

Report

Assessment of a Year of Surgical Activity in the Otorhinolaryngology and Head and Neck Surgery Department of the Mother-child University Hospital of N'Djamena in Chad

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Abstract

Ear, nose and throat (ENT) is the branch of medicine that deals with diseases of the ear, nose and throat. It is a medical-surgical specialty because the management of these conditions can be medical and/or surgical. Our objective was to report on the results of a year of surgical activity in the Otorhinolaryngology and Head and Neck Surgery Department of the N'Djamena University Hospital in Chad. We were able to collect 168 cases that were operated on in the department, the most represented age group was 11 to 20 years old with 39.9%, the male sex was in the majority, i.e. 54% with a sex ratio of 1.15. The surgical indications were as follows: 44 cases of repetitive acute tonsillitis; 41 cases of chronic tonsillitis; 30 cases of adenoids; 10 cases of cervical LAP; cystic lymphangiomas and congenital cervical fistulas have 08 cases each; 05 cases of cervical masses; 04 cases of fracture of the NBF; maxillary sinusitis, CTT, lingual cysts, thyroid nodules all have respectively 03 cases each; 02 cases of parotid tumors; Tumors of the nasosinus: 02 cases, oral mass, retroauricular cyst, adenitis each have respectively 01 cases. Tonsillectomy was the type of surgery performed in the majority of cases (85 cases) or 50.6%, followed by adenoidonstonsillectomy (30 cases) or 17.9%. *Conclusion:* Surgical activities occupy an important place in the management of ENT-CCF conditions. In the majority of cases, they concern the pharyngeal region and children are the most represented in the studies. Good knowledge of anatomy and good surgical control can reduce intra- and postoperative morbidity. The success of surgery depends on the collaboration between surgeons and the anesthesiologist.

Keywords

Surgical, Activity, Tonsillectomy, Cervicotomy, Thyroidectomy

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1. Introduction

Otorhinolaryngology (ENT) is the branch of medicine that deals with diseases of the ear, nose, and throat. It is a medical-surgical specialty because the management of these conditions can be medical and/or surgical [1]. It is the speciality par excellence of communication, expression, orientation and tasting because it studies hearing, voice, breathing, smell, taste, balance and to a lesser extent the aesthetics of the face [1]. The ENT sphere is the upper aerodigestive tract and can be the site of several types of infectious, tumoral, inflammatory, traumatic, malformative and sensorineural pathologies. Its relations with certain neighboring organs such as the orbit, the cerebral cavity and its meninges, the cervical vasculo-nerve bundle, explain the occurrence of a number of complications including meningitis, cerebral abscess, thrombosis of the cavernous sinus, hemorrhage [2].

This specialty suffers from insufficient human and technical resources in sub-Saharan Africa, where the need is felt because of the richness and variety of these conditions [3]. In Africa, some studies have been conducted to evaluate surgical activity, notably in Burkina Faso, Mali and Senegal [4-6]. In Chad, there is little statistical data that can be used on surgical activity in our otorhinolaryngology department. That is why we are starting this work with the aim of having data on the location of surgery in our department and we have set ourselves the following goals.

The objective was generally to report on the results of a year of surgical activity and more particularly to determine the sociodemographic aspect, the frequency of hospitalizations, to list the main surgical procedures and their indications in the otorhinolaryngology and head and neck surgery department of the Mother-Child University Hospital of N'Djamena.

2. Materials and Methods

This is a prospective study carried out in the ENT and CCF department of the Mother and Child Hospital of N'Djamena in Chad. over one year from January 1, 2024 to December 31, 2024. The inclusion criteria were all patients of any age operated on in the department during this period with a complete medical file. Incomplete files were excluded from the

study due to insufficient information. The variables studied are age, sex, origin, preoperative diagnosis, type of surgery, follow-up and evolution. This study will not only allow us to provide statistics on otolaryngology surgery and head and neck surgery; But also to better understand its problem, in particular within the department and in general in our developing countries.

3. Results

Between January 1, 2024 and December 31, 2024, we collected 168 cases of surgery performed in our department, which represents a frequency of 17.68% of the 950 patients who consulted during this period in the ENT department. Male sex accounted for 54% of cases with a sex ratio of 1.15 (M/F). The 11 to 20 year age group was represented with 39.9% of cases (Table 1). The mean age was 16.04 years with the extremes 01 year and 64 years. Recurrent acute tonsillitis was the most common preoperative diagnosis with 26.2% or 44 cases. Then come chronic tonsillitis 41 cases, adenoid vegetation 30 cases, cervical lymphadenopathy 10 cases, cystic lymphangioma 08 cases, cervical fistula 08 cases, other cervical masses 05 cases, fracture of the nasal bone 04 cases, maxillary sinusitis 03 years, thyroglossal duct cyst, lingual cyst 03 cases, thyroid nodule 03 cases, sinusal tumor 02 cases, parotid tumor 02 cases, oral mass and retroocular cyst in each 01 case (Table 2). Tonsillectomy alone was the most commonly performed procedure with 85 cases, or 50.6%. The remainder had adenoid tonsillectomy 30 cases, cervicotomy 14 cases, adenectomy 10 cases, fistulorrhaphy 08 cases, nasal bone reduction 04 cases, thyroidectomy 03 cases, parotidectomy 02 cases, nasal sinus mass excision, mean meatotomy 02 cases, and Caldwell Luck case 01 (Table 3). All our patients have been operated on under general anesthesia, i.e. 100% of cases. Surgeries in the oral cavity and pharynx were in the majority, i.e. 72% of cases. The 2-day length of hospital stay accounted for 66.1%. The postoperative evolution was simple in 99% of cases and one case of wound suppuration. 66.66% of our patients were discharged from hospital on the 2nd postoperative day.

Table 1. Distribution of patients according to age intervals.

	Frequency	Percentage
0-10 years	55	32.7
11-20 years old	67	39.9
21-30 years old	37	22.0
31-40 years old	4	2.34

	Frequency	Percentage
41-50 years old	2	1.20
51-60 years old	1	0.6
Over 60 years	2	1,2
Total	168	100.0

Table 2. Allocation of patients according to preoperative diagnosis.

Pathologies	Personnel	%
Recurrent acute tonsillitis	44	26.2
Chronic tonsillitis	41	24.4
Adenoid vegetation	30	17.9
Cervical lymphadenopathy	10	5.9
Cystic Lymphangioma	8	4.8
Cervical fistula	8	4.8
Other cervical masses	5	3.0
Nasal bone fracture	4	2.4
Maxillary sinusitis	3	1.8
Thyroglossal duct cyst	3	1.8
Kyste lingual	3	1.8
Thyroid nodule	3	1.8
Nasal-sinus tumor	2	1.2
Parotid tumor	2	1.2
Other	2	1,2
Total	168	100.00

Others: Oral mass: 01, retroauricular cyst: 01.

Table 3. Distribution of patients according to the type of intervention.

Types of interventions	Personnel	%
Tonsillectomy	85	50.6
Adenoid and tonsillectomy	30	17.9
Cervicotomy for cervical mass	14	8.3
Adenectomy	10	5.9
Fistulorrhaphy	8	4.7
Reduction of nasal bone fractures	4	2.4
Thyroidectomy	3	1.8
Parotidectomy	2	1.2
Cystectomy	7	4.1

Types of interventions	Personnel	%
Excision of a nasal-sinus mass	2	1.2
Medium meatotomy	2	1.2
Caldwell's technique	1	0.6
Total	168	100.00

Table 4. Distribution of patients by region and age.

	Pharynx	Neck and face	Nose and sinuses	Total
0-10 years	39	16	0	55
11-20 years old	51	13	3	67
21-30 years old	26	6	5	37
31-40 years old	0	1	1	2
41-50 years old	3	1	0	4
51-60 years old	0	1	0	1
Over 60 years of age	0	02	0	2
Total	119	40	9	168

Chi-square test: $X^2 = 23.69$, DOF= 12; $\alpha=5\%$

4. Comments and Discussions

4.1. Epidemiological Aspect

During our study period, we operated on 168 patients in the operating room out of 950 consultations received, i.e. a prevalence of 17.68%. Of the 1606 surgical procedures performed by the hospital, ENT surgery accounted for 10.46% of all procedures. Our sample is smaller than that of Doumbia in Mali with 269 cases over one year and Khalil in Morocco with 496 cases over 5 years, i.e. 82 interventions per year [1, 3]. We could have had a larger sample if we had had enough human resources and a more developed technical platform. The 11 to 20 age group was the most represented, accounting for 39.9% of cases; extremes that are 1 year and 64 years. The mean age was 16.03 years. Doumbia and Khalil found the age group of 0-9 years and 0-5 years [1, 3] with 30% and 32.71% respectively. This is due to the presence of a number of older children and adolescents, the majority of whom have undergone tonsillectomy. The average age of our sample is close to that of Tall, Senegal, who was 12 years old. This observation can be explained by the high frequency of pathologies of the palatine tonsil in this age group [6]. The male sex was predominant with 54% and the sex ratio M/F was 1.15. We share the same result with Khalil's study in Morocco with a male

predominance of 54% [3]. On the other hand, a predominance of women was reported in the Doumbia, Amina and Faty series with 63%, 77.43% and 64.49% respectively. [1, 7, 8]. Without us having any explanations on this subject.

4.2. Surgical Data

4.2.1. Surgical Indication

Recurrent acute tonsillitis was the most common surgical indication with 26.2%, followed by chronic tonsillitis 24.4%; adenoids 17.9%. Our results are consistent with those of Amina and Massudom Djoum [7, 9]. The predominance of these indications can be explained by a significant representation of children in our sample. Indeed, these pathologies are frequently encountered in children. Tonsillitis is an extremely common pathology in daily practice. In France, more than 8 million consultations per year are motivated by tonsillitis, giving rise to more than 90% of antibiotic prescriptions. [7, 10].

The pharyngeal region was the most affected in our study, i.e. 70.8%, which is higher than the result found by Tall, Bald é and Mbaye, respectively 27.88% and 23.74% and 36% of pharyngolaryngeal disorders. [6, 11, 12]. This is explained in our context by the fact that our structure mainly takes care of women and children, who are more exposed to pharyngolaryngeal diseases.

4.2.2. Type of Intervention

In our study, tonsillectomy accounted for 50.6%, followed by adenoidotonsillectomy with 17.9% and cervicotomy with 13.1%. We share the same data with Doumbia, Amina, Mbaye and Faty who found that tonsillectomy was the most performed procedure in their studies with 63.46%, 36% and 46% respectively. [1, 7, 8, 12].

For Diouf and Tall, adenoidotonsillectomy was the most performed with 84.15% and 50.47% of surgical procedures [6, 13]. This procedure is generally indicated in the presence of obstructive sleep apnea syndrome and/or seromucosal otitis. Tonsillectomy is indicated in cases of recurrent acute tonsillitis and its complications, chronic tonsillitis, large obstructive tonsils, tonsillar cancers. Some indications are described in the literature such as swallowing disorders (dysphagia with large pieces); phonation disorder (oropharyngeal voice); PFAPA Syndrome (or Marshall Syndrome); IgA glomerulonephritis and acute dyspneizing angina but they are relative [14].

In our study, the technique used was tonsillectomy by extracapsular dissection under general anesthesia. This technique was also the most used in the DAO study (84.42%) [15]. On the other hand, Shluder's tonsillectomy was the most widely used technique in the study by Vignikin-Yepuessi et al. [16]. Both techniques are equally effective in treating OSA. Intracapsular tonsillectomy reduces early postoperative morbidity and time to return to normal activity [14]. We do not have a technical platform that allows us to perform new techniques such as tonsillectomy by micro-debridage, radiofrequency and coblation, which have revolutionized tonsillectomy by reducing the morbidity and mortality of this procedure.

4.2.3. The Intraoperative and Post-operative Aspect

In our study, all scheduled patients were seen in pre-anesthesia consultation and underwent general anesthesia with orotracheal intubation. We did not find cases of intraoperative complications (hemorrhage, nerve damage, anesthetic probenic). A case of superinfection of the operative wound was observed in the postoperative period. Debré and Mohamed successively found 0.42% and 5.87% of the cases of bleeding in the immediate postoperative period. [17, 18]. Intra- and post-operative hemorrhages in ENT surgery are generally secondary to a vascular lesion. In the tonsillectomy which is most performed in our case can come from the upper or lower pedicles, an early fall of the pressure ulcer or the presence of a post-tonsillectomy stump. Bleeding can come from the thyroid peduncles in the thyroidectomy or other types of lesions of the vessels of the neck and face. Nerve complications such as recurrent postthyroidectomy paralysis due to superior laryngeal nerve injury and peripheral facial paralysis due to facial nerve injury can also be seen in ENT surgery. A poor installation of the patient increases the risk of complications. Proper patient positioning, appropriate general anesthesia, and precise surgical technique with regulated

hemostasis will minimize these complications. Follow-up and systematic introduction of analgesics during the first postoperative days fully contributed to ensuring a very good quality of postoperative results. In our study, 66.66% of patients were hospitalized for 02 days; this was between 1 and 3 days in the Doumbia study. BM in Mali. The length of hospitalization depends on several factors such as the type of intervention, the presence of comorbidities and intra- and postoperative complications.

The chi-square test (Table 4) concluded that there was a relationship between the operated area and the age of the patients with a risk of 5%. Pharyngeal surgery is dominated by children while adults are in the majority in nose and nasal cavity surgery. In our study, we did not perform otologic surgeries because we do not have an adequate technical platform for this surgery in our structure.

5. Conclusion

Surgical activities occupy an important place in the management of ENT-CCF conditions. In the majority of cases, they concern the pharyngeal region and children are the most represented in the studies. A good knowledge of anatomy and good surgical control can reduce peri- and post-operative morbidity. The success of surgery depends on the collaboration between surgeons and the anesthesiologist. However, there are difficulties in performing some surgeries, especially middle ear and inner ear surgery; Nasal endonasal surgery where the inadequacy of the technical platform is felt.

Abbreviations

LAP	Lymphadenopathy
UHC	University Hospital Center
DOF	Degree of Freedom
CTT	Cyst of the Thyroglossal Tract
ENT-HNS	Ear Nose Throat and Head and Neck Surgery
NBF	Nasal Bone Fracture
OSAS	Obstructive Sleep Apnea-hypopnea Syndrome

Author Contributions

Diamoutene Boubacar Sidiki: Conceptualization, Data Curation, Format Analysis, Funding Acquisition, Investigation, Methodology, Resource, Writing Original.

Konate Ouma: Conceptualization, Format Analysis, Funding Acquisition, Investigation, Methodology, Writing Original.

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Konate Idrissa: Conceptualization, Visualization, Writing Review and Editing.

Souleymane Samate: Conceptualization, Investigation

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Ndjannone Kalki: Date Curation, Resources. Ngaringuem.

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Conflicts of Interest

The authors declare no conflicts of interest.

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Biography



Oumar Konate is a resident in otorhinolaryngology and head and neck surgery at the Gabriel Touré University Hospital in Bamako, Mali. He obtained his doctorate in medicine in November 2021 at the Faculty of Medicine and Odontostomatology of Bamako. He began his specialization in ENT and head and neck surgery in January 2022. He has participated in several international and national congresses during which he has made presentations. Currently he is in the last year of his residency training.