

A Survey of Paediatric Otolaryngological Surgeries in a Nigerian University Teaching Hospital

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Abstract

Background: In our environment the paediatric population constitutes a large number of our otolaryngologic surgical patients. This study determined the pattern of paediatric otolaryngological surgeries in the University of Port Harcourt Teaching Hospital.

Patients And Methods: This was a retrospective study of paediatric patients who had otolaryngological surgeries in the department of Ear Nose and Throat (ENT) surgery of the University of Port Harcourt Teaching Hospital (UPTH), Port Harcourt from January 2000 to December 2012. The patient's data were retrieved from the theatre and clinic registers. The patients' case notes were used to augment the data. Demographic data, types of otolaryngological surgeries, outcome of surgeries and complications were recorded and analyzed.

Results: Four hundred and ninety five patients had otolaryngologic surgeries during the study period. There were 261 males and 234 females (male: female ratio of 1.1:1.0). Age range was 5 days to 16 years, mean = 9.4 +/- 2.6 years. Age group 2-4 years has the highest (n=180) number of surgeries. The commonest otolaryngological surgery done was adenotonsillectomy. This was followed by direct laryngoscopy + extraction of foreign bodies and tracheostomy. Mortality was recorded in 5 cases.

Conclusion: This study determined the pattern of paediatric otolaryngological surgeries in UPTH, Port Harcourt, Nigeria. The types of surgeries and the management outcomes of these patients are critical information required in the formulation of healthcare policies that can help improve healthcare services delivery to the paediatric population.

Keywords: Paediatric otolaryngological surgeries, Adenotonsillectomy, Direct laryngoscopy, Tracheostomy, Upper airway obstruction.

I. Introduction

Children constitute a large percentage of the patients seen in everyday otolaryngology clinics Worldwide ¹. Paediatric otolaryngological surgeries represent a major part of all otolaryngology surgeries ^{1, 2}. Otolaryngological diseases which are common in children and infants are responsible for considerable morbidity and mortality especially in developing countries ². It is also known that preventable otolaryngological diseases such as chronic suppurative otitis media, foreign body insertion, foreign body ingestion and aspiration are important healthcare challenges in children and infants in Sub Saharan Africa ¹.

Other conditions, such as obstructive tonsils and adenoid, recurrent tonsillitis and otitis media with effusion are known common medical problems in children with associated frequent morbidity and a common cause of hearing impairment. The types of paediatric otolaryngological surgeries performed by otolaryngologists vary from one population to another depending on the availability of adequate facilities and expertise ¹.

Common paediatric otolaryngological procedures done Worldwide include the; insertion of grommets for glue ear, tonsillectomy, adenoidectomy; adenotonsillectomy; septoplasty; direct laryngoscopy; oesophagoscopy and tracheostomy just to mention but a few ³⁻⁸. At the moment, there is paucity of data on paediatric otolaryngological surgeries in our setting. Hence, this study determined the pattern of paediatric otolaryngological surgeries in our environment with the aim of generating information and knowledge for the planning and improvement of paediatric otolaryngological services in our region.

II. Patients And Methods

This was a retrospective study of paediatric patients who had otolaryngologic surgeries in the department of Ear Nose and Throat (ENT) surgery of the University of Port Harcourt Teaching Hospital (UPTH), Port Harcourt from January 2000 to December 2012. The patient's data were retrieved from the theatre and clinic registers. The patients' case notes were used to augment the data. Demographic data, types of otolaryngological surgeries (otologic, rhinologic, laryngologic and others), outcome of surgeries and complications were recorded. Results are represented in percentages, frequency tables and pie chart. All statistical analysis was done using the SPSS version 21 software.

III. Results

Four hundred and ninety five patients had otolaryngological surgeries during the study period. There were 261 males and 234 females (male: female ratio of 1.1:1.0). Age range was 5 days to 16 years, mean = 9.4 +/- 2.6 years. Age group 2-4 years has the highest number of surgeries (Table 1). The commonest otological procedure done was examination under anaesthesia of the ear and extraction of foreign body from the ear (Table 2). The commonest rhinological procedure done was examination under anaesthesia of the nose and nasopharynx and extraction of foreign body from the nose (Table 3). The commonest laryngological procedure done was direct laryngoscopy + extraction of foreign body from the larynx (Table 4). The commonest otolaryngological surgery done was adenotonsillectomy (Table 5). The outcome of the surgeries for majority of our patients was good even though mortality was recorded in 5 cases (Figure 1).

Table 1: Patient age distribution

Age range (years)	Number	Percentage (%)
< 2	95	19.2
2-4	180	36.4
5-7	85	17.2
8-10	70	14.1
11-13	35	7.1
14-16	30	6.1
Total	495	100.0

Table 2: Types of otological surgeries

Otological surgery	Number	Percentage (%)
Aural polypectomy	10	20
E/U/A of the ear +extraction of foreign body	25	50
Meatoplastyl	4	8
Mastoidectomy	2	4
Excision biopsy of auricular cyst	6	12
Pre-auricular sinus excision	3	6
Total	50	100

Table 3: Types of rhinological surgeries

Rhinological surgery	Number	Percentage (%)
External fronto-ethmoidectomy	4	10.3
Trephination of frontal sinus	1	2.6
E/U/A of the nose and nasopharynx + extraction of foreign body from the nose	24	61.5
Intranasal polypectomy	6	15.4
Drainage of septal abscess	4	10.3
Total	39	100.0

Table 4: Types of laryngological surgeries

Laryngological surgery	Number	Percentage (%)
Direct laryngoscopy + extraction of foreign body	105	51.2
Tracheostomy	90	43.9
E/U/A of the larynx + biopsy	10	4.9
Total	205	100.0

Table 5: Other otolaryngological surgeries

Other otolaryngological surgeries	Number	Percentage (%)
Adenotonsillectomy	130	64.7
Tonsillectomy	24	11.9
Eosophagoscopy +extraction of foreign body	36	17.9
Bronchoscopy + extraction of foreign body	4	1.9
Uvalopalato-pharyngoplastyl	3	1.4
Drainage of retropharyngeal abscess	4	1.9
Total	201	100.0

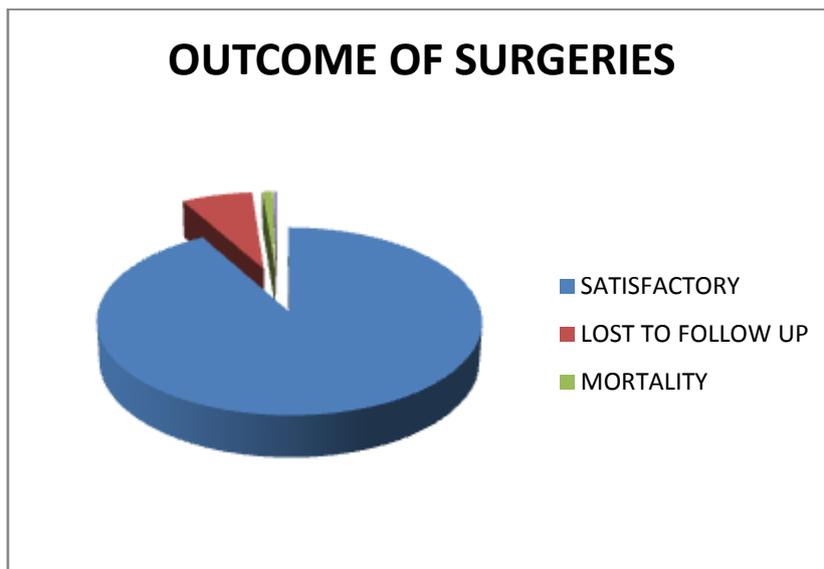


Figure 1: Outcome Of Surgeries

IV. Discussion

The number and variety of paediatric otolaryngological surgeries carried out in our centre is dependent on the surgical skill available, the volume of patients, the availability of appropriate surgical equipments, the cost of surgery and the internal policies of the hospital^{9,10}.

Children within the age range 2-4 years had the highest number of otolaryngological surgeries carried out in our series. This finding was not a surprise to us in view of the fact that the commonest procedures we carried out were adenotonsillectomy and extraction of foreign bodies from the ear, nose and larynx. Age group 2-4 years has been associated with the putting of foreign bodies in their orifices while playing^{8, 11, 12}. Furthermore, the children are also prone to obstructive tonsils and adenoid^{6,13}.

Tracheostomy was commonly done in our series this was due to the high incidence of foreign body aspirations and late presentation of the patients. Tracheostomy on several accessions was done to secure the airway first before attempting to do direct laryngoscopy and extraction of foreign body from the larynx^{7, 8, 12}.

Some paediatric otolaryngological surgeries can pose major challenges to the inexperienced otolaryngologist especially in procedures like rigid bronchoscopy for the extraction of foreign body from the bronchus, esophagoscopy and extraction of foreign body from the esophagus and direct laryngoscopy for the extraction of foreign body from the larynx.

Unfortunately, in our series mortality was recorded in 5 cases, 2 of the patients had cardiac arrest on the table during bronchoscopy procedure, 1 patient died from the complication of tracheostomy (accidental decanulation post operatively) and the remaining 2 patients from the complications of adenotonsillectomy. Our experience in our center does not differ from the experience of other researchers in other parts of our country^{2,7, 13, 14, 15, 16, 17, 18}. However, the outcome of the majority of the procedures we carried out was satisfactory despite the set-backs we had in terms of inappropriate and inadequate facilities.

The pattern of the paediatric otolaryngological surgeries found in our series is in contra-distinction from what is obtainable in the developed countries where the commonest paediatric otolaryngological procedures are the insertion of grommet for glue ear, myringoplasty, septoplasty, microlaryngoscopy, functional endoscopic sinus surgeries and tympano-mastoidectomies just to mention but a few^{3,5}. The expertise for these common paediatric otolaryngological procedures is not lacking even though they are very few within our environment but the appropriate facilities/equipments and consumables are lacking.

V. Conclusion

This survey has established the pattern of paediatric otolaryngological surgeries as seen in the University of Port Harcourt Teaching Hospital, Nigeria. It has also highlighted the areas of deficiencies and some challenges faced in the management of some of the patients. Therefore it will be appropriate for the government to improve the funding of the hospitals and provide all the necessary and appropriate facilities/manpower to cater for the teeming paediatric population.

References

- [1]. Ibekwe MU, Mbalaso O.C. Pattern of Paediatric Ear, Nose and Throat Diseases in Port Harcourt, South, South, Nigeria. *The Nigerian Health Journal* 2015; 5(2): 48-54.
- [2]. Fasunla AJ, Samdi M, Nwaorgu OG. An audit of Ear, Nose and Throat diseases in a tertiary health institution in South-western Nigeria. *The Pan African Medical Journal*. 2013; 14:1.
- [3]. Hamid A, Satter F, Shah-e-Din. Prevalence rate and morbidity pattern of common ENT diseases and disorders in infants and children. *Journal of Postgraduate Medical Institute*, 1991; 5(2):59-67.
- [4]. Maw AR. Is your grommet really necessary?. *Archives of Disease in Childhood* 1987; 62: 656-658.
- [5]. Kishve SP, Kumar N, Kishve PS, Aarif SMM, Kalakoti P. Ear, Nose and Throat disorders in paediatric patients at a rural hospital in India. *Australasian Medical Journal AMJ*. 2010; 3(12):786–790.
- [6]. Onotai LO, da Lilly-Tariah OB. Adenoid and Tonsil Surgeries in Children: How relevant is Pre-operative blood Grouping and Cross-matching? *African Journal of Paediatric Surgery* 2013; 10(3): 231-234.
- [7]. Onotai LO, Etawo US. An audit of Paediatric Tracheostomies in Port Harcourt Nigeria. *International Journal of Medicine and Medical Sciences* 2012; 2(7):148-53.
- [8]. Onotai LO, Ibekwe MU, George I. Impacted Foreign Bodies in the larynx of Nigerian children. *Journal of Medicine and Medical Sciences* 2012; 3(4): 217-21.
- [9]. Onotai LO, Mbalaso OC. Rhinologic Surgeries in the University of Port Harcourt Teaching Hospital: A 5 years retrospective analysis. *Gazette of Medicine* 2014; 3(1): 241-245.
- [10]. Lasisi O Otolaryngological Practice in the Tropics: A Profile of Met And Unmet Needs. *The Internet Journal of Otorhinolaryngology* 2007; vol 7 no 2
- [11]. Okoye BCC, Onotai LO. Foreign Bodies in the Nose. *Nigerian Journal of Med*. 2006; 15(3):301-04.
- [12]. Ibekwe MU, Onotai LO, Otaigbe B. Foreign bodies in the Ear, Nose and Throat in children: a five year review in Niger Delta. *African Journal of Paediatric Surgery* 2012; 9(1): 3-7.
- [13]. Da Lilly-Tariah O.B., Peterside O.A. The Scope of Ear, Nose and Throat Surgeries in The Theatre of University of Port Harcourt Teaching Hospital. *Journal of Med in the Tropics* 2008; 10 (1):15-22.
- [14]. Adoga A, Nimkur T, Adekwu A, Ma'an N. An Audit of Otorhinolaryngological Practice In A Nigerian Teaching Hospital. *The Internet Journal of Otorhinolaryngology*. 2009 Volume 9 Number 1
- [15]. Ibekwe TS, Nwaorgu OGB, Onakoya PA, Ibekwe PU. Spectrum of Otorhinolaryngological emergencies in elderly in Ibadan, Nigeria. *Nig J Med*. 2005; 14 (4):411–414.
- [16]. Ibekwe MU, Onotai LO, Nwosu C. Ear, Nose and Throat injuries in a Tertiary Institution in Niger Delta region of Nigeria. *Journal of Medical Research and Practice* 2012; 1(2): 59-63.
- [17]. Ibekwe MU. An Audit of Otolaryngological Practice in a Tertiary Institution in the Niger Delta Region of Nigeria. *The Nigerian Health Journal* 2013; 13(1): 54-57.
- [18]. Sogebi OA, Olaosun AO, Tobih JE, Adedeji TO, Adebola SO. Pattern of Ear, Nose and Throat Injuries in Children at Ladoke Akintola University of Technology Teaching Hospital, Osogbo, Nigeria. *African Journal of Paediatric Surgery*. 2006; 3(2):61–63.