

## Tiger Bite: An Unapprehended Injury

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### ABSTRACT

This short communication describes the various modes of presentation, complications and management of tiger bite. All patients presenting to the emergency department with a history of tiger bite were included in the study. A total of 6 patients were admitted at the Department of Surgery, Khulna Medical College Hospital, Bangladesh, from 2003 to 2006. Injury involved different parts of the body; predominantly, the upper part. All patients needed emergency surgery including wound toileting, debridement and even reconstructive surgery. One patient died due to infective complications. Tiger bite is a major public health problem in the greater Sundarban area of Bangladesh. Timely hospitalization and effective management can save valuable human lives.

**Key words:** Tiger bite. Wound toilet. Debridement. Reconstructive surgery. Head. Face. Injury.

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Deaths from unnatural causes and level of injuries due to unexpected agents are not estimated. Animal bites sometimes causes serious public health hazards in the community. Dog bites are the often the most common animal bite wound seen in any part of the body.<sup>1</sup> Injuries from other animals like cats, pigs, camels, horses, cows, donkeys have also been reported.<sup>2</sup> Injuries range from superficial to deep wounds including lacerations, injuries to muscles, nerves, vessels and bone fractures. Most of the reports found in the literature are about pet animals and those by the wild animals particularly tigers are rarely reported.<sup>3</sup>

Sundarbans is the largest mangrove forest of the world situated in the south-west part of Bangladesh and south-east part of India, along the Bay of Bengal, with a good number of Royal Bengal tigers within it. Their number was estimated to be over 400 in the 4000 square miles densely forested river delta area in Bangladesh and India. People along the nearby places maintain their livelihood by cutting trees, collecting honey and by fishing in canals. Their injuries are rarely reported in the literature. In the last 5 years, we had to manage these 6 cases in a hospital situated 30 miles from the forest area.

**Case 1:** A 17-year-old boy, along with his brother went to the deep jungle for fishing. They were sleeping on a

country boat in a narrow tunnel inside the jungle. He woke-up to find a big Royal Bengal tiger trying to drag him from the boat and biting his face. They fought with wooden sticks and ultimately escaped from the claws of the tiger but the boy received an injury on his face. After that they managed to come home, after 8-9 hours journey by country boat, the wound was dressed locally by village doctors.

On the next day they managed to get admission in the emergency department of our hospital. On examination the boy had a thready pulse, was dehydrated and examination of the face and neck showed that a major part of the face including nose, cheek, left mandible and one eye ball were absent with bleeding from the wound. He was immediately resuscitated with parental fluids, blood transfusion. and sedation. The wound were cleaned and dressed in the operation theatre. He was fed through a nasogastric tube. After controlling the infection in 2 months, reconstructive surgery was attempted offering a deltopectoral flap for replacement of the soft tissues of the cheek and lower lip and applying a forehead flap to the nose. Seventy percent of the tissues survived and he got some configuration of the face as well. Oral feeding was possible at last. He was discharged after 5 months of hospital stay (Table I).

**Case 2:** A 31-year-old woodcutter was suddenly attacked on his head at daytime, as he was busy cutting a tree. He fought back with his axe and managed to come to the hospital after 24 hours of the injury. On examination he was pale and dehydrated. Skull examination revealed a huge loss of scalp on the back of the head with bleeding surface. After resuscitation, the wound was cleaned in the operation theatre and bleeding secured. He also developed post operative infections and took nearly 2 months to recover. Later, the scalp was reconstructed with skin cover.

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**Table I:** Showing the total profile of the patients.

Profession	Age in years	Presentation in the hospital after injury	Sites of injury	Procedure	Duration of hospital stay	Outcome
Fisherman	17	24 hours	Head and face	Primary toileting and reconstruction	5 months	Tissue loss in the face and deformity
Woodcutter	31	24 hours	Head	Stitching of the scalp	2 months	Wound infection
Woodcutter	42	20 hours	Neck	Toileting and stitching	15 days	Satisfactory
Fisherman	33	10 hours	Head	Toileting and stitching	20 days	Mild infection
Woodcutter	40	16 hours	Neck and abdomen	Toileting	7 days	Death
Fisherman	46	10 years	Head	Toileting and stitching	7 days	Satisfactory

**Case 3:** A 42-year-old man; professionally a part time wood cutter was attacked at night while he slept on a boat. He was attacked on his neck and back, but managed to escape. When he was examined after 20 hours of the incidence, there was evidence of claw injuries on the neck and loin and subcutaneous emphysema in the neck region. The apex of the lung was also injured. There was no major sepsis and wound complications and the patient was discharged within 15 days of admission.

**Case 4:** A 33-year-old man was admitted with scalp injury, through the emergency department within 10 hours of injury (Figure 1). He was fishing in the outer area of Sundarbans. On examination, he was anxious, pale and bleeding from his scalp. He was taken to the operation theatre, bleeding was stopped followed by debridement and stitching of the wound, as there were no tissue loss. In the postoperative period he developed infection but daily dressing of the wound led to wound healing. He was discharged within 20 days of the admission.



**Figure 1:** Photograph showing scalp with active bleeding on the back of the head.

**Case 5:** A 40-year-old woodcutter was admitted after 16 hours of tiger bite on his abdomen and right loin with evisceration of the gut. A chunk of the abdominal muscles were taken away with part of the iliac bones. He was given first aid and debridement of the wound on different parts of the body. Daily cleaning and dressing was carried out. A pedicle flap replacement on the big defect of the loin was planned. Unexpectedly, he

developed uncontrollable sepsis and died on the seventh day (Table I).

**Case 6:** A 46-year-old fisherman was attacked by the tiger. His scalp was partially avulsed giving a profuse bleeding surface. He was admitted on the same day to a hospital. The wound was toileted and stitched primarily. Patient could be sent home within 7 days.

All patients received their injuries in their upper part of the body, head and neck region. In all the patients initially high doses of penicillin and metronidazole injections were used; in two cases injectable cephtriaxone was also added.

Tigers hunt on their own and usually lead a solitary existence. Each in its territory usually preys at night. To make a kill, it leaps on the animal, ranging from a maximum distance of 200 feet, biting on the neck. It then takes the slain animal to some hidden spot. Although tiger attacks on humans are unusual, they do occur because farmers and loggers are beginning to use areas where tigers live. It is thought that most tigers that eat humans are sick or injured and unable to kill their usual prey in the jungle. Once they have acquired a taste for human beings however, they will in all likelihood continue to kill them. While man-eating tigers are a rarity in other parts of Asia, they are notorious in Sundarbans. Sometimes, tigers come out of the jungle into the neighbouring village and attack people. There is a report of 181 tiger attacks from January 1999 to March 2002. Of these, 80% percent victims were killed.<sup>4</sup> Hendrichs found greater variations of the tiger attacks from 7 to 98 in the year 1968/69 and 1970-71.<sup>5</sup>

In a report from Nigeria,<sup>6</sup> injuries caused by large animals commonly affected the upper extremities. Involvement of the head, face and neck region is seen in 9-13% cases. Most of the victims are male with forest related professions.

Marina reported 3 cases of spinal injuries with infective complications.<sup>7</sup> Tigers carry *Pasteurella multocida* in their mouth. Some reports found satisfactory results after immediate debridement, irrigation and primary closure. Secondary reconstruction is undertaken for those with extensive tissue loss, while antibiotics and tetanus prophylaxis were recommended for all patients whenever they are presented. Routine use of antibiotics is also recommended by Gasser *et al.*<sup>8</sup>

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