



DEATH COMES FROM WILD: A WILD DISCUSSION

Forensic Medicine

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KEYWORDS

INTRODUCTION

India, hosting the largest population of wild Asian elephants, estimated at around 30,000, faces significant challenges as these majestic animals encroach on human habitats due to the loss of their traditional foraging environments. This encroachment has led to frequent and dangerous conflicts, with over 500 people killed annually in encounters with elephants and more than 100 elephants dying each year due to human-related activities, including poaching for ivory, poisoning, electrocution, and collisions with trains. Tigers, another crucial component of India's wildlife heritage, also contribute to conflict scenarios. India takes pride in hosting over 75% of the world's wild tiger population, but conflicts between humans and tigers have been long standing. When these conflicts arise, local responses often involve calls for the killing of tigers deemed "man-eaters," which exacerbates tensions. Contributing factors include habitat destruction from mining, quarrying, developmental activities, and encroachments that break animal movement corridors.^[1]

In both India and Kerala, wild animal attacks have caused a significant number of deaths in recent years. In Kerala, between 2019-20 and 2023-24, 486 people lost their lives due to wild animal attacks. In the year 2023-24 alone, elephants were responsible for 22 deaths, tigers for one, and other wild animals claimed 71 lives. Across India, in 2022, 1,510 people were either killed or injured due to animal attacks, an increase from 1,264 cases in 2021, with most victims aged between 45 and 60. Globally, more than 700 people die annually due to wildlife-related incidents, and over 174,000 are injured or fall ill. Wild animals like tigers, elephants, bears, and wild boars are increasingly encroaching into human habitats, leading to conflicts not only in forest-adjacent areas but also in distant locations, putting both lives and property at risk.^[2]

Case 1

A 59 years old male was returning home from his work in the evening on his motor cycle. Suddenly a Nilgai (a wild animal) hit his motor cycle and fled. He was thrown off his motorcycle. He then went to a local clinic and took first aid. The next day, he had head ache, so he went to another private clinic, from where he was referred to tertiary care centre in Delhi for further management. He was admitted to our hospital but he expired during the course of his treatment after seven days. Postmortem was conducted on the body of the deceased.

Postmortem Examination Findings

The body was of an adult male with average build and well-nourished, weighing approximately 75 kg, with a supine length of 164 cm. He had an old healed hypertrophic scar of length 18cm over his chest in midline suggestive of previous heart surgery. On external examination, bluish echymosis measuring approximately 6.5 cm x 6 cm is present over the right eye. A hypopigmented, healed abrasion of about 1.5 cm x 1.5 cm was noted on the tip of the nose. Another hypopigmented, healed abrasion measuring 2 cm x 1.6 cm was observed on the left cheek, 8.5 cm left of the midline and 7 cm above the left angle of the mandible. A bluish-black bruise, approximately 5

cm x 4 cm in size was present on the outer aspect of the right thigh, 16 cm below the anterior superior iliac spine. A similar bluish-black bruise, measuring 9 cm x 9 cm, was found on the outer aspect of the left thigh, 16 cm below the left anterior superior iliac spine. A black scabbed abrasion of about 5.4 cm x 1.2 cm was present over the right knee joint. On internal examination, The scalp showed diffuse oedema, with haemorrhage present over the right temporalis muscle, covering an area of 5 cm x 4 cm, reddish in colour. The skull was found to be intact with no fractures. The brain and meninges exhibit diffuse subarachnoid haematoma (1a) over both cerebral hemispheres. Bilateral sigmoid vein thrombosis was noted. The brain weighs 1102 grams, and on cut section, it appears congested and edematous. Approximately 300 ml of yellowish fluid was present in the pleural cavity. The right lung weighs 581 grams, and the left lung weighs 587 grams. On cut section, both lungs are congested. The pericardium was adherent to the heart. The heart weighs 300 grams. Upon dissection, a bicuspid prosthetic artificial aortic valve was observed. Multiple petechial hemorrhagic spots were present on the anterior surface of the heart. The coronary arteries showed no abnormalities and the chambers contained blood and blood clots.



Image 1a. Subarachnoid Haemorrhage

OPINION:

Cause of Death: Death in this case occurred due to "Cerebral damage due to hard and blunt force impact to the head." All the injuries are antemortem in nature.

Case 2

A 52-year-old male was struck by a bull in a marketplace and died one day later. Externally there was an abrasion over the occipital region. On internal examination there was a diastatic fracture involving the sagittal suture (2a), bilateral subdural hemorrhages over the parietal and frontal regions, and subarachnoid hemorrhage (2b) involving both

frontal lobes as well as the right parietal and temporal lobes. Cause of death: craniocerebral injury due to blunt force/surface impact to the head.



Image 2a. Diastatic Fracture



Image 2b. Subarachnoid Hemorrhage

Case 3

A 36-year-old male was struck by a cow and died one day later. Externally there were abrasions over the forehead, parietal region, and the left side of the face. On internal examination there was a fracture at the base of the skull (3a) and subarachnoid hemorrhage (3b) involving the bilateral frontal and parietal regions. Cause of death: craniocerebral injury due to blunt force/surface impact to the head.



Image 3a. Base of Skull Fracture



Image 3b. Subarachnoid Hemorrhage

DISCUSSION

The number of people dying or getting injured due to animal attacks rose by 19% in 2022 compared to 2021, according to the National Crime Record Bureau (NCRB) report. The "Crime in India 2022" report, released by the central government on December 4, 2023, revealed that 1,510 deaths and injuries occurred due to animal attacks in 2022, up from 1,264 in 2021. Of the victims, 1,205 were men and 305 were women. The highest number of cases involved people aged 45-60, with 378 men and 106 women affected, followed by 437 cases in the 30-45 age group, including 356 men and 81 women. Maharashtra recorded the most cases (225), followed by Uttar Pradesh (182), Odisha (144), Tamil Nadu (138), Chhattisgarh (114), and Madhya Pradesh (113). Additionally, the number of animal, reptile, and insect bites also increased by 16.7%, rising from 897 cases in 2021 to 1,077 in 2022. Of these, 768 involved men and 299 involved women. Rajasthan reported the most bite cases (232), followed by Madhya Pradesh (190), Tamil Nadu (134), and Uttar Pradesh (103).^[3]

These conflicts arise from habitat loss and human demands. It's crucial to raise public awareness about animal dangers, encourage seeking prompt medical care after injuries, and promote using protective gear when working with or near animals. As healthcare providers, we must educate the public on these risks.^[4] Across the globe we have more animals, more people, and less territory. As confrontations between man and wild animals result from our progressive encroachment on animal habitat, a tolerant coexistence will hopefully evolve.^[5] Health care providers should educate their patients on exercising caution around animals, seeking medical care after an animal injury, carrying epinephrine kits if they have a history of systemic reactions to insect stings, and wearing helmets and other protective equipment when riding or working around large animals.^[6] An increase in instances of animal attacks on pets and humans indicates humans are encroaching on wild animals' habitats.^[7] Deforestation, urbanization, industrialization, migration, and human intrusion to wild life are some of the prevailing states of affairs that render wild animals losing their natural habitats and increasing their presence over the indwelling human areas.^[8]

CONCLUSION

Wildlife protection and management in India are largely the responsibility of State Governments and Union Territories (UTs), with the Ministry of Environment, Forest and Climate Change providing financial assistance through centrally sponsored schemes such as "Development of Wildlife Habitats," "Project Tiger," and "Project Elephant." These schemes include provisions for payments to individuals who suffer loss of life or property due to wild animal attacks. On 06.02.2021, the Ministry issued an advisory to all States and UTs to enhance efforts in mitigating human-wildlife conflicts. The advisory stressed the importance of coordinated interdepartmental actions, identification of conflict-prone areas, and the establishment of rapid response teams. It also recommended the formation of State and District level committees to review and ensure timely disbursement of relief, along with adequate fund allocation for such compensation. Additionally, on 03.06.2022, the Ministry released specific guidelines for managing human-wildlife conflicts, advising States and UTs to use

the Disaster Management Act, 2005 for rescue operations, law and order management, and providing relief. Species-specific guidelines were later introduced on 21.03.2023 to mitigate conflicts involving various animals such as elephants, leopards, wild pigs, and crocodiles. These guidelines also addressed broader issues such as cooperation between forest departments and the media, occupational health and safety during conflict mitigation, and managing crowds during wildlife-related incidents. In a significant policy shift, the Wild Life (Protection) Act, 1972, was amended in 2022 to rationalize the listing of wild animals under Schedules I and II of the Act. As of now, there is no proposal to include more species under Schedule I. To further support victims of wild animal attacks, the Central Government increased the relief from ₹5 lakh to ₹10 lakh in December 2023 for deaths caused by such incidents under the "Development of Wildlife Habitats" and other wildlife conservation schemes. These measures underscore the government's ongoing efforts to balance wildlife conservation with the safety and well-being of people living in conflict-prone areas.^[9]

Several state governments have implemented various mitigation strategies, such as constructing trenches, experimenting with different types of fences, involving local communities, and using radio collars and relocation efforts. Recently, technological advancements have introduced tools like trip alarms, sensory-based alarms, drones, and AI-based warning systems to track animals and provide alerts. Despite these efforts, the increasing encroachment into wildlife habitats continues to heighten conflicts, highlighting the need for ongoing and comprehensive approaches to address these complex issues.

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