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Research Article

Pattern of Adenoid and Tonsil Surgeries in Lagos, Nigeria

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ABSTRACT
Objective: Adenoid and tonsil surgeries are common ear, nose and throat procedures worldwide including Nigeria. This study aimed at determining the distribution, indications and outcome of adenoidectomy, tonsillectomy and adenotonsillectomy in our practice in Lagos, Nigeria.
Patients and Methods: This was a retrospective study of patients that had adenoid and tonsil surgeries in Ear, Nose and Throat Department of Lagos State University Teaching Hospital from January 2017 to December 2019. All the patients' data were retrieved from ENT out-patient clinic, theatre registers and medical records patients` case notes. The data included sociodemographic features, indications for surgery, complications and outcomes of the procedure were recorded and analyzed.
Results: There were 58.7% males and 41.3% females with male to female ratio of 1.4:1. The surgeries were commonest in 56.9% preschool age group (1-5) years. Commonest indication and type of adenoid and tonsil surgeries were obstructive sleep apnea syndrome and adenotonsillectomy in 78.0% and 89.0% respectively. Major source of patients was from Paediatrician in 44.0%. Commonest indication for surgery cancellation was infection. Commonest duration of hospital admission was 5 days in 48.6%. Commonly recorded complications in this study were 1.8% tooth extraction and 2.8% reactionary haemorrhage. Blood transfusion was offered in 29.4%. Histology report revealed 82.6% reactive follicular hyperplasia.
Conclusion: Adenoid and tonsil surgeries were childhood procedures. Commonest presentation was features of obstructive sleep apnea syndrome.

INTRODUCTION

Surgeries on the adenoid and tonsil are common surgical procedures in ear, nose and throat practice worldwide.[1-3] These procedures are carried out to remove the diseased adenoid and tonsils. These diseases include obstructive sleep apnoea syndrome, recurrent tonsillitis and tonsillar tumour.[4] There are three modes of adenoid and tonsil surgical operations.[5] Adenoidectomy when only adenoid was removed. Tonsillectomy if only the tonsil was removed. If a combined procedure was carried out at a sitting it is called adenotonsillectomy.

Despite the causes and cases, adenoid and tonsil diseases are very common, the conditions are still wrongly treated.[5] This includes prolonged medical treatment with different antibiotics. There are various associated complications at presentation to specialist and these complications include otitis media, malnutrition, adenoid facies and so on.[1-5] The conditions are also wrongly treated as cases of asthma or upper respiratory tract infection. Wrong surgeries are usually offered by traditional healers and this includes traditional uvulectomy.[6-7]

However the procedure is usually associated with some life threatening complications.[8-9] Common among them includes bleeding during and after the surgical procedure. This may lead to re-hospitalization and patient may need re-exploration in the theatre in few cases. Other complications are injuries to contiguous structures like tongue, teeth, palates and uvula. Anaesthetic complications cannot be ruled out during adenoid and tonsil surgeries. Throat injuries, vocal cords injuries, laryngeal spasms and life-threatening cardiopulmonary complications may occur. To reduce the incidence of both surgical and anaesthetic complications during and after adenoid and tonsil surgeries all patients must be optimally prepared. Preoperative evaluation and perioperative care by both surgeon and anaesthetist are paramount. The surgery must be handled by specialists with good surgical and anaesthetic skills.[10]

Despite the extent of the adenoid and tonsil surgery done in developing countries, there is still dearth of literature on this topic. Hence, this study aimed at determining the distribution, indications and outcome of adenoidectomy, tonsillectomy and adenotonsillectomy in our practice in Lagos, Nigeria.

PATIENTS AND METHODS

This study was a retrospective study of all patients who had adenoid and tonsil surgeries done in the department of Ear, Nose and Throat of Lagos State University Teaching Hospital, Ikeja, Lagos, Nigeria. This was carried out from January 2017 to December 2019.

Inclusion criteria: only patients who had adenoid and tonsil surgery in our Centre were included.

Exclusion criteria included all patients with incomplete data. Patients that had other surgical procedures were also excluded.

All the patients' data were retrieved from Ear, Nose and Throat outpatient clinic registers; Ear, Nose and Throat theatre register, and medical records patients` case notes. Data extracted were socio-demographic features, indications for surgery, complications and outcomes of the procedures.

Data obtained were collated and analyzed using SPSS version 20.0. Data was further illustrated using simple statistical tables and percentages, bar charts and pie charts.

RESULTS

In this study, 109 patients had adenoid and tonsil surgeries over the period. All the patients were eligible for this study. There were 64 (58.7%) males and 45 (41.3%) females and the male to female ratio was 1.4:1. The peak age group for adenoid and tonsil surgeries was at preschool age group (1-5) years (Table 1). The commonest indication for adenoid and tonsil surgeries was obstructive adenoid and tonsil enlargement with obstructive sleep apnea syndrome in 85 (78.0%). This was followed by 18 (16.5%) recurrent tonsillitis. Others were unilateral tonsillar mass and chronic suppurative otitis media in 2 (1.8%) and 1 (0.9%) respectively (Table 2).

As shown in Figure 1, the type of adenoid and tonsil surgeries performed in this study was 97 (89.0%) adenotonsillectomy to relieve obstructive sleep apnea syndrome. This was followed by tonsillectomy and Adenoidectomy in 9 (8.3%) and 3 (2.8%) respectively. The major source of patients for the adenoid and tonsil surgeries was from the Paediatricians in 48 (44.0%). Other sources include 43 (39.4%) General Medical and 16 (14.7%) self-reporting. This is further illustrated in Figure 2.

As shown in Table 3, the adenoid and tonsil surgeries were performed on the first booking without cancellation in 82 (75.2%). In 27 (24.8%) patients the surgery was postponed and rebooked. Major reason for the surgery cancellation was infection in 10 (9.2%). This was followed by 9 (8.3%) parent`s financial constraints.

For adenoid and tonsil surgeries, our patients were admitted a day before surgery and managed post operatively until stable to be discharged home. Commonest duration of hospital admission was 5 days in 53 (48.6%). This was followed by 3 days and 4 days admissions in 35 (32.1%) and 12 (11.0%) respectively (Table 4). There was no associated secondary complication to adenoid and tonsil surgeries in 104 (95.4%). Commonly recorded complications in this study were tooth extraction in 2 (1.8%) and reactionary bleeding in 3 (2.8%). All the patients were managed with analgesic, antibiotics and nasal decongestant. Blood transfusion was offered in 32 (29.4%) post adenoid and tonsil surgeries in our patients while no blood transfusion was offered in 77 (70.6%) patients. Adenoid and tonsil tissue specimen histology report revealed reactive follicular hyperplasia in 90 (82.6%) while histology report could not be retrieved in 19 (17.4%) patients. Post-operative follow up was observed by 34 (31.2%) patients while 75 (68.8%) patients were lost to follow up in this study.

Table 1: Age group distribution of the patients

Age group (years)	Number	Percentage (%)
1-5	62	56.9
6-10	34	31.2
11-15	6	5.5
16-20	0	0
21-25	4	3.7
26-30	1	0.9
31-35	1	0.9
36-40	1	0.9
Total	**109**	**100.0**

Table 2 Indications for adenoid and tonsil surgeries among the patients.

Indications for surgery	Number	Percentage (%)
Obstructive Adenoid and tonsil	85	8.0
Recurrent tonsillitis	18	16.5
Chronic suppurative otitis media	1	0.9
Failure to thrive	1	0.9
Unilateral tonsillar mass	2	1.8
Sinusitis	17	0.9

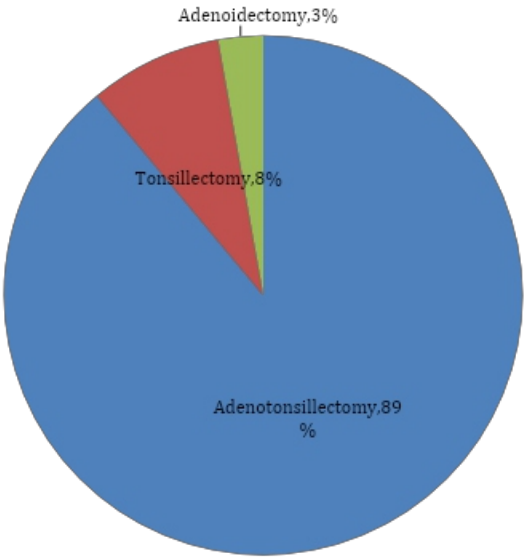

Figure 1: Type of adenoid and tonsil surgeries among patients

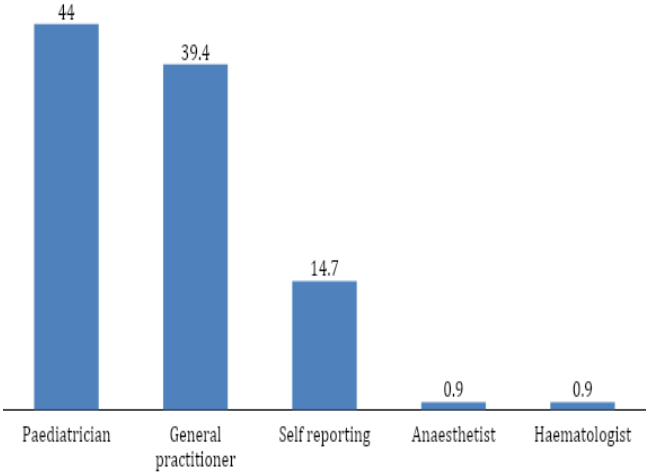

Figure 2: Sources of patients for the surgeries

Table 3: Reason for surgery cancellation among patients

Cancellation	Number	Percentage (%)
Financial	9	8.3
Logistics	4	3.7
Infection	10	9.2
Parents decline	4	3.7

Table 4: Duration of admission among patients

Duration (days)	Number	Percentage (%)
2	4	3.7
3	35	32.1
4	12	11.0
5	53	48.6
6	4	3.7
7	1	0.9
Total	**109**	**100**

DISCUSSION

This study reported adenoid and tonsil surgeries as procedures in both children and adults in our Centre. In this study, the surgery was commonly performed in children more than in adults. Even among the children preschool age group was commoner than any other age group. This observation may be due to frequent upper respiratory tract infection in children as a result of their developing immune status. This concurred with findings from other studies.[1,5] Adenoid and tonsil surgeries were commonly performed in males more than females in this study. This may be due to higher rate of exposure to infection and injuries in males. Mothers who are care givers in the house have higher preferential care of males than females. Similar findings were recorded in other studies.[1,5]

Highest indication for adenoid and tonsil surgery was among patients with hypertrophy of the adenoid and tonsils leading to obstructive sleep apnea syndrome. Acute Adenoid and tonsil infection cause short time upper airway obstruction which are usually treated conservatively. Malignant cases of adenoid and tonsil diseases were not common. This finding was similar to reports from previous studies.[11,12] Recurrent tonsillitis was a common indication for tonsillectomy in this study. This was because of frequent tonsil infection, frequent hospital visit and associated frequent hospital admission similar to other study.[5] In this study adenotonsillectomy was found to be the commonest type of surgery performed on adenoid and tonsil disorder. This was most likely because of same lymphoid tissue and their proximity. This finding was in agreement with the report of other studies.[13-14]

Paediatricians, General Medical Practitioners (family physicians) and self-reporting were the most common sources of the patients. Paediatricians and Family Physicians are first contact for patients with any form of disorder. Self-reported cases were also high because of parental increased level of awareness. From this study, the main reasons for surgery cancellation were chest infection secondary due to upper respiratory tract infection and financial constraints. Other factors included logistics from lack of essential theatre facilities and irregular power supply which are preventable factors. This finding was reported in a previous study.[15]

Adenoid and tonsil surgeries in this study were associated with low incidence of secondary complications. This finding was similar to report in other studies.[5,12] Commonly recorded complications in this study were reactionary bleeding and tooth extraction. In this study, adenoid and tonsil surgeries were safe in our otorhinolaryngological surgical practice. The only haemorrhage encountered in this study was reactionary haemorrhage. This may be due to the fact that residents perform most of the surgeries. This concurred with other study.[12] Other previous study documented contrary findings of primary haemorrhage.[16] Unsuspected loose tooth was accidentally extracted intra-operatively.

All the patients were managed with analgesics to treat post - surgical pain. Prophylactic antibiotics were administered to prevent secondary infection. All patients were commenced on ice cold fluid diet when fully awake to prevent dehydration and hypoglycemia. All patients that had adenoidectomy were placed on nasal decongestant to prevent secondary haemorrhage and reduce nasal congestion. Blood transfusion was offered in some patients with low post adenoid and tonsil surgeries packed cell volume. Similar report was documented in a previous study.[12] Adenoid and tonsil tissue specimen were sent for histological diagnosis. The histology report revealed reactive follicular hyperplasia in the patients. This was because the indications were infection and the surgeries were performed mainly in children. Similar report was documented in other study.[17] Majority of patients were discharged on the third day post-surgery. Post-operative follow up was observed by one third of the studied patients. This may probably be because our patients were fit before discharge.

CONCLUSION

Commonest presentation was features of obstructive sleep apnea syndrome to physician. Good surgical technique led to safe surgery and prevented complication. Histology reports revealed benign adenoid and tonsil disorders in our patients.

Conflict of interest

There is no conflict of interest regarding this study.

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