EAR NOSE AND THROAT INJURIES IN CHILDREN

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Background: This study was carried out to determine types and mechanisms of injuries encountered in Ear, Nose and Throat (ENT) regions of children at two localities of NWFP province of Pakistan.
Methods: This study was carried out at ENT departments of DHQ Hospital, Swabi and Khyber Teaching Hospital, Peshawar, Pakistan from June 2001 to June 2003. Children up to age 15 years presenting in emergency with ENT injuries or reporting at OPDs were included in the study.
Results: 160 children reported with injuries to ENT in this 2 years period. Most of the injuries were in the nasal region (50%) and nasal bone fracture was the commonest (26%). Fall and trauma during playing were the mode of injuries. In children of less than 5 years, the commonest cause of injury was pointed objects in the mouth while in children between 5–10 years the cause was fall. In children of 10–15 years of age the common causes of injury were road traffic accidents (27%) and fall (23%).
Conclusion: It is concluded that injuries of ENT in children are different than in adults. The mechanism of these injuries is also different.
Keywords: ENT, Injuries, nasal fracture, children.

INTRODUCTION

Children encounter injuries to Ear Nose and Throat (ENT) which are considered as an inevitable part of children experience. These are important avoidable causes of death and disability.[1,2] In developing countries like Pakistan and India most deaths below the five years are due to communicable diseases, respiratory and gastrointestinal infections, malnutri-tion and a very few are due to injuries.[3] Injuries are more common cause of mortality and morbidity in adults.[4] Similarly the types of injuries in developing countries are different from those in well developed and industrialized countries.[5]

Injuries may affect different parts of the body and vary in causative factor and age of the child. ENT injuries are not very commonly studied. This study will provide us an insight into types and causes/mechanisms involved in ENT injuries.

MATERIAL AND METHODS

This study was carried out in ENT, Head & Neck Department of DHQ Hospital, Swabi and ENT unit of Khyber Teaching Hospital Peshawar, from June 2001 to June 2003 (A period of 24 months). The patients who were first received by emergency department and then sent for the management of specific ENT injuries were included. Most of them were treated as out patients, a few of them needed admission for some procedures. Patients with injuries to other areas than ENT were not included in this study. The children upto the age of 15 years were included in this study. These children were analyzed for the kind of injuries incurred and mechanism involved. The patients admitted in surgical and orthopaedic units were not included in this study.

RESULTS

The total number of patients included in this study was 160. All patients were treated successfully. Of all patients 121(75.62) were males and 39(24.37%) were females. Fourty four (27.5%) children were below the age of 5 years, 65 (40.62%) in the age group of 10–15 years while the rest were 5-10 years of age. Most of the patients belonged to rural areas. Table–1, reveals overall distribution of various types of injuries observed. The commonest injury seen was fracture of nasal bones (26.25%) followed by perforation or laceration of soft palate (21.8%). Overall the nasal region formed the commonest site of injury.

Table-1: Various Causes of injuries in different age group of children.

Causes	Total No. %	0–5 yrs. %	6–10yrs. %	11–15 yrs. %
Fall	50 80.0	20 32.0	15 24.0	15 24.0
Pointed objects in mouth.	36 57.6	20 32.0	11 17.6	05 8.0
Playing	14 22.4	2 3.2	4 6.4	8 12.8
Road Side accidents	25 40.0	3 4.8	4 6.4	18 28.8
Injury by animal	04 6.4	01 1.6	02 3.2	01 1.6
Blunt Trauma	19 30.4	0 0	09 14.4	10 16.0
Injury by knife	04 6.4	1 1.6	03 4.8	0 0
Fall into the well	01 1.6	0 0	0 0	01 1.6
Sharp glass	04 6.4	01 1.6	02 3.2	01 1.6
Injury by machine tool	01 1.6	0 0	0 0	01 1.6
	02 3.2	01 1.6	0 0	01 1.6

Table–2, shows overall etiological factors of ENT injuries. Falls and accidents accounted about 32% of the injuries, which included falls from roof tops, trees, fall from bed or cots and fall while playing. These injuries with pointed objects in the mouth and road side accidents account about 30% of all the injuries. When patients with the ages less than 5 years were studied, the fall during playing and injury with pointed objects were found. In the ages from 6–10 years the common etiological factors were blunt trauma; fall from steps and during playing. Fall and road side accidents were found in ages between 11–15 years.

Table–2: Residual complications following injuries

Complications	No. of Patients	%
Deviated Nasal septum	10	5.1
External nasal deformity	8	4.2
Nasal Septum perforation	6	3.1
Facial deformity and ugly scar	6	3.1
Trismus	3	1.5
Anosmia	2	1.03
Perforation of tympanic membrane	3	1.5
External auditory canal stenosis	2	1.03
Pinna deformity	2	1.03
Laryngeal Stenosis	1	0.19
Right recurrent laryngeal nerve palsy	1	0.19

DISCUSSION

The injuries of ENT regions of paediatric age groups are not very uncommon. In the present study most of the children were from rural areas, possible because the hospital caters to the many villages around it. In the study of Singh et al[1] more than 80% of the patients were from rural areas. Male dominated the study with male to female ratio of 3:1. The mean age of the patients was 8.8 years, while Synders et al.[6] in a comparative study of trauma in adults and children reported the mean age of 8.2 years with 63% of males. Singh et al[1] also reported average age to be 9.2 years and a male preponderance (81%). The high percentage of males seems to be due to more out door activities than girls. The boys indulge more in cycling, jumping, climbing and other activities. Similar findings have been reported in the past.[7]

It can also be possible that boys are paid more attention than girls in rural population. Hence injured males are rushed to the hospital than females who are first managed at home.[2]

In the present study nose was the commonest site of injury in ENT region accounting for 50% injuries, which manifested in form of fracture nasal bones, soft tissue injury, septal cartilage injury, nasal septal hematoma or abscess and nasal septal perforation. It has been observed in other studies.[1] Septal abscess was the presenting feature in 14% of the cases. All had history of trauma by fall or blunt injury in road side accidents or quarrel while playing. These patients presented with the complaints of progressive nasal obstruction, pain and fever in few cases. Six patients developed perforation of the nasal septum. It is also noted by the study of Agarval and Gupta.[3]

Road side accidents were commonly encountered in older children. This is because of more out door activities and road side cycling in grown up children. Ear involvement with injury to the pinna and external auditory canal were commonly found in road side accidents. Haemo-tympanum with perforation tympanic membrane was found in more severe cases.

Fracutres of maxilla and mandible are also encountered less frequently though the mode of injury in these cases was road traffic accidents or fall from a height. Two of the patients developed post traumatic anosmia. Overall falls and blunt trauma were the commonest causes of injuries, similar observations have been reported from elsewhere.[6,8-10] Falls and road traffic accidents formed the highest etiological factors in older children (11–15 years). The event responsible for falls in the presented study includes falls from the trees, stairs, kite flying and from the walls or roof tops, working at agriculture fields. Falls from the cot or bed or table and chair were seen in children below the age of 5 years. Lack of adequate play grounds in safe areas and toys in rural homes leads children to play with rods, nails, pencils and small sticks. Hence these account as common etiological factors.

CONCLUSION

Several disabilities and morbidity may be precipitated by trauma to ENT, like anosmia, facial palsy and permanent depressed or deformed nose. These have impact on psychological aspect of the child. Thus preventive measures should be carried out for children at risk for injuries to ENT areas.

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