

Otological Emergencies among the Northern Nigerian children**O.A. Afolabi¹, A.M. Kodiya², A. Bakari², B.M.Ahmad³.**¹Senior Registrar, University of Ilorin Teaching Hospital Ilorin, Nigeria.²Consultants, ³Professor National Ear Care Center, Kaduna, Nigeria.**Correspondence to:** Dr O.A.Afolabi, Dept. of Otorinolaryngology, University of Ilorin Teaching Hospital, E-mail: droaafolabi@yahoo.com.

Background: Swift recognition and prompt institution of management is very crucial to successful outcome of otologic emergencies. The aim and objective of the study was to determine the spectrum of pediatric otologic emergencies in northern Nigeria.

Methods: A retrospective study to review of 1497 paediatric otologic emergencies aged one month to 14 years seen at National ear care centre, Kaduna between 2002 and 2006 inclusive was done. The records of all these patients were retrieved, studied and information collected analyzed. The data extracted for analysis included – biodata, clinical presentation diagnosis and treatment outcome.

Results: There were 943 male and 554 female with M: F ratio of 1.7:1. Their ages ranged from 1month to 14 years with a mean age of 4.95years (SD=4.15). A total of 928 (62%) were infants and preschool age groups (under fives). Acute suppurative otitis media was found in 573 (38.3%), was the commonest otological condition diagnosed followed by acute otitis media in 22.6% and foreign body in the ear in 222(14.8%).The least frequent were CSF otorrhea, and ramsay hunt disease which constituted 0.07%.

Conclusion: Acute suppurative otitis media, acute otitis media and foreign body insertion into the ear still constitute the common otological emergencies in Northern Nigeria. These are all preventable emergencies through community health education, training of community health worker to recognize the symptom and signs of ear disease with early referral.

Introduction

Emergency services are an integral part of any discipline in clinical medicine and it is considered as an indicator of the quality of health care system. Emergency can occur at any time and for this reason every health care provider should have specialized emergency services of all discipline round the clock¹. Children are very inquisitive, eager to explore their environment and probe around the body orifices, especially within the head and neck region². In United state, otolaryngologic emergencies are reported to represent between 30-80% of presentation seen by emergency department physician^{3, 4}. This not only suffers the patients but inconvenience the parents and other members of the family⁵.The greater challenges is envisaged in the developing countries, where poverty, ignorance, insufficient personnel and lack of basic health facilities abound². Nigeria is divided into six geo-political zones however the northern part constituted about a third in terms of land mass and Kaduna where the national ear care center (NECC) is located is the headquarter of the old northern region.

The aim and objective of the study is to determine the spectrum of pediatric otologic emergencies in northern Nigeria.

Patients and Methods

This was a retrospective study to review of 3977 paediatric patients seen from January 2002 to December 2006 aged 1month to 14years; 1497 were otologic emergencies. The records of all these patients were retrieved and those with Otologic emergencies were further studied for analysis. The data extracted for analysis included – biodata, clinical presentation diagnosis and treatment outcome. The results were presented in simple descriptive forms, tables and figures.

Results

Table 1. Age Distribution

Age	Frequency	Percentage
Infants (1/12-11/12)	256	17.10
Preschool (1yr-5yrs)	672	44.90
School age (>5yrs-10yrs)	349	23.30
Adolescent (>10-14yrs)	220	14.70

Table 2.

Ear condition	Frequency	Percentage
Acute otitis media	338 R 242 L 96	22.58
Acute suppurative otitis media	573 R 372 L201	38.28
Myringitis	34	2.27
OME	44	2.94
CSF Otorrhea	1	0.07
TM perforation	19 R 11 L 8	1.27
Mastoiditis	6	0.40
Preauricular Abscess	12	0.80
FB (ear)	222 R 124 L98	14.83
Otalgia? cause	33	2.20
Otitis externa	164	10.96
Ear trauma	35	2.34
Ramsay hunts	1	0.07
Angioneurotic of pinna	2	0.13
Parotitis	13	0.87
Total	1497	100

The total paediatric patients seen were 3977 out of which the otologic emergency presentation constituted 1497. There are 943 male and 554 female with a M:F ratio was 1.7:1 aged between 1month-14years mean age of 4.95years (SD=4.15). A total of 928 (62%) were infants and preschool age groups (under fives) (Table 1). Acute suppurative otitis media was found to be the commonest otological condition in 573 (38.3%) and this was commoner on the right ear than the left ear in the ratio of 2:1. Acute otitis media occurred in 22.6% of cases and also affected the right ear more than the left. Foreign body in the ear was the third commonest condition and it constituted 222(14.8%) of patients and was also commoner in the right than the left ear in the ratio of 1.3:1. Other otological emergency were otitis external which was found most of the time to be a boil or inflammation of the wall of the external auditory canal in 164 (11%), the least common conditions were CSF otorrhea, and ramsay hunt disease both of which constituted 0.07% each (Table 2). Most lesion were seen more on the right ear than the left ear.

Discussion

Otolaryngologic emergencies are found to be commoner among the under fives⁶. This is the age of experimentation, exploration and exposure. Otitis media is known to be a spectrum of disease ranging from an acute non suppurative otitis media to chronic transformation of the disease which includes chronic suppurative and nonsuppurative diseases particularly when it is not treated or partially treated⁷. Otitis media is one of the most common childhood infections, it is a preventable disease but common. It is the most common diagnosis made by otolaryngologists among children in Nigeria⁸, which is also a similar finding in our center with a hospital prevalence of 3.76% among children which is higher than 2.4% found by Ako-Nai et al in a

similar study conducted at a comprehensive health centre in south-western Nigeria⁹. The difference may have been due to the higher denominator of patients using our health facility (National ear care center, Kaduna) where this study was conducted compared to that of Ako-Nai. Our facility is the only center in Nigeria that cares only for ear, nose and throat. It serves as a regional referral center and also delivers tertiary care to the whole of northern Nigeria. Similarly the prevalence in this study is higher than the community based study by Zakzouk who reported a prevalence of 1.05% amongst Saudi Arabian children in a nationwide survey¹⁰. This high prevalence could be attributed to increase rate of self ear cleaning common among the nursing mothers, high rate of breast feeding in lying position, upper respiratory infections, force-feeding of children, horizontal nature of the Eustachian tube, immaturity of the immune system and foreign body insertion into the ear by these children¹¹⁻¹⁵. The male to female ratio was found to be 1.7:1 which is similar to findings by Akinpelu et al in Ife south-western Nigeria¹⁶

Acute otitis media was found to be the second commonest emergencies from our study and was found to be prevalent among the under fives which agrees with other existing literature¹⁷. Early symptoms of AOM are similar to that of acute malaria in the same age group. Malaria being endemic in this environment gets a lot of attention and most febrile children would have been treated for malaria before considerations for other diagnosis are made. Also routine otoscopy is not carried out by the health care giver even pediatricians who are the first to see these children before being treated for malaria. This further delays diagnosis until late when the ear discharge is obvious or when other complications would have set in. Amusa et al found AOM in 29% of febrile under five children who would have been treated for malaria alone to have AOM¹⁸ compared to our study where we found 22.6%.

Foreign body in the ear was the third commonest otolaryngologic paediatric emergencies in our study. About 57% occurred in children less than 5 years old. The most common foreign bodies are beads, maize seed, insects (cockroach), cotton buds, stone and bean seed. The prevalence was similar to the studies at the Lagos University Teaching Hospital (LUTH) Lagos (southwest Nigeria) and at the University of Nigeria Teaching Hospital (UNTH) Enugu in Southeast Nigeria^{19,20}. This was found to be commoner on the right ear than the left ear as majority of the patient are right handed and it is the most accessible. Otitis externa was the next common otologic emergency. It is one of the causes of ear ache. It can be genetically predetermined or influenced (narrow canal, extensive ear wax formation or inherited eczematous tendency); environmentally induced by heat, humidity and swimming; traumatic and self induced match stick, hairgrip or cotton bud scratch with subsequent infection as all contributory factor in our study²¹.

The diagnosis of otitis media with effusion from this study was made on clinical grounds and tympanometric findings, it was found in 2.9% of the study population. This was low when compared with findings by Okeowo et al in Lagos²², Nwawolo et al²³ and 10% among paediatrics in Europe and America^{24,25}, this may be due to the fact that it is a retrospective study and a need for a prospective study to find the prevalence in this part of the country. Majority of the patient presented with otalgia, fullness and hearing loss most of which was found among children between 5-10yrs. The least otological emergency presentation seen in our centre were Ramsay Hunt disease which has been complicated with facial nerve palsy and CSF Otorrhea post RTI which from record presented within five hours of injury as a referral and was managed conservatively.

In conclusion acute suppurative otitis media, acute otitis media and foreign body insertion into the ear still constitute the common otological emergencies in this part of the country. This can result into both conductive and sensorineural hearing loss, causes of which are preventable through community health education, training of community health worker to recognize the symptom and signs of ear disease with early referral.

There is need for continuous medical education for the other health practitioners on ear care and adequate treatment of infectious diseases as the specialist practice is only available to those that have access to tertiary care.

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