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DISTRIBUTION OF ANIMAL RELATED HEAD AND NECK INJURIES IN KASHMIR VALE

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Abstract

With the increase in encroachment of forests by humans, the incidence of animal contact and subsequent attack has increased. Head and neck region is one of the areas in the human body which gets commonly injured by these animal attacks. Injuries to head and neck is often associated with mortality and morbidity and varying degree of physical and functional damage ranging from simple lacertion to loss of a vital organ like eye. Fractures of the facial bones can result in complications, such as sinusitis, permanent facial deformity, and injury to the eye.

Aim: The study aimed at determining the prevelance of Head and Neck injury admitted at Government Medical College Srinagar from March 2012 to September 2013.

Materials and methods: This study was conducted in Otorhinolaryngology department of GMC Srinagar, It was a prospective cross sectional descriptive hospital based study. 100 patients who were diagnosed of having head and neck injuries were recruited. Information on age, sex and cause of injury was taken. Each patient was then examined for the presence of ear, face and throat injuries, using the available bed side instruments.Data was analysed using the SPSS program.

Results: Out of 100 patients, 64 (64%) were males and 36 (36%) were females, where majority, 57 (57%) were of age group 8-21.Among patients who had trauma in the ORL region, majority had head and neck injuries 76(76%) alone and occurred commonly on the age group 21-40 and majority were males. The most common site other than head and neck which was injured was terminal phalanges (35%) and wrist(12%) in descending order. The most common animal was bear in rural areas and dogs in urban areas and overall dogs were the most common animals responsible for injuries.

Conclusion: The overall prevalence of patients who were attacked by animals and had head and neck trauma was high.It was higher among 11-21 years and in males. Educating the patients could decrease the incidence of morbidity of these injuries.

INTRODUCTION

Animal related injuries defined as bite or claw wound from a pet or wild animal are most common causes of morbidity and mortality particularly in the rural tropics and discussed as neglected public health problems throughout the world. Animal-related injury is known to be common in rural regions (1-3) however; studies in urban centres are only related with equestrian trauma due to its frequency and association with serious injuries (4-6). Every type of injury may lead to characteristic consequences and causes specific problems for the treatment. The saliva of animals contains a wide range of potentially infectious bacteria which can cause infection of the wound site. The World Health Organization (WHO) estimates the range of between 35,000 and 50,000 individuals worldwide die of rabies each year. The highest incidence of rabies occurs in Asia, where in 1997 over 33,000 deaths were noted, most occurring in India (3). Animal bite injuries are main leading causes of considerable morbidity and also mortality in the worldwide. Previous studies on animal bites and related injuries have generally been limited to local areas, and have not evaluated the problem on a national level. We aimed to explore the main descriptive epidemiology of animal-related head and neck injuries in both rural and urban areas in Kashmir Vale.

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MATERIAL AND METHODS

This study was conducted in Otorhinolaryngology department of GMC Srinagar, It was a prospective cross sectional descriptive hospital based study. 100 patients who were diagnosed of having head and neck injuries were recruited. Information on age, sex and cause of injury, animal involved,place of attack was taken. Each patient was then examined for the presence of ear, face and throat injuries, using the available bed side instruments.

OBSERVATIONS AND RESULTS

In our study a total of 100 patients were enrolled from a period of March 2012 to September 2013. Out of the 100 patients 64(64%) were males and 36(36%) were females with a male:female ratio of 1.77 : 1. The youngest patient was 8 years old and oldest was 78 year old. Majority of the patients were in the age group of 8-21. They accounted for 57% of patients. (Table 1)

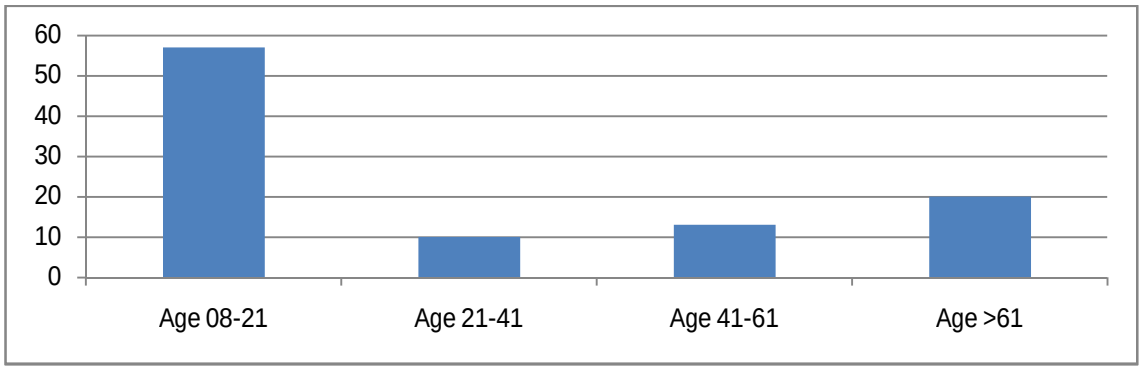

Table.1 showing age wise distribution of patients

The most common site of injury was face in 69% patients followed by neck (21%) nose (6%). The least common site in head and neck region to get injured in our study was ear(4%). Terminal phalanges(35%) was the most common non head and neck site injured followed by wrist(12%). Grevious injuries causing loss or irreversible damage of organ/s was seen in 8 patients. Out of these 8 patients 6 had permanent loss of vision due to irreversible ocular injuries(figure1). One had near total loss of nose(figure 2) and one had loss of pinna.

Figure 1 Figure 2

Figure 1 showing a patient who had been attacked by a bear and had loss of left eye.

Figure 2 shows a patient with near total loss of nose after being attacked by bear.

Animal attacks were found more commom in rural(59%) areas than urban regions(41%). The most common attacking animal found in our study was dog (65%) and least common was cat (2 %). (Table 2).

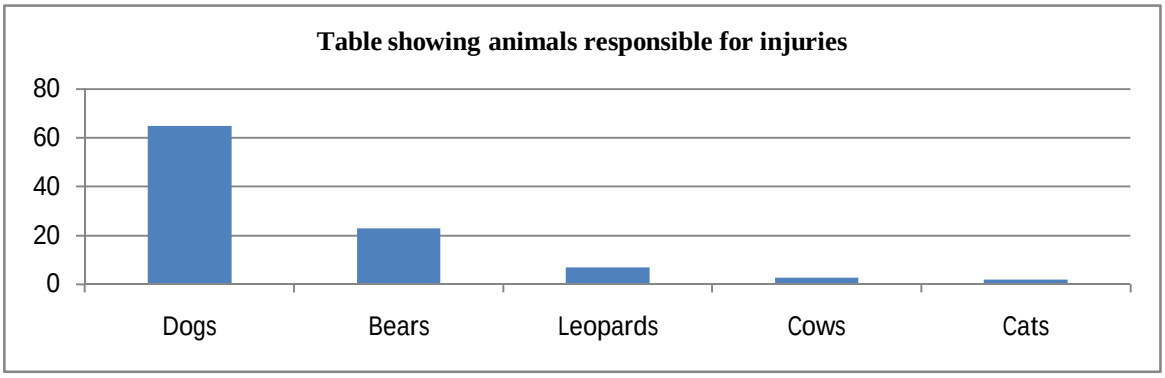

Table 2 showing distribution of animals responsible for injuries.

Most of the patients had minor injuries (85%) like superficial lacerations, bruises , abrasions.(Figure 3,4). Major injuries were seen in 15% of patients and included complicated lacerations, fractures, avulsions of eye or ear, concussions.

Figure 3 **Figure 4**

Figure 3 shows a patient with superficial laceration of face due to dog bite

Figure 4 shows a patient with claw induced abrasion of neck due to leopard attack.

Most of the patients(87%) were repaired under local anaeshesia with sedation and general anaesthesia was used only in 13 patients(13%).(figure 5).

Figure 5 showing repair being done under sedation.

Table 3 showing complications following head and neck injuries by animals

Type of injury	**Number of patients**
Fractures of facial bones	12
Injuries to vessels of head and neck	13
Loss of eyeball	02
Loss of nasal dorsum	01
Loss of tooth/ teeth	06
Major lacerations with loss of skin	10
Loss of pinna	01
Intracranial haemmorhage	02

DISCUSSION

Epidemiological researches dealing with large populations (13,15) reported a considerably higher risk of animal related injuries, and even of death, among men and the elderly. In our series 64% of the patients were males that are compatible with previous reports (1). In contrast of this study in all age groups even in those had more than 65, animal-related injuries were more frequent in males.

Animal related injuries should be considered as potential causes of injuries and physicians who work in emergency rooms should learn principles of management of these kinds of traumas. Animal attacks on people all over the world result in millions of injuries and hundreds of deaths (12- 14). These attacks affect both rural and urban dwellers. Many people with less serious injuries do not contact their doctors and these cases are therefore not recorded in the statistics. It is estimated that about 60% of animal attacks lead to such mild injuries that the ambulatory treatment is sufficient, or the injured do not call for medical help at all (15). Farmers are in most hazards, but it also includes veterinary surgeons, butchers, zoo and circus workers (16). Studies conducted by Americans reveal that animals are one of the main causes of injuries in the farming industry, and animal related injuries cause about 40 deaths in the USA annually (15, 17). In our study children were the most common people injured. In our study dog bite was the most common cause of injuries and followed by bear maul injuries. All cases who had a dog bite were given antirabies vaccination as recommended however since approved rabies vaccination for other animals was not available vaccination was not done routinely however in cases with major injuries vaccination was empirically given. Patients who had facial skeletal injuries underwent radiological evaluation mostly in the form of X Ray of mandible maxilla or nasal bone to rule of fractures. However computed tomography of head was done in all cases of major injuries to rule of intra cranial haematomas. In contrast of some countries in which equestrian traumas are common, (18,19) we didn't find such injuries.

CONCLUSION

The most common animal was bear in rural areas and dogs in urban areas and overall dogs were the most common animals responsible for injuries.

The overall prevalence of patients who were attacked by animals and had head and neck trauma was high.It was higher among 11-21 years and in males. Educating the patients could decrease the incidence of morbidity of these injuries.

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