

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. Others 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.

41 **Introduction**

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

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76 **Materials and Method**

77 This was a retrospective study of all patients aged 18 years and above, which had
78 tonsillectomy in the department of Otorhinolaryngology, Usmanu Danfodiyo Teaching
79 Hospital, (UDUTH) Sokoto, over a seven-year period from 1st January 2011 to 31st
80 December 2017. All information including age, sex, symptoms, technique of

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

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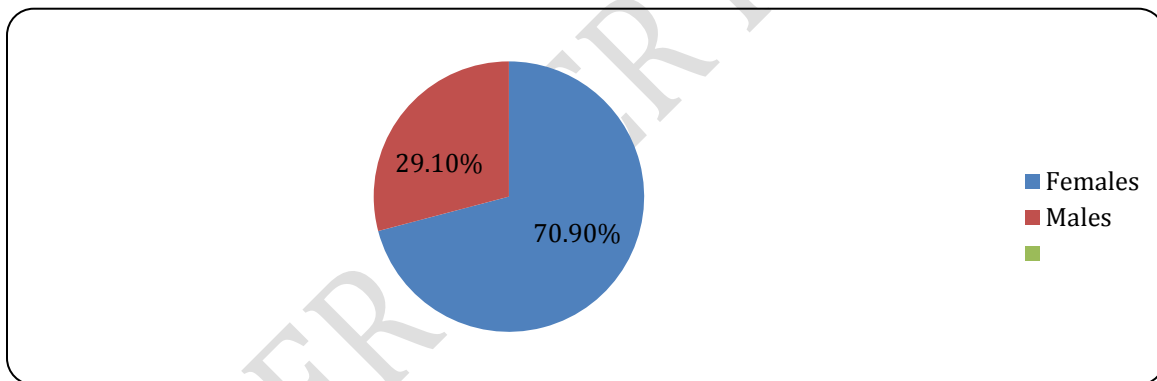
92 **Results**

93 A total of 55 patients had tonsillectomy over the period of study. Age range was 18 to 45
94 years with a mean age of 26.3 years. There were 16 males (29.1%) and 39 female
95 (70.9%) with a male to female ratio of 1:2.4. [figure 1].

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100 Figure 1. Sex distribution of patients

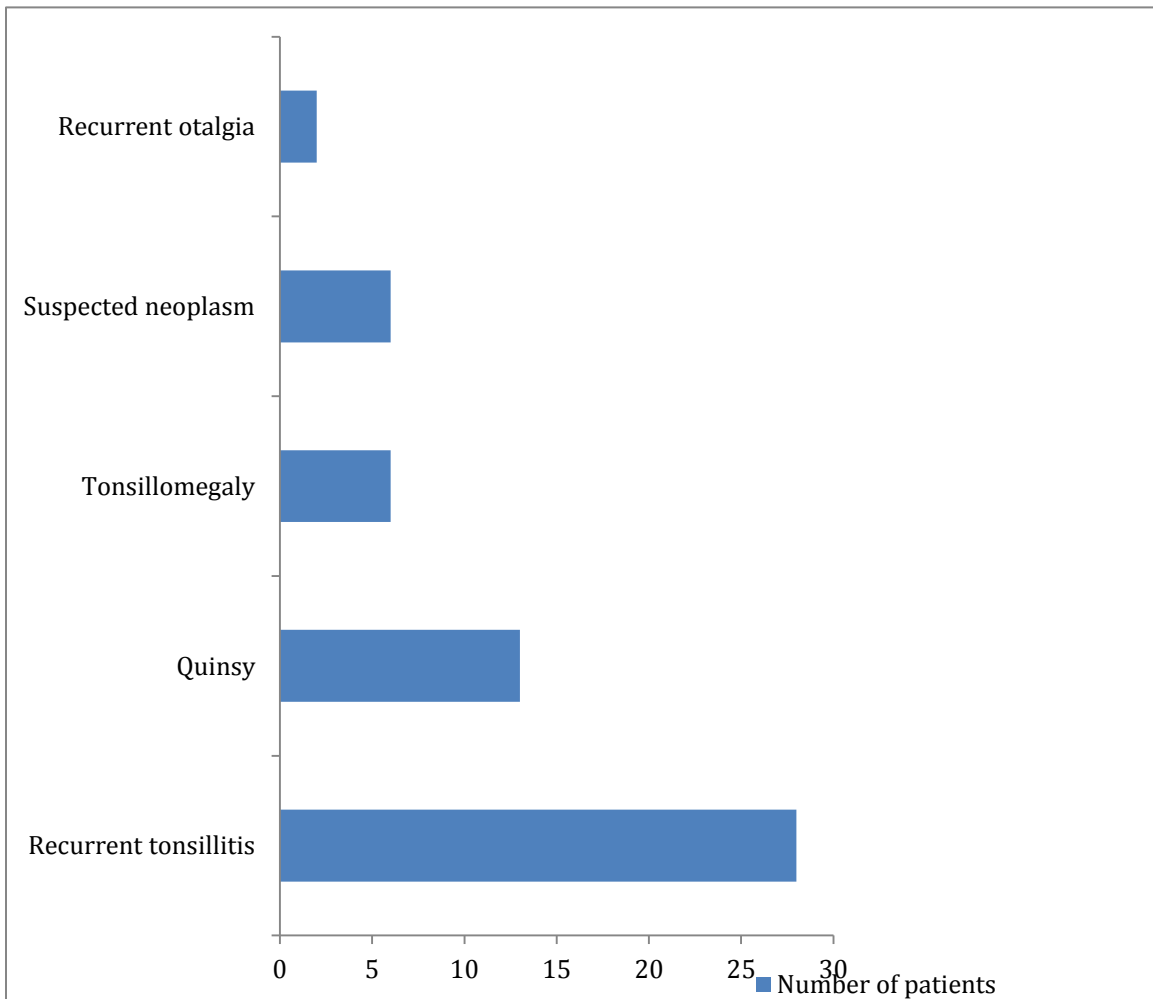
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103 Recurrent tonsillitis 28(50.9%) was the commonest indication; others include: post
104 quinsy 13(23.6%), tonsillomegally 6(10.9%); suspected neoplasm 6(10.9%); recurrent
105 otalgia secondary to tonsillomegally 2(3.6%). [Figure 2].

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109 Figure 2: Indications for adult tonsillectomy

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

114 The commonest post-operative complication was pain in all patients, followed by otalgia
 115 (29.1%) and secondary post tonsillectomy bleed in two patients. [Figure 3]. No patient
 116 had blood transfusion. Hospital average stay was 3days.

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

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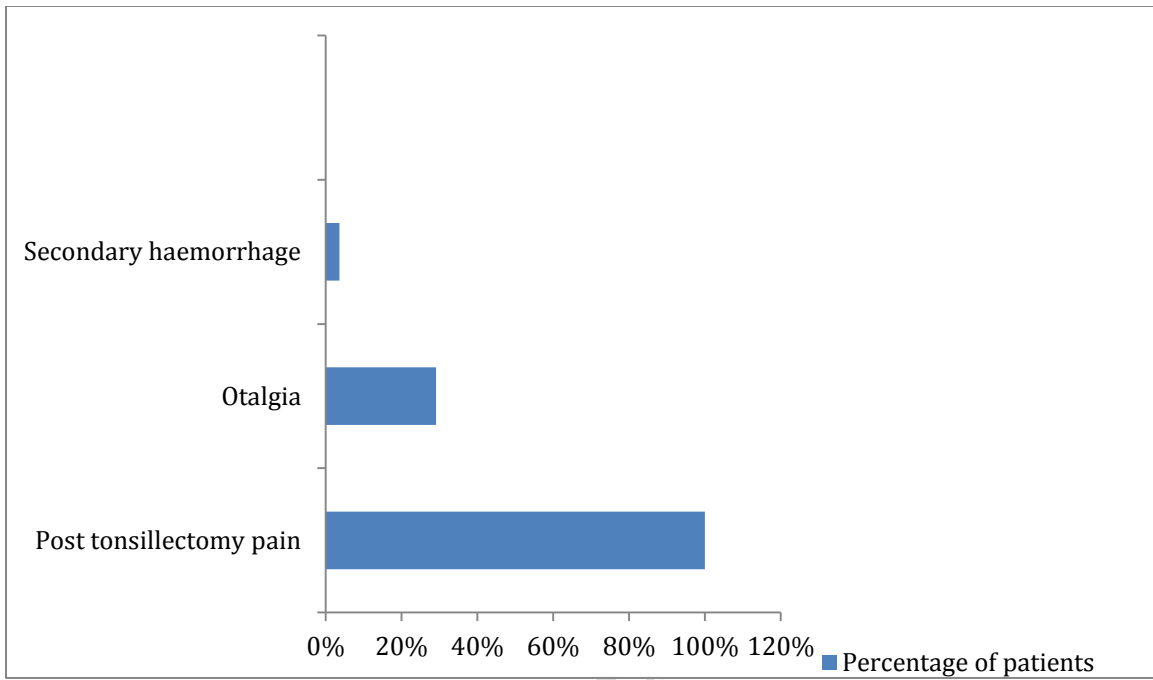
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▪ Complications



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Figure 3: Post tonsillectomy complications



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

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137 **Discussion**

138 Recurrent tonsillitis is the commonest indication for adult tonsillectomy in this study
139 accounting for 50.9% of the patients[figure 2]. The female preponderance[figure 1]in this
140 study is at variance with other similar studies reporting high prevalence of adult
141 tonsillectomy in the male gender[5,6]. this may be attributed to the fact that consent for
142 surgery in our environment is not solely the prerogative of the female patients. The
143 criteria for recurrent tonsillitis according to the American Academy of Otolaryngology-
144 Head and Neck surgery is at least seven episodes per year or five per year for two
145 successive years, or three per year for three consecutive years, each episode is associated
146 with fever and odynophagia[6]. Recurrent or chronic sore throat is the most common
147 indication for tonsillectomy in the UK [16]. Jeong *et al* reports that the persistent chronic
148 tonsillar infection in adulthood is due to high profile antibiotic resistance in adults with
149 higher incidence of atypical bacteria isolated from tonsillectomy specimen. This may be
150 attributed to the high failure rate of antibiotic therapy for chronic tonsillitis. The findings
151 correlates with our study and other previous literature studies making recurrent or
152 chronic tonsillitis the commonest indication for adult tonsillectomy[14,15]. The current
153 absolute indications for tonsillectomy as recommended by the Spanish Society of
154 Otorhinolaryngology [1], are tonsillar cancer, severe airway obstruction in the
155 oropharynx due to tonsillar hypertrophy[fig 4], recurrent peritonsillar abscess and
156 persistent tonsillar hemorrhage. There are numerous observational studies that reports
157 quality of life benefits of adult tonsillectomy in patients with chronic or recurrent
158 tonsillitis as an indication [15-22]. Another indication considered is the recurrent
159 peritonsillar abscess[17], which is the second most common indication in our study.
160 Peritonsillar abscess a life threatening complication of acute tonsillitis is an absolute
161 indication for tonsillectomy in our center. Other less common indications that exist in
162 literatures are intense malodour (Halithosis), chronic cryptic debris, and as part of
163 uvulopalatopharyngoplasty surgery in patients with sleep-disordered breathing were
164 tonsillar hypertrophy is thought to contribute to the obstructive process.[15,16].

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

176 Majority of the patients in this study had their tonsil removed by cold steel (dissection)
177 technique, which is the preferred technique in our center over electrocautery (Diathermy).
178 Similar to previous studies that attributed the high incidence of post tonsillectomy pain to
179 the technique used.[24-27]. All patients in our study had post tonsillectomy pain[figure
180 3], with 29.1% of them having associated otalgia. This is in consonant with numerous
181 publications that post tonsillectomy pain being the commonest complication of adult
182 tonsillectomy [26]. Secondary post tonsillectomy bleeding occurred in 2(3.6%) patients
183 who were readmitted but not given blood transfusion.

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

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197 **Conclusion**

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

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204 **Limitation of the study**

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

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209 Conflict of interest

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217 **References**

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