

Original Research Article

TONSILLECTOMY IN ADULTS: ANALYSIS OF INDICATIONS AND OUTCOME IN SOKOTO, NORTH WESTERN NIGERIA.

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 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 3days.

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.

Key Words: Tonsillectomy, Adults, Indications, Recurrent Tonsillitis, Carcinoma.

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42 **Introduction**

43 The Palatine tonsils are paired structure composed of lymphoid tissues located in the
44 tonsillar fossa at the lateral wall of the oropharynx with other lymphoid tissues they make
45 up the Waldeyer's ring and is the main component of the immune system [1,2]. Indications
46 for tonsillectomy varied throughout history. In the pre-antibiotic era, tonsillectomy was
47 considered a very effective therapeutic tool, with 1.4 million of tonsillectomies
48 performed only in 1949 in the US [1]. Even though antibiotic therapy appeared to be
49 sufficient in the treatment of acute tonsillitis with a remarkable reduction in the number of
50 tonsillectomized patients, tonsillectomy remains the ideal treatment option for recurrent
51 and chronic tonsillitis. By 1970s, most of the indications were questioned, resulting in
52 reduction of the number of tonsillectomies in the USA [1-3] Tonsillectomy is the most
53 frequently performed procedure in the paediatric patients due to well established evident
54 indications for surgical intervention, however, a good number of adults also undergo the
55 procedure. Although there is dearth of literature studies on the prevalence of indication
56 for adult tonsillectomy, this procedure is usually performed in adult with suspected or
57 confirmed tonsillar malignancy as an indication and rarely performed in paediatric
58 patients. [4,5] Absolute indications for tonsillectomy, according to the Spanish Society of
59 Otorhinolaryngology [1] are tonsillar cancer, severe airway obstruction in the oropharynx
60 due to tonsillar hypertrophy and persistent tonsillar hemorrhage. Relative indications like
61 recurrent acute tonsillitis; chronic tonsillitis and recurrent peritonsillar abscess are also
62 included. However recurrent acute tonsillitis (a documented disabling sore throat of seven
63 episodes per year, five per year for two years, or three per year for three consecutive
64 years) according to the American Academy of Otolaryngology-Head and Neck surgery
65 constitute the chief indication for adult tonsillectomy [3-6]. In selected cases of intense
66 malodour (Halitosis), chronic cryptic debris, and as part of uvulopalatopharyngoplasty
67 surgery are less common indications for adult tonsillectomy [6]. Studies have reported a
68 significantly lower number of hospital consultation, absence at work place and the need
69 for antibiotic therapy in adult patients who undergo tonsillectomy than those who do not
70 consent for the procedure [5]. Practice trends may accept triage of paediatric
71 tonsillectomies for exemption or gross exam only. However, for adults, there is need for
72 routine histological evaluation of tonsillectomy specimens to rule out malignancy [6-13]
73 Though a commonly performed otorhinolaryngological procedure, several complications
74 have been reported following adult tonsillectomy [14, 15]. This study aimed to profile the
75 indications and outcome of adult tonsillectomy in our region.

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77 **Materials and Method**

78 This was a retrospective study of all patients aged 18 years and above, which had
79 tonsillectomy in the department of Otorhinolaryngology, Usmanu Danfodiyo Teaching
80 Hospital, (UDUTH) Sokoto, over a seven-year period from 1st January 2011 to 31st

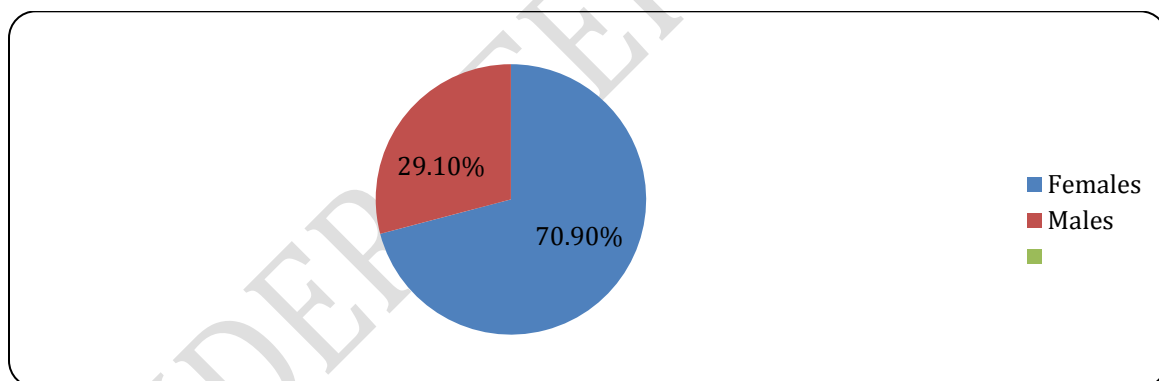
81 December 2017. All information including age, sex, symptoms, technique of
82 tonsillectomy, complications, duration of hospital stay, was carefully retrieved from each
83 patient's case file and from the operation register. Excluded from this study were patients
84 who are less than 18 years of age at the time of tonsillectomy, and those with incomplete
85 clinical records. Majority of the patients had tonsillectomy by cold steel (dissection)
86 technique and others had electrocautery (Bipolar) technique. All patients received peri-
87 operative and postoperative antibiotics and analgesia. The hospital ethical committee
88 approved the study. The data retrieved was subsequently analyzed using Microsoft excel
89 program.

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94 Results

95 A total of 55 patients had tonsillectomy over the period of study. Age range was 18 to 45
96 years with a mean age of 26.3 years. There were 16 males and 39 female with a male to
97 female ratio as shown in fig 1.

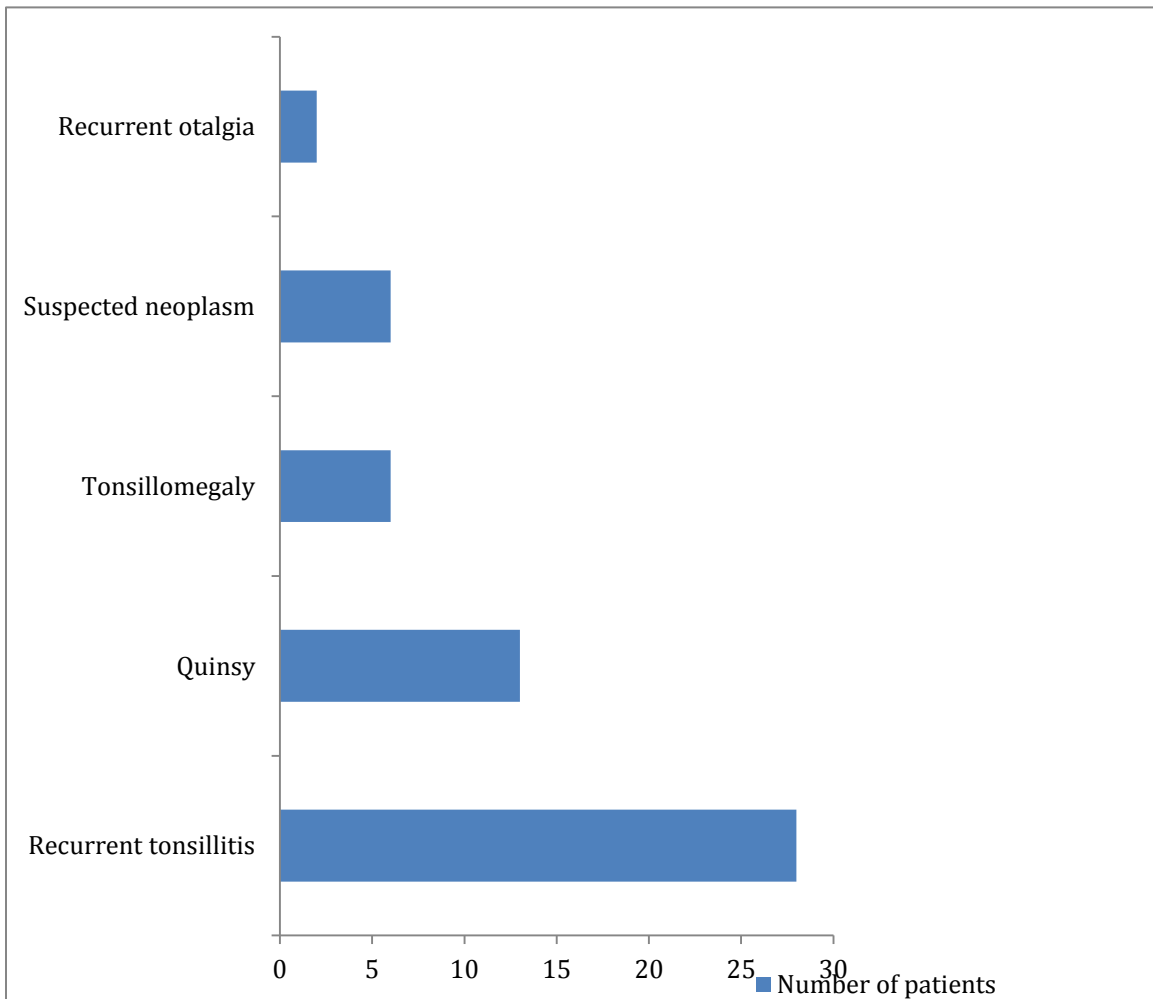
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102 Figure 1. Sex distribution of patients

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



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111 Figure 2: Indications for adult tonsillectomy

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

116 The commonest post-operative complication was pain in all patients, followed by otalgia
 117 (29.1%) and secondary post tonsillectomy bleed in two patients. [Figure 3]. No patient
 118 had blood transfusion. Hospital average stay was 3days.

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

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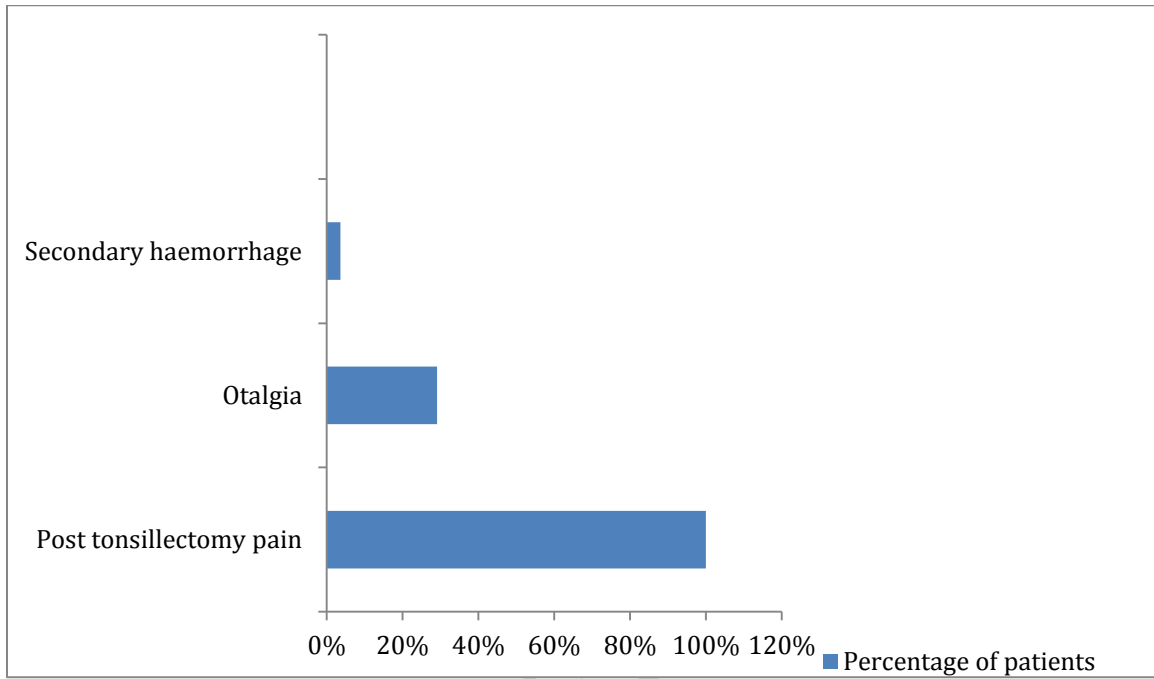
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▪ Complications



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Figure 3: Post tonsillectomy complications



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

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Discussion

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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 correlates 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].

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

178 hospital policy regarding an appropriate triaging strategy for tonsillectomy specimens, as
179 suggested by the College of American Pathologists [23].

180 Majority of the patients in this study had their tonsil removed by cold steel (dissection)
181 technique, which is the preferred technique in our center over electrocautery (Diathermy).
182 Similar to previous studies that attributed the high incidence of post tonsillectomy pain to
183 the technique used.[24-27]. All patients in our study had post tonsillectomy pain, with
184 29.1% of them having associated otalgia. This is in consonant with numerous
185 publications that post tonsillectomy pain being the commonest complication of adult
186 tonsillectomy [26-27]. Although the severity of pain is measured by pain instruments, in
187 this study the duration of patient's response to pain with adequate analgesia was used. In
188 previous studies visual analog scale was used to measure the intensity and the scores vary
189 with the different surgical technique [27].

Secondary post tonsillectomy bleeding
190 occurred in 2(3.6%) patients who were readmitted but not given blood transfusion.

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

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204 **Conclusion**

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

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211 **Limitation of the study**

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

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216 Conflict of interest

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