



Tonsillectomy in Adults: Analysis of Indications and Outcome in Sokoto, North Western Nigeria

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Authors' contributions

This work was carried out in collaboration between both authors. Author DA designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Author JHS managed the analyses of the study and the literature searches. Both authors read and approved the final manuscript.

Article Information

DOI: 10.9734/AJMAH/2019/V16i230137

Editor(s):

(1) Professor, John K. Triantafyllidis, Associate Professor, Iasi University of Medicine and Pharmacy, Romania and IASO General Hospital, Athens, Greece.

Reviewers:

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(2) Silke Anna Theresa Weber, Botucatu Medical School, UNESP, Brazil.

Complete Peer review History: <http://www.sdiarticle3.com/review-history/51105>

Original Research Article

Received 05 June 2019
Accepted 22 August 2019
Published 28 August 2019

ABSTRACT

Background: Tonsillectomy is a well-established surgical procedure practiced commonly by otolaryngologist for removal of tonsils. Although being a relatively simple and common procedure, it is not without considerable complications. This study aimed to profile the indication and outcome of adult tonsillectomy in our region.

Method: This was a retrospective study of all adults who had tonsillectomy in the department of Otorhinolaryngology, Usman Danfodiyo Teaching Hospital, (UDUTH) Sokoto, over a seven-year period from 1st January 2011 to 31st December 2017. All information was carefully retrieved from each patient's case file and from the operation register. The data retrieved was subsequently analysed.

Results: A total of 55 adults patients had tonsillectomy over the period of study. Age range was 18 to 45 years with a mean age of 26.3 years. There were 16 males (29.1%) and 39 females (70.9%) with a male to female ratio of 1:2.4. Recurrent tonsillitis 28(50.9%) was the commonest indication; others include: post quinsy 13(23.6%), tonsillomegally 6(10.9%); suspected neoplasm 6(10.9%); recurrent otalgia secondary to tonsillomegally 2(3.6%) Five patients had unilateral tonsillectomy for

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suspected neoplasm while others had bilateral tonsillectomy. Cold dissection was used in 37 (67.2%) of the patients, while 18(32.7%) were by electro cautery (Bipolar diathermy).

The commonest post-operative complication was pain in all patients, followed by otalgia (29.1%) and secondary post tonsillectomy bleed in two patients. No patient had blood transfusion. Hospital average stay was 3 days.

Follow up was uneventful in 16 (29.1%) of patients while 4(7.3%) patients had squamous cell carcinoma and were referred to Oncologist. The remaining 35 patients were lost to follow up.

Conclusion: The commonest indication for Adult tonsillectomy is chronic recurrent tonsillitis. Histopathological analysis of every tonsil specimen is advocated.

Keywords: Tonsillectomy; adults; indications; recurrent tonsillitis; carcinoma.

1. INTRODUCTION

The Palatine tonsils are paired structure composed of lymphoid tissues located in the tonsillar fossa at the lateral wall of the oropharynx with other lymphoid tissues they make up the Waldeyer's ring and is the main component of the immune system [1,2]. Indications for tonsillectomy varied throughout history. In the pre-antibiotic era, tonsillectomy was considered a very effective therapeutic tool, with 1.4 million of tonsillectomies performed only in 1949 in the US [1]. Even though antibiotic therapy appeared to be sufficient in the treatment of acute tonsillitis with a remarkable reduction in the number of tonsillectomized patients, tonsillectomy remains the ideal treatment option for recurrent and chronic tonsillitis. By 1970s, most of the indications were questioned, resulting in reduction of the number of tonsillectomies in the USA [1-3]. Tonsillectomy is the most frequently performed procedure in the paediatric patients due to well established evident indications for surgical intervention, however, a good number of adults also undergo the procedure. Although there is dearth of literature studies on the prevalence of indication for adult tonsillectomy, this procedure is usually performed in adult with suspected or confirmed tonsillar malignancy as an indication and rarely performed in paediatric patients [4,5]. Absolute indications for tonsillectomy, according to the Spanish Society of Otorhinolaryngology [1] are tonsillar cancer, severe airway obstruction in the oropharynx due to tonsillar hypertrophy and persistent tonsillar hemorrhage. Relative indications like recurrent acute tonsillitis; chronic tonsillitis and recurrent peritonsillar abscess are also included. However recurrent acute tonsillitis (a documented disabling sore throat of seven episodes per year, five per year for two years, or three per year for three consecutive years) according to the American Academy of Otolaryngology-Head and Neck surgery

constitute the chief indication for adult tonsillectomy [3-6]. In selected cases of intense malodour (Halitosis), chronic cryptic debris, and as part of uvulopalatopharyngoplasty surgery are less common indications for adult tonsillectomy [6]. Studies have reported a significantly lower number of hospital consultation, absence at work place and the need for antibiotic therapy in adult patients who undergo tonsillectomy than those who do not consent for the procedure [5]. Practice trends may accept triage of pediatric tonsillectomies for exemption or gross exam only. However, for adults, there is need for routine histological evaluation of tonsillectomy specimens to rule out malignancy [6-13].

Though a commonly performed otorhinolaryngological procedure, several complications have been reported following adult tonsillectomy [14,15]. This study aimed to profile the indications and outcome of adult tonsillectomy in our region.

2. MATERIALS AND METHODS

This was a retrospective study of all patients aged 18 years and above, which had tonsillectomy in the department of Otorhinolaryngology, Usmanu Danfodiyo Teaching Hospital, (UDUTH) Sokoto, over a seven-year period from 1st January 2011 to 31st December 2017. All information including age, sex, symptoms, technique of tonsillectomy, complications, duration of hospital stay, was carefully retrieved from each patient's case file and from the operation register. Excluded from this study were patients who are less than 18 years of age at the time of tonsillectomy, and those with incomplete clinical records. Majority of the patients had tonsillectomy by cold steel (dissection) technique and others had electrocautery (Bipolar) technique. All patients received peri-operative and postoperative antibiotics and analgesia. The hospital ethical

committee approved the study. The data retrieved was subsequently analyzed using Microsoft excel program.

3. RESULTS

A total of 55 patients had tonsillectomy over the period of study. Age range was 18 to 45 years with a mean age of 26.3 years. There were 16

males and 39 female with a male to female ratio as shown in Fig. 1.

Recurrent tonsillitis 28(50.9%) was the commonest indication; others include: post quinsy 13(23.6%), tonsillomegally 6(10.9%); suspected neoplasm 6(10.9%); recurrent otalgia secondary to tonsillomegally 2(3.6%) as shown in Fig 2.

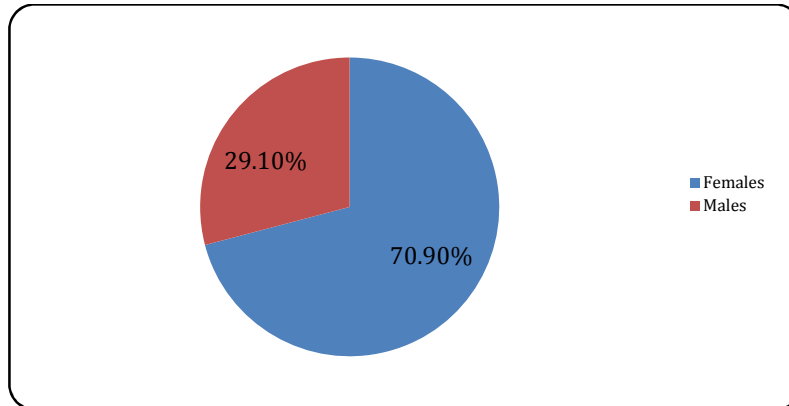


Fig. 1. Sex distribution of patients

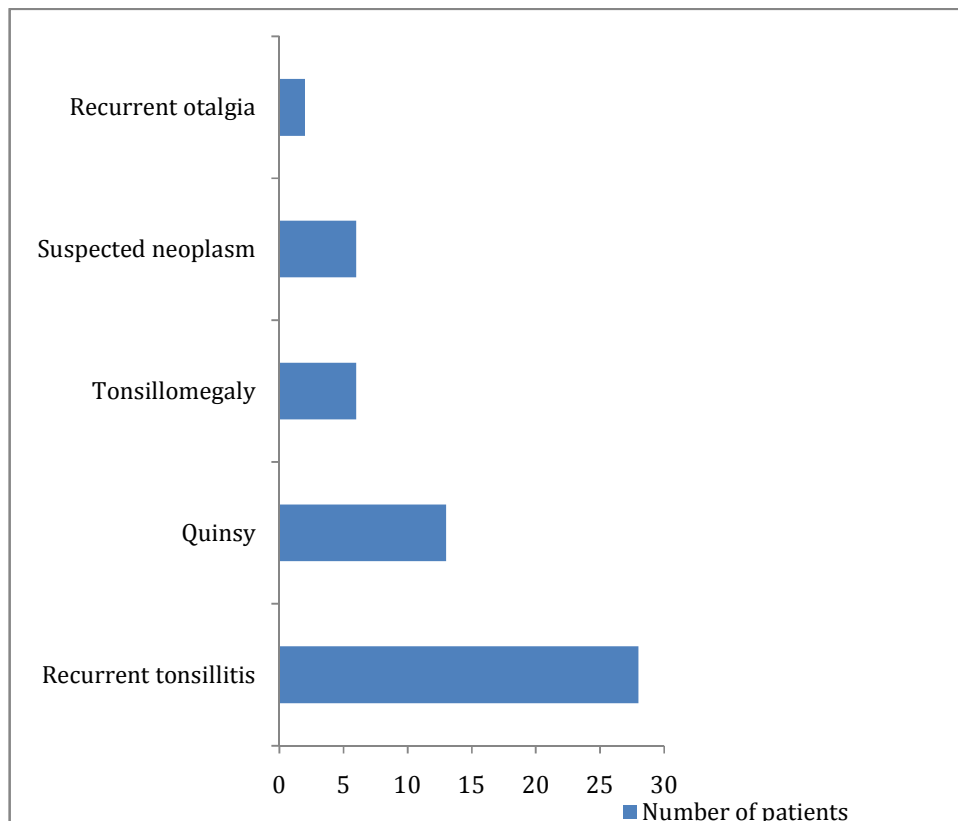


Fig. 2. Indications for adult tonsillectomy

Five patients had unilateral tonsillectomy for suspected neoplasm while others had bilateral tonsillectomy. Cold dissection was used in 37 (67.2%) of the patients, others by electro cautery (Bipolar diathermy).

The commonest post-operative complication was pain in all patients, followed by otalgia (29.1%) and secondary post tonsillectomy bleed in two patients [Fig. 3]. No patient had blood transfusion. Hospital average stay was 3 days.

Follow up was uneventful in 16 (29.1%) patients while 4(7.3%) patients had squamous cell carcinoma and were referred to the Oncologist. The remaining 35 patients were lost to follow up.

4. DISCUSSION

Recurrent tonsillitis is the commonest indication for adult tonsillectomy in this study accounting for 50.9% of the patients. The female preponderance in this study is at variance with other similar studies reporting high prevalence of adult tonsillectomy in the male gender [5,6]. This may be attributed to the facts that consent for surgery in our environment is not solely the prerogative of the female patients due to cultural believes peculiar to our region. The criteria for recurrent tonsillitis according to the American Academy of Otolaryngology-Head and Neck surgery is at least seven episodes per year or five per year for two successive years, or three per year for three consecutive years, each episode is associated with fever and

odynophagia [6]. Recurrent or chronic sore throat is the most common indication for tonsillectomy in the UK [16]. Jeong et al. reports that the persistent chronic tonsillar infection in adulthood is due to high profile antibiotic resistance in adults with higher incidence of atypical bacteria isolated from tonsillectomy specimen. This may be attributed to the high failure rate of antibiotic therapy for chronic tonsillitis. The findings correlate with our study and other previous literature studies making recurrent or chronic tonsillitis the commonest indication for adult tonsillectomy [14,15]. The current absolute indications for tonsillectomy as recommended by the Spanish Society of Otorhinolaryngology [1], are tonsillar cancer, severe airway obstruction in the oropharynx due to tonsillar hypertrophy as shown in Fig. 4, recurrent peritonsillar abscess and persistent tonsillar hemorrhage. There are numerous observational studies that report quality of life benefits of adult tonsillectomy in patients with chronic or recurrent tonsillitis as an indication [15-22]. Another indication considered is the recurrent peritonsillar abscess [17], which is the second most common indication in our study. Peritonsillar abscess a life threatening complication of acute tonsillitis is an absolute indication for tonsillectomy in our center. Other less common indications that exist in literatures are intense malodour (Halithosis), chronic cryptic debris, and as part of uvulopalatopharyngoplasty surgery in patients with sleep-disordered breathing were tonsillar hypertrophy is thought to contribute to the obstructive process [15,16].

▪ Complications

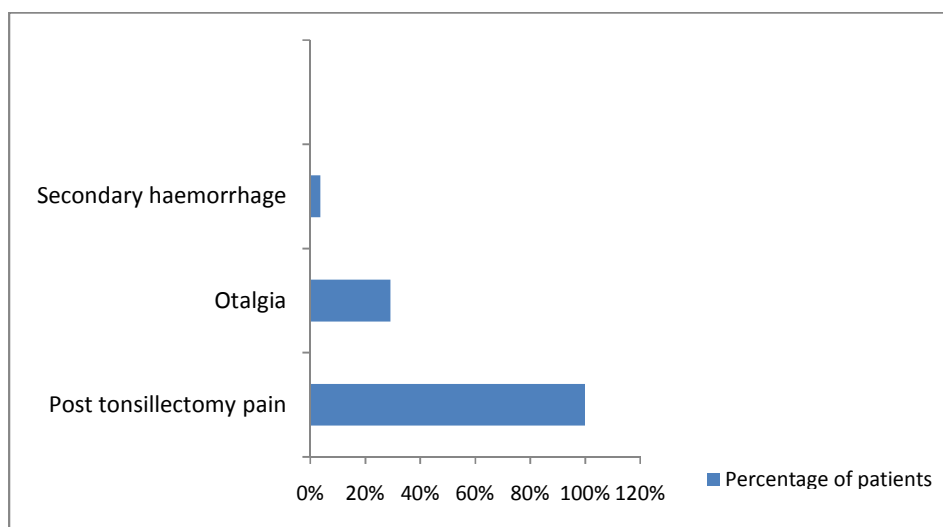


Fig. 3. Post tonsillectomy complications

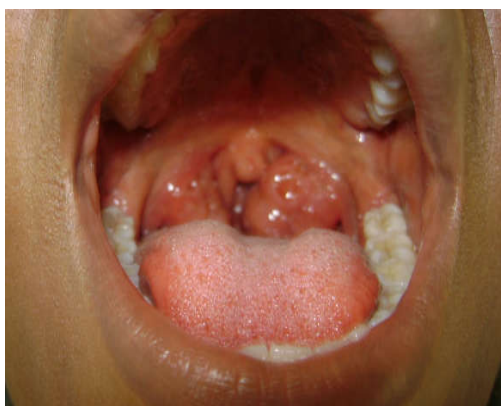


Fig. 4. Grade IV tonsillomegaly in a twenty-three years old female patient

In pediatric patients, indication for tonsillectomy differ from those of adults as tonsillectomy for suspected or proven neoplasm is rarely carried out in children but a common indication for adult tonsillectomy[6]. The most common primary neoplasms of the palatine tonsil are squamous cell carcinoma and lymphoma, although there are case reports of other primary neoplasms and metastases [7-13] In our study, 6(10.9%) patients had tonsillectomy for suspected malignancy and histological examination of specimens revealed squamous cell carcinoma in four of them this emphasizes the need for thorough histopathological analysis of all adult tonsillectomy specimens. There is need for a consensus guideline for medical staff at an individual institution to develop hospital policy regarding an appropriate triaging strategy for tonsillectomy specimens, as suggested by the College of American Pathologists [23].

Majority of the patients in this study had their tonsil removed by cold steel (dissection) technique, which is the preferred technique in our center over electrocautery (Diathermy). Similar to previous studies that attributed the high incidence of post tonsillectomy pain to the technique used [24-27]. All patients in our study had post tonsillectomy pain, with 29.1% of them having associated otalgia. This is in consonant with numerous publications that post tonsillectomy pain being the commonest complication of adult tonsillectomy [26-27]. Although pain instruments measure the severity of pain, in this study the duration of patient's response to pain with adequate analgesia was used. In previous studies visual analog scale was used to measure the intensity and the scores vary with the different surgical technique [27]. Secondary post tonsillectomy bleeding occurred

in 2(3.6%) patients who were readmitted but not given blood transfusion.

Rates of secondary bleeding have been reported to range from 0.2% to 7.5%, with an average of approximately 4.2% [14]. There have been numerous studies that evaluate the risk of post tonsillectomy bleeding with one technique over another, [14,28-31] but these studies are limited by low sample sizes, heterogeneity, and inconsistent definitions of bleeding. As a result of conflicting findings, there is insufficient evidence, at this time, to support the superiority of one technique over another to reduce the complication [30-34]. The National Prospective Tonsillectomy Audit [35], demonstrated that there was a higher risk of postoperative bleeding with increasing patient age, male sex, and history of recurrent acute tonsillitis (3.7%) and previous peritonsillar abscess. The rate was highest in quinsy patients (5.4%) versus patients with pharyngeal obstruction and OSA (1.4%). No mortality was recorded in this study; we therefore advocate the need for meticulous preoperative evaluation of all patients undergoing this procedure.

5. CONCLUSION

The commonest indication for tonsillectomy is recurrent tonsillitis. The high incidence in female in our study is at variance with other published work. Though a commonly performed surgery, it is not without life threatening complications hence the need for thorough preoperative investigation. Histopathological analysis of every tonsil specimen is here by advocated.

6. LIMITATION OF THE STUDY

This is a hospital base study with a small sample size and makes the actual prevalence of this procedure difficult in our region.

CONSENT

As per international standard or university standard written patient consent has been collected and preserved by the author(s).

ETHICAL APPROVAL

The hospital ethical committee approved the study. The data retrieved was subsequently analyzed using Microsoft excel program.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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