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A Retrospective Study of Wild Boar Inflicted Injuries in a Rural Tertiary Healthcare Centre in India

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Abstract

Aim: To analyse wild boar bite injuries presenting at tertiary healthcare center, assess their impact & to suggest appropriate measures to counteract the problem. *Background:* Human injury resulting from encounters with non-domesticated animals is increasingly common throughout the world, particularly as ecosystems change and humans encroach on previously wild land. Wild pigs not only damage the crops but also contribute significantly to an increasing morbidity and mortality, especially in the Beed district in Maharashtra. *Materials and Methods:* The case records of the patients admitted and treated for wild pig bite injuries during 2014 to 2016 in Swami Ramanand Teerth Rural Medical College was studied retrospectively. The data was analysed using the software SPSS 16. *Results:* A total of 52 patients were admitted which comprised the study population. The mean age of the study group was 33.1 ± 20.91 years with median age of 30 years. The male to female ratio was 2.4:1. Injury to the extremities was the most common site of injury affecting 80.76% of the patients. 14 patients (26.92%) were managed conservatively after initial treatment and 37 patients (71.15%) surgical management in the form of delayed primary suturing was done.1 patient had sustained severe injuries and required local debridement (1.92%). Mortality rate in this study was 1.92%. There was no case of rabies or tetanus in any of the above victims.

Conclusion: Proper prevention and treatment measures should be developed by decision makers to reduce morbidity and mortality related to such cases. Similar study in prospective manner should be carried out to assess the magnitude of the problem.

Keywords: Animal; Wild Boar; Wild Pigs; Bites.

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Introduction

The Beed district in Maharashtra has been affected the most by wild boars, not only damaging crops but also increasing morbidity and mortality [1]. Human injury resulting from encounters with non-domesticated animals is increasingly common throughout the world, particularly as ecosystems change and humans encroach on previously wild land [2]. The literature describing injuries inflicted by wild boars on humans has been scarce.

Wild pigs are intelligent animals that can be formidable adversaries to humans because of their sharp tusks and their ability to attack swiftly [3]. The growing human population has brought animals and humans into closer contact, and prompted higher rates of animal attacks on humans [4,5].

A study carried out by Wildlife Institute of India, which was carried out in 5 states over the period of 18 years from 1990-2008 reported a total of 309 human injury and killing cases [6]. Animal related injuries are a major but neglected emerging health problem and contribute to significant morbidity and mortality worldwide [7-10]. Majority of wounds are minor and rarely require medical attention or ignored by patients. Unfortunately, due to selection bias towards patients who are seen that do require medical attention, most published studies are cases in which

the wound is more severe, the infection potential high, actual infection is present, or legal ramifications exist [8]. As animal bites injuries are typically infected, the threat associated with contamination is substantial and can also transmit rabies [11]. Treatment of animal attack wounds is comprised primarily of ample wound cleansing so as to minimize potential risk of disease together with the usage of effective antibiotics [12].

We report a retrospective study of wild pig bite cases which presented to tertiary rural health care centre over last two years. We know of no such study carried out in India.

Material and Methods

The case records of the patients admitted and treated for wild pig bite injuries during 2014 to 2016 in Swami Ramanand Teerth Rural Medical College was studied retrospectively. Age, sex, site of injury, duration of stay and treatment were evaluated. All patients had received anti tetanus vaccine, anti-rabies vaccine and anti-rabies serum as per category III of contact as per national guideline for post exposure prophylaxis of rabies.

The data was entered in MS Excel 2010 and analysed using software SPSS 16.

Results

During the period of study, a total of 52 patients were admitted which comprised the study population.

- The age of the patients at the time of presentation ranged from 2 to 80 years with a mean of 33.1 ± 20.91 years with median age of 30 years.
- The peak age incidence was in the 21-35 years age group accounting for 19 (36.53%) patients. (Figure 1).
- Males were 37 (71.15%) while females were 15 (28.84%), with a male to female ratio of 2.4:1. (Figure 2).
- Farmers and labourers formed majority of the patients while the remaining were children and housewives
- Injury to the extremities was the most common site of injury affecting 80.76% of the patients (Table 1).
- All the patients had suffered open wounds (i.e. bruises, avulsion, abrasion, laceration, etc.)
- 8 patients (15.38%) patients had multiple injuries while the remaining 44 patients (84.61%) patients had isolated injuries.

All the above patients were brought to the tertiary rural health care centre without any pre hospital care.

Table 1: Various sites of injuries in patients

Site of Injury	Number of Patients	Percentage
Upper Limbs	11	21.15
Lower Limbs	31	59.61
Abdomen and back	3	5.76
Chest	1	1.92
Head, face and neck	4	7.69
Genital and perianal region	2	3.84

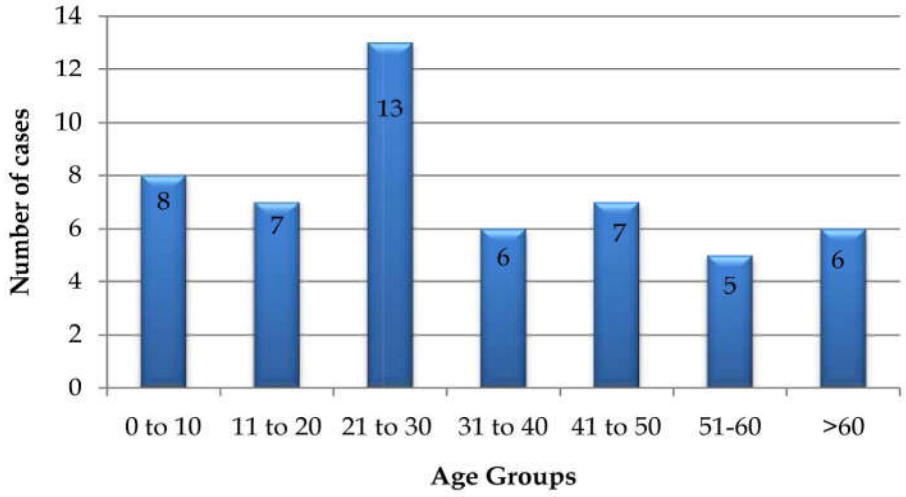

Fig. 1: Age distribution of wild pig bite cases

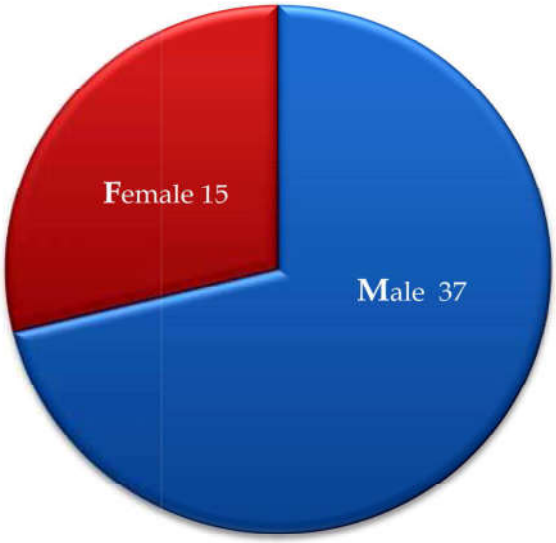

Fig. 2: Sex distribution of patients

Note: Some patients had multiple sites of injuries.

All the patients who presented were initially treated with tetanus toxoid 0.5ml I.M. and anti-rabies serum and anti-rabies vaccine. Non – surgical management in the form of thorough cleaning and dressing, parenteral and oral analgesics and appropriate intravenous antibiotics was done. 14 patients (26.92%) were managed conservatively after initial treatment and 37 patients (71.15%) surgical management in the form of delayed primary suturing was done.1 patient had sustained severe injuries and required local debridement (1.92%).

The duration of hospital ranged from minimum of 1 day to maximum of 7 days with a mean duration of 1.90 ± 1.44. There was report of one death with patient having extensive injuries with septicaemia and septic shock. Mortality rate in this study was 1.92%. There was also no case of rabies or tetanus in any of the above victims. Most of the patients were discharged well, uneventfully.

Discussion

The wild pig with its very sharp tusks is the more dangerous animal inflicting slicing or tearing injuries down into the muscle with a risk of damage to major nerves and blood vessels. The sow can also bite away pieces of skin and subcutaneous tissue. The commonest site of injury to man is the posterior aspect of thigh, due to the height of the animals and their unseen approach from behind [13]. The number of cases of wild pig bite inflicted injuries maybe less than actual number of cases due to unreported cases, patients who were not admitted due to minor injuries or treatment at private hospitals.

In our study, injuries were more common in males than females, which is comparable to a similar study [14]. The higher incidence of males can be due to increased outdoor activities such as farming which is evident as most of the patients in this study were farmers and daily wage labourers by occupation. Majority of the patients in this study were in the age group of 21-35 years. This age group represents economically productive age group and is involved in majority of outdoor and risk taking and labouring activities. Open injuries were present in all the patients in our study and most common site of injury was involving upper and lower extremities which is similar to other studies [14].

The wound management resulting from animal bite includes achieving haemostasis, thorough cleaning and debriding of the wound, repair of damaged tissues, anti-rabies serum in wound, prophylactic antibiotics, treatment of complications when they develop and tetanus vaccination [7,13,15-17]. Suturing should be avoided or delayed, but is sometimes necessary depending on the site and size of the wound [14]. In our study, most of the patients were managed surgically with delayed primary suturing the most common procedure performed, others were managed conservatively. Infection of the bite site caused by wild pigs should be an expected complication, as the jaws are heavily contaminated [14]. The study had a mortality rate of 1.92% (1 case of death) which was due to septicaemia with septic shock secondarily to severe injuries. No previous study has shown duration of hospital stay and therefore no comparison can be made with respect to the same in present study.

The overall outcome of the patients was good as 98% of the patients were discharged, their recovery was uneventful. Major limitation of the study was that cases of wild pig bite which were minor or treated outside of this institution could not be included in the study and hence data from this study may not be adequate for whole population in this region.

Conclusion

Wild pig bite related injuries are not a priority in public health and more attention needs to be given with respect to registration of wild pig bite in humans and developing management protocols.

Proper prevention and treatment measures should be developed by decision makers to reduce morbidity

and mortality related to such cases. Similar study in prospective manner should be carried out to assess the magnitude of the problem.

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