

Distribution of ear, nose and throat (ENT) lesions: an eleven year retrospective study

Abstract

Aim/objective: The study is to determine the distribution of Ear, Nose and Throat lesions in the university of Calabar Teaching hospital (UCTH) as recorded in the Department of Pathology.

Background: Ear, nose, and throat (ENT) diseases are responsible for considerable morbidity among infants and young children. Acute infections of upper respiratory as well as recurrent disease and disorder of Ear, Nose and Throat are more common in early stages of life. In developing countries, otorhinolaryngological services are overcrowded, with patients suffering from acute and chronic complaints.

Methodology: The study consists of all patients who presented ENT lesions seen in the pathology Department of University of Calabar Teaching Hospital from 2009-2019. The data obtained was analysed

Results: The data collected were for a period of eleven years (2009-2019). A total of 1051 lesions were seen. Adenoid and tonsil (throat) were the most common lesion; followed by nasal and paranasal sinus and then other regions. There were more benign lesions than malignant and inflammatory. The peak incidence of the lesions was in 2012.

Conclusion: Our study showed throat as the most common location of ENT lesion. There is a need for the Nigerian otolaryngologist to embark on a national survey of ENT diseases, so as to find the probable aetiological factors, establish regional variation in the incidence of ENT diseases and to stimulate research into the development of preventive measures.

Keywords: otorhinolaryngology, lesion, throat

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Introduction

Ear, nose, and throat (ENT) diseases are the cause of significant morbidity among young children and infants. Acute infection of upper respiratory region and reoccurring disease and disorder of ENT are more frequent in the early stages of life. If left untended to, it may cause complications and endanger the life of the persons involved and could alter developmental capability of the child.¹ It is essential to know that ENT diseases are a serious public health problems having global distribution and affects every age groups.^{2,3} There are two main categories of classification for these diseases. These are congenital and acquired diseases (based on the presentation time). They are further divided based on etiological causes into inflammatory (infective or reactive) diseases, neurologic diseases, toxicity, metabolic disorders, vascular diseases, trauma, neoplasm (benign and malignant) and so on.⁴ In low and middle income countries, services of otorhinolaryngological are overly crowded with patients having acute and chronic complaint and this results in lengthy period of waiting.^{5,6} Due to the rising incidence of road traffic accidents and industrial disasters, ENT and emergencies of head and neck are increasing hence being a challenge to ENT surgeon attending to patients.⁷

In the head and neck, malignancies of the larynx are relatively not common. However, it arises from any of the epithelial and nonepithelial larynx structures. Squamous cell carcinoma is the commonest histological variant (85–95% of all malignant tumors of the larynx).⁸ The World Health Organization reports it as the 2nd commonest cancer of the upper aerodigestive tract.⁹ The occurrence is more in people over 40 years old and in males. The location of lymph nodes is along the lymphatic channel which mediates the flow of the interstitial fluid from capillary plexus to the venous trunks. Along

these channels, a lymph node (or more) may be found. The fluid passes through the lymph node via capillary sized channels before being secreted by the efferent lymphatic. Thus, the status of lymph node is an indicator of possible pathologies from areas that drains into the lymph node.¹⁰ The lymph nodes are a vital part of the immune system (a complex system whose responsibility is to properly deal with foreign substances).¹¹

The nose is an organ that helps in perception of smell and also has aesthetic benefits. It is the most sensitive facial part. The nasal cavity (or nasal fossa) refers to a large air filled space in the middle of the face above and behind the nose. The cavity (each of them) is a continuation for each of the nostrils. Nasal cavity lesions are relatively common.¹² Nasal cavity diseases include viral, bacterial and fungal infections, nasal cavity tumors and also inflammation of the nasal mucosa. Deviated nasal septum, common cold, nasal polyp, bleeding nose, rhinitis and broken nose are most common lesions that affects nasal cavity. The most common cause of nasal obstruction is nasal polyps and the commonest causes of nasal polyps are allergies, asthma and infections.¹³ Malignancies of the nose and paranasal sinuses account for <1% of all cancers and approximately 3% of all head and neck malignancies. It has a tendency geographically to affect Africans, Japanese, and Arabs. In Western Europe and America, it is rarer.¹⁴

Pharyngeal cancer consists of malignancies of the nasopharynx, oropharynx and hypopharynx.¹⁵ In the Cantonese population, 18% of all malignant neoplasms of the head and neck region are accounted for by nasopharyngeal cancer. The peak incidence in Chinese people is the 4th decade whereas for non-Chinese, it's the 6th decade.¹⁶ Oropharyngeal carcinoma records an incidence of 6–8 per million

in UK yearly while USA records 60 per million. The highest age of incidence is seen in the 7th decade; however in recent time there exists a change to 4th and 5th decade.¹⁶ Hypopharyngeal tumours are often seen in advanced state. Oral and oropharyngeal malignancies accounts for 3% of all malignancies in the USA yearly, with about 50% of people diagnosed dying due the disease.¹⁷

The salivary gland consists of three major paired glands (the parotid, submandibular and sublingual) along with numerous minor salivary glands, located majorly in the oral cavity.¹⁸ Salivary gland tumors are rare, representing 2-10% of all head and neck tumors in documentations.¹⁹ They are various benign and malignant pathologic types. Thyroid diseases have a female preponderance. A remarkable female preponderance has been documented for all thyroid lesions besides thyroglossal duct cyst which exhibits no gender predilection.²⁰ Malignancy of the thyroid isn't uncommon, and is a differential diagnosis in patients presenting with enlarged the anterior neck region. It represents 1.0% to 2.1% of all malignancies worldwide.²¹

Ear wax is the most common ENT disease then acute otitis media (AOM) and chronic supportive otitis media (CSOM). Earwax affect 6% of population generally and globally is regarded as a major health problem.^{22,23} A study by Rivero et al.²⁴ in 2005 concluded that the commonest causes of ENT emergencies are nasal trauma and epistaxis followed by otitis externa and there is an increasing demand for emergency attention.

Methodology

The study was a retrospective review of patients with ENT lesions in the University of Calabar Teaching Hospital for over an 11-year (2009-2019) period with a clinical diagnosis and histological confirmation.

The records of histologically confirmed malignancy were obtained from the register of Department of Pathology, University of Calabar Teaching Hospital. Only cases with histological confirmation were included. Cases which had incomplete documentation were excluded from the final analysis and the results analyzed using Microsoft Excel 2007 edition and presented in Tables, Figure, and percentages.

Results

A total of 1051 cases of ENT lesions were seen. Adenoid and tonsil (throat) was the most common otorhinolaryngological ENT lesion (70.41%); followed by nasal/paranasal sinus (10.66%) and then other regions (Table 1, Figure 1). Our study recorded more benign than malignant and inflammatory lesions (only lymph node and pharynx had more malignant than benign lesions) (Table 2). The total number of cases from each year was also found. The peak incidence was seen in 2012, followed by 2019. 2019 is closely followed by 2010 and 2016 (Table 3).

Table 1 Anatomical distribution for ENT lesion from 2009-2019 in UCTH

Anatomical location	Male	Female	Frequency	% total
Adenoid/tonsil	425	315	740	70.41
Thyriod	9	75	84	7.99
Salivary gland	10	14	24	2.28
Nasal/paranasal sinus	56	56	112	10.66
Lymph node	14	6	20	1.9
Aural/peri-auricular	11	12	23	2.19
Larynx	14	2	16	1.52
Pharynx	20	12	32	3.04
Total	559	492	1051	

Table 2 Distribution of different ENT lesions type by Anatomical site from 2009-2019 in UCTH

Anatomical location	Malignant (100%)	Benign (100%)	Inflammatory (100%)
Adenoid/tonsil	-	100	-
Thyriod	3.57	94.04	1.19
Salivary gland	37.5	58.33	4.16
Nasal/paranasal sinus	8.92	73.21	17.85
Lymph node	42.1	10.52	47.36
Aural/peri-auricular	13.04	60.86	26.08
Larynx	13.04	60.86	26.08
Pharynx	75	15.62	9.37

Table 3 Age distribution of patients with ENT lesion from 2009-2019 in UCTH

Age range	Frequency										
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
0-9	29	40	57	112	59	49	39	57	66	53	58
19-Oct	6	4	7	11	7	6	8	12	9	7	13
20-29	11	16	11	19	8	7	3	7	4	3	5
30-39	17	10	6	12	11	4	3	14	3	6	12
40-49	7	13	8	9	6	4	1	3	6	3	7
50-59	6	7	2	1	4	1	1	6	6	6	8
60-69	1	8	4	-	1	-	1	2	-	-	6
70-79	2	2	-	-	-	1	-	-	2	1	-
80-89	-	2	-	1	-	-	-	-	-	-	-
>90	-	-	-	-	-	-	-	-	-	-	-
Total	79	102	96	165	96	72	56	101	97	79	109

Discussion

Otorhinolaryngological (head and neck) disorders are a common cause of health care seeking behavior globally.²⁵ ENT emergencies

are common in every community. Early diagnosis and management will lead to a decrease in death rate and morbidity²⁶ however a documentation from urban center in Ireland concluded that there was noticeably a lack in primary involvement of ENT deaths in regions

of facial and neck trauma.²⁷ Malhotra et al.,²⁸ reported most of ENT emergencies to be trivial requiring treatment without admission. Various studies available, point in the direction that foreign body along with ENT infections are the two most common etiologies of cases presenting to emergency care unit.^{21,26}

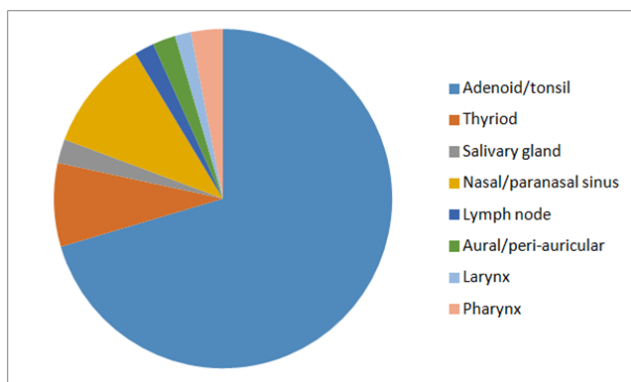


Figure 1 Distribution for ENT lesion from 2009-2019 in UCTH.

The findings in this study include a high prevalence of otorhinolaryngologic diseases and predilection for younger ages, although there was gender predominance. Our study showed higher number of cases for the 0-9 age group. This is in accordance with the study of Eziyi et al.,²⁹ who studied Prevalence of Otolaryngological diseases in Nigerian, prevalence was more common in the first decade of life. A hospital-based study revealed that adolescents and young adults are seem to be the patients who seek more otorhinolaryngological care.²⁸ This could be a reason for the younger ages having a higher number. Our study also showed a higher number of males affected than females. This is in contrast with some works that reported that the number of females was slightly more than that of the males in their finding.^{28,30}

Our study showed adenoid and tonsil (throat) as the most common ENT lesion. This is in line with the work of Galletti et al.,³¹ who also noted that throat infection is the leading ear, nose, throat, head, and neck infection due to zoonotic agent. Adenoid and tonsil being the most common ENT lesion is in contrast with the work of waheed et al.,³² who found sinonasal diseases as the most common. The higher incidence of adenoid and tonsil could be due to high proportion of children in the study. High percentage of upper respiratory tract infection in this age group is due to their low immune status. However, National Cancer Registry, ICMR, 2005 reported Laryngeal cancer as the common cancers of the throat. According to research of National Cancer Registry, ICMR, 2005 report, laryngeal cancer occurs at 3.29 new cases in male and 0.42 new cases in female per 100,000 populations. Another study was conducted on black South Africans for the risk factors of laryngeal cancer and it was found that smoking and alcohol were the major causes of laryngeal cancers.³³

Our study on nasal and paranasal showed 73.21% benign, 8.92% malignant and 17.5% inflammatory. This is in contrast to the study of Jaison and Tekwani, 2015³⁴ who studied Histopathological lesions of nasal cavity, paranasal sinuses and nasopharynx and found 74.04% inflammatory and tumor like, 13.6% malignant and 12.5% benign. Inflammatory polyps is seen as the most benign and squamous cell carcinoma as the most malignant. This is in line with Bandil et al., 2019.³⁵ Our study showed a 94.04% of benign lesions for thyroid which is in line with the work of Solomon et al., 2015.³⁶ Who recorded also recorded higher benign cases than others. Larynx showed a 60.86% benign, 13.04% malignant and 26.08% inflammatory. The

most common malignant is squamous cell carcinoma. This is in line with the work of Somefun et al.,³⁷

Pharynx showed 15.62% benign, 75% malignant and 9.37% inflammatory. There was male preponderance seen. Male preponderance is also seen in the study of Bhagat et al.³⁸ Lymph node showed 10.52% benign, 42.10% malignant and 47.36% inflammatory. This is in line with the work of Pagaro et al.,³⁹ who recorded 66.5% benign and 33.5% malignant for histological examination. Aural/preaural showed 60.86% benign, 13.04% malignant and 26.08% inflammatory. Our study found preponderance of the disease in males which was similar to the findings in Ilorin and Ibadan in Nigeria by Jimoh et al.⁴⁰ Salivary gland in our study showed 58.33% benign, 37.50% malignant and 4.16% inflammatory with pleomorphic adenoma the most prevalent lesion.. This is in line with the work of Formete et al.,⁴¹ who worked on Management of salivary gland tumors in a Nigerian tertiary institution.

A study conducted in India on ENT disorders in children, recorded that otitis media is commonest in male children (53.2%). Most of these children came from families of lower socioeconomic status and children living in combine families.⁴² Similar study was conducted on children in UAE and the results showed that otitis media was the 2nd most common disease after rhinitis.⁴³ Based on the age range of trauma cases, peak number of cases was between 25 and 40 years. This was the documentation of the study of Sharma et al.,⁴⁴ who studied Epidemiological Profile of Otorhinolaryngological Emergencies at a Medical College, in Rural Area of Gujarat.

Conclusion

Our study showed throat as the most common location of ENT lesion. There is a need for the Nigerian otolaryngologist to embark on a national survey of ENT diseases, so as to find the probable aetiological factors, establish regional variation in the incidence of ENT diseases and to stimulate research into the development of preventive measures.

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Conflicts of interest

The author declares there is no conflict of interest.

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