Grisel syndrome	0

**Table 2:** Distribution of clinical manifestations in the intra-operative, immediate postoperative and long-term (n = 29).

Regarding the clinical manifestations, it was found that snoring was the main one (29), followed by dysphagia (21) and odynophagia (16) (See table 3).

Clinical manifestations	Fr
Symptom	
Snoring	29
Dysphagia	21
Odinophagy	16
Sleep Disorders	15
<b>Signs</b>	
<b>Tonsillar hypertrophy</b>	
Grade I	3
Grade II	3
Grade III	16
Grade IV	7
Total	29

**Table 3:** Distribution of clinical manifestations and signs of tonsillar hypertrophy according to their grade (n = 29).

## Discussion

In a study conducted in Honduras in 2018, they point out that 51% of the patients in the study were male. Regarding age, it was observed that the age group that prevailed was from 5 to 19 years, corresponding to 72%.

The average age of the patients evaluated was 13 years. Regarding the origin, it was determined that the majority of patients undergoing tonsillectomy, which constitutes 79%, belonged to Francisco Morazán, Comayagua, from the central region of the country. There is a difference in ages, since for this sample there was no participation of children, however in the origin there is a convergence that most come from urban areas.

The main cause of post-tonsillectomy morbidity is oropharyngeal pain, which is more intense in the first days and can last up to two weeks. This situation can be associated with a decrease in oral intake and dehydration that can delay hospital discharge and even require hospital readmission [10]. Concordant with what was found in the results through the files, this being approximately 80% of the cases.

In a study conducted in Mexico, there were 810 women (48%) and 877 men (52%), with a minimum age of 2 years and a maximum age of 51 years and a mean age of 8.35 years [11]. Bleeding in the first 24 hours occurred in 12 patients (32.4%) and in 25 patients (67.6%) succeeded later on average occurred at 5.5 days after the operation; with interval from 0 to 12 days. The tonsillar hypertrophy of patients with bleeding was: 7 patients (18.9%) with grade II, 13 (35.1%) with grade III and 17 (45.9%) with grade IV and only six patients also had adenoidectomy (16.2%).

In Colombia for 2009, 67 percent of patients presented some type of postoperative complication, with the most frequent pain at the operative site, with 41 percent, followed by otalgia (12.7%) and postoperative bleeding (4%).

## Conclusion

Tonsillectomy is one of the most frequent interventions in otorhinolaryngological practice considering an intervention that leads to a high rate of complications.

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## Volume 3 Issue 8 August 2019

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