

Common ORL Surgical Emergencies in Sudanese Children

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Abstract

Background: Otorhinolaryngology (ORL) emergencies in children age group are of specific concern because they may become life threatening conditions

Objective: To obtain baseline data on the most common Otorhinolaryngology (ORL) surgical emergencies in Sudanese children in Gezira State, Sudan.

Methods: This is a retrospective analytic hospital based study of all children who presented with ORL surgical emergencies at the department of Ear, Nose and Throat (ENT), Wad-Medani Teaching Hospital, Gezira State, Sudan, during the period from 1st of January 2009 to 31st of December 2010.

Results: The total number of children who presented to the ENT department was 5568(31%) of the total frequency of all patients. The total number of children admissions was (54.6%) of all patients' admissions. Emergency Surgical intervention indicated for children constituted (63.9%) of all emergency operations. Most cases (66%) occurred between the ages of six weeks to five years, with a male to female ratio of 1.15:1.0. Foreign body impaction emergencies were the most common presentation (83%) requiring surgical intervention. The sites of impaction were; the bronchus (31.45 %), the pharynx and oesophagus (22.77%), the ear (20.46%) and nose (7.26%).

Conclusions: Children have always constituted a significant proportion of patients attending the general otolaryngology service. Upper aero-digestive tract foreign bodies are the most common indication for urgent surgical intervention. These emergencies are potentially life-threatening procedures with a high running cost and requiring very skilful staff and appropriate equipments. Public health education is essential in order to prevent these avoidable accidents.

Key words: Otorhinolaryngology (ORL), Surgical, Emergency, Children, Foreign body (FB).

Health problems related to children particularly emergencies are always of great concern to the public, health care providers and the authorities. Otorhinolaryngology (ORL) emergencies in children age group are of specific concern because they may become life threatening conditions; compromising the airway such as foreign body (FB) in the bronchus. Paediatricians should be aware of them for early diagnosis and proper management or referral to ORL service^{1,2}. Most such emergencies cannot be handled in the general (A & E) departments; they need special care in ORL settings where equipments and

a large proportion of paediatric ORL emergencies is FB related. In spite of the known anatomical, physiological and developmental factors related to FB emergencies, home environment and child neglect are directly predisposing factors in these cases. Thus, public health awareness is essential in order to prevent such problems.

The objective is to obtain a baseline data on the most common ORL surgical emergencies in children in Wad Medani Hospital in Gezira, Sudan.

Methods:

This is a retrospective analytic hospital based study including all children who presented to the paediatric otolaryngology at the Department of Ear, Nose and Throat, Wad Medani Hospital in Gezira, Sudan. The study duration was from the 1st of January 2009 to the 31st of December 2010. All patients' records of the specified age group were studied for age, sex and clinical diagnosis.

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Preterm newborns and children over sixteen years of age were excluded. Data was carefully collected and then analyzed for children requiring urgent surgical intervention. Results were analyzed and presented in percentage and table forms.

Results

The total number of children who presented to the ENT Department was 5568 which constituted (31%) of the total frequency of all patients (n = 18034). The total number of admissions for children was 1615 which accounted for (54.6%) of the total patients' admissions (n = 2957). Emergency Surgical intervention was indicated for 303 children which constituted (63.9%) of all ORL emergency operations (n = 474). There is a

slight male predominance, with a male to female ratio of 1.15:1.00 (Table 1). The age distribution ranged from six weeks to 16 years. Most emergencies (66%) occurred in the under five year age group, followed by age group 6 to 10 years (24%) and age group 11 to 16 years (10%) (Table 2). Foreign body (FB) related emergencies (n = 248) were the most common presentation (83%) requiring surgical intervention. The common sites for FB impaction were; the bronchus (31.45%), the pharynx and oesophagus (22.77%), the ear (20.46%) and the nose (7.26%). Other emergencies included; mastoid abscess (4.29%), deep neck space abscess (3.96%), tracheostomy (2.64%) and others (5.94%) (Table 1 and 3).

Table 1:types, numbers and sex distribution of ORL surgical emergencies in children

Type of Emergency	Sex		Total Numbers	Percentage (%)
	Boys (n)	Girls (n)		
Foreign Body Bronchus	50	45	95	31.35%
Foreign Body Hypopharynx & Oesophagus	39	30	69	22.77%
Foreign Body Ear	27	35	62	20.46%
Foreign Body Nose	14	8	22	7.26%
Mastoid Abscess	8	5	13	4.29%
Deep Neck Space Abscess	9	3	12	3.96%
Tracheostomy	4	4	8	2.64%
Foreign Body Larynx	2	2	4	1.32%
Others	9	9	18	5.94%
Total Numbers	162	141	303	100%
Percentage	53.47	46.53%	100%	

Discussion

Children constituted near one third of all patients seen, more than half of all admissions and almost two thirds of the surgical emergencies in the ENT department. This clearly reflects the large work load exerted by this important age group. There was a slight male predominance as was found by Kumar and Gulati⁵. Upper aero-digestive tract

foreign bodies were the most common indication for surgical intervention in children (83%). This is in agreement with, but with much higher percentage than described by Al-Mazrou et al and Al-Mendalawi^{1, 2}. These accidents occurred mainly (in two thirds of patients) in the first five years of life; which is comparable to the findings of Kumar and Higo et al^{5, 6}. This could be explained in terms

Table 2: The total numbers, percentages and age groups of ORL surgical emergencies in children.

	Age groups			Total
	0 – 5 years	6 – 10 years	11 – 16 years	
Number of Cases (n)	200	73	30	303
Percentage (%)	66.01%	24.09%	9.90%	100%

of anatomical factors such as the relatively wider and higher level of the larynx especially below four years of age; physiological factors such as poor reflexes and protective mechanisms when myelination of the nerve tissue is not yet completed particularly in infants. Moreover, developmental factors such as curious growing young child introducing different objects into mouth, nose and ear play part. Furthermore, child neglect and disturbed home environment are predisposing factors; which is also mentioned in many series^{1-3,7}. In Sudanese home environment there are many different kinds of seeds and small fruits available nearby most of the growing young children especially

when not attended by elderly members of the family. This explains the higher incidence in this study. Health education of the public is recommended for prevention of these avoidable problems which are potentially life-threatening and requiring a costly and serious surgical management^{7,8}.

Conclusion

Children have constituted a significant proportion of patients attending the general otolaryngology service. Upper aero-digestive tract foreign bodies are the most common indication for urgent surgical intervention. These emergencies are potentially life-threatening procedures with a high running

Table 3: types, numbers and distribution of ORL surgical emergencies among different age groups.

Type of Emergency	Age Groups			Total
	Up to 5 years	6 to 10 years	11 to 16 years	
Foreign Body Bronchus	73	14	8	95
Foreign Body Hypopharynx & Oesophagus	52	12	5	69
Foreign Body Ear	36	25	1	62
Foreign Body Nose	16	6	None	22
Mastoid Abscess	5	4	4	13
Deep Neck Space Abscess	6	3	3	12
Tracheostomy	2	2	4	8
Foreign Body Larynx	2	2	None	4
Others	8	5	5	18
Total	200	73	30	303

cost and requiring very skilful staff and appropriate equipments. Public health education is essential in order to prevent these avoidable accidents.

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