

# Pattern of bear bite ocular injuries

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## INTRODUCTION

Though bear attacks are rare and constitute very small percentage of all animal attacks<sup>1</sup>, we frequently encounter bear attack cases with extensive ocular injuries in our hospital. Problem is worsened by delayed presentation to the hospital. Therefore minimizing the human-animal encounter becomes the utmost important.

## RATIONALE OF THE STUDY

- Sloth bear is a conserved animal in Jharkhand. Once found in very limited number, its population is increasing and so the conflict between the tribal population living near the forests and the animal.
- Literature suggests that academic detailing helps to improve the quality of healthcare by providing the baseline epidemiological data based on which necessary intervention and guidelines can be formulated.

## AIM OF THE STUDY

The aim of this study was to generate real time data on pattern of ocular injuries resulting from bear attack.

## MATERIAL & METHODS

This prospective observational study was conducted in RIMS, Ranchi, over period of 12 months (July 2016 to June 2017). Total 57 patient with history of bear attacks involving one or both eyes were included in the study. Follow up cases and those with unclear history of bear mauling were excluded.

A detailed history regarding demographic details, time of attack, activity preceding attack, time to reach the hospital and to get primary treatment, type and severity of injury, length of hospital stay etc. was taken.

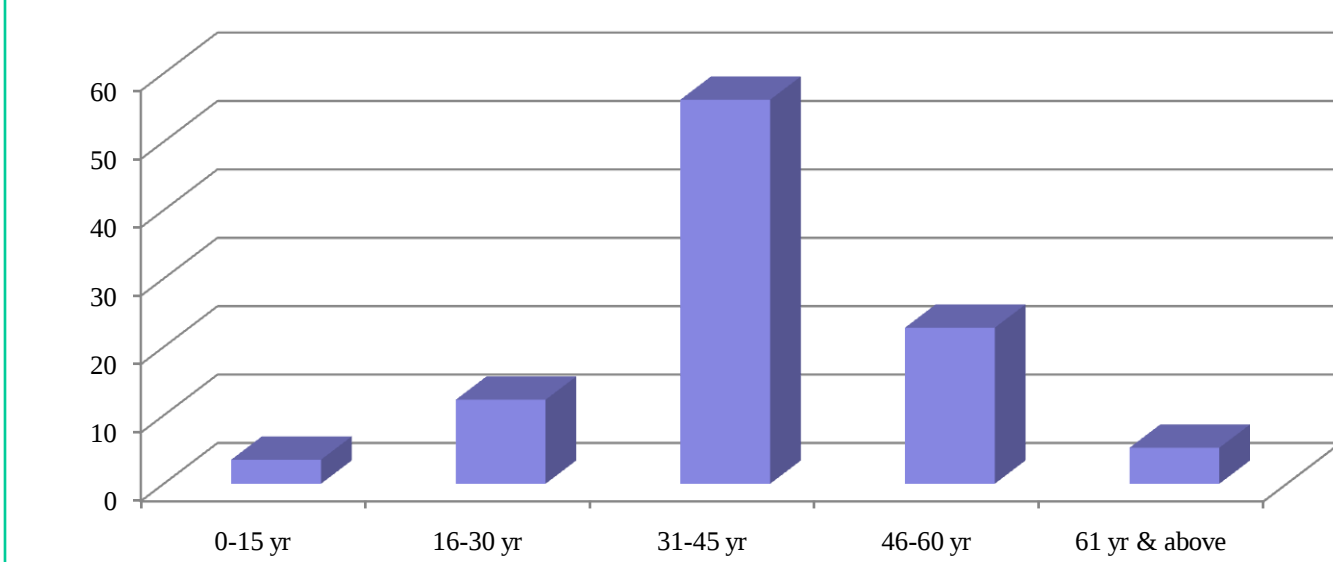
Life-threatening complications were promptly dealt with by proper resuscitative measures. Injuries details were documented and routine and radiological investigations were done as needed in all patients. Wherever needed multidisciplinary team were approached for the treatment.

Intravenous antibiotics (Ceftriaxone) was given pre-operatively and continued for 3 days post-operatively. Oral antibiotics were given only in patients with persistent infection.

Antirabies vaccinations were given as per the WHO regimen. Anti-rabies immunoglobulin was also given of which half was given locally at the site of the wound, and half was given intramuscularly. A single shot of tetanus toxoid was also given.

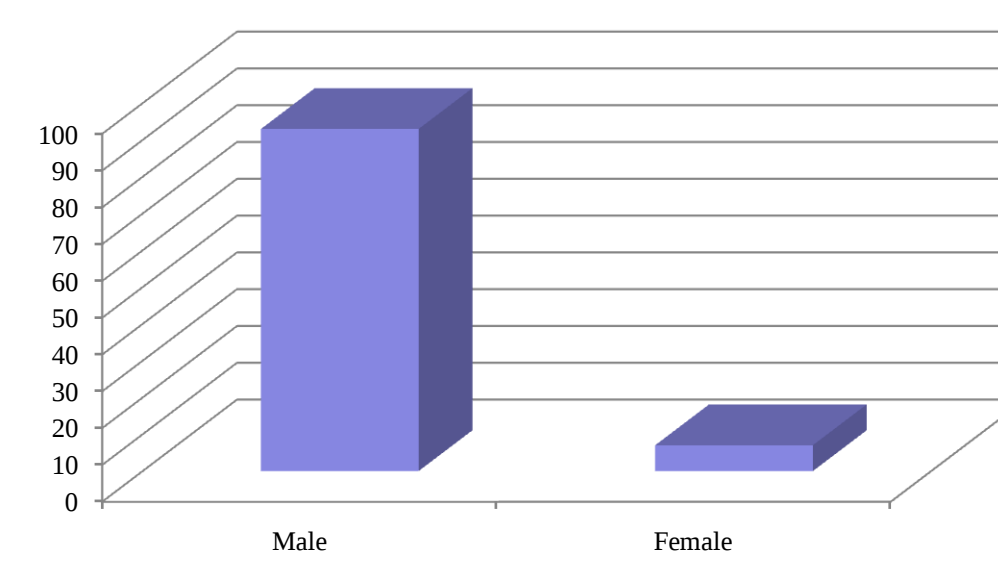
## OBSERVATIONS

1. Demographics



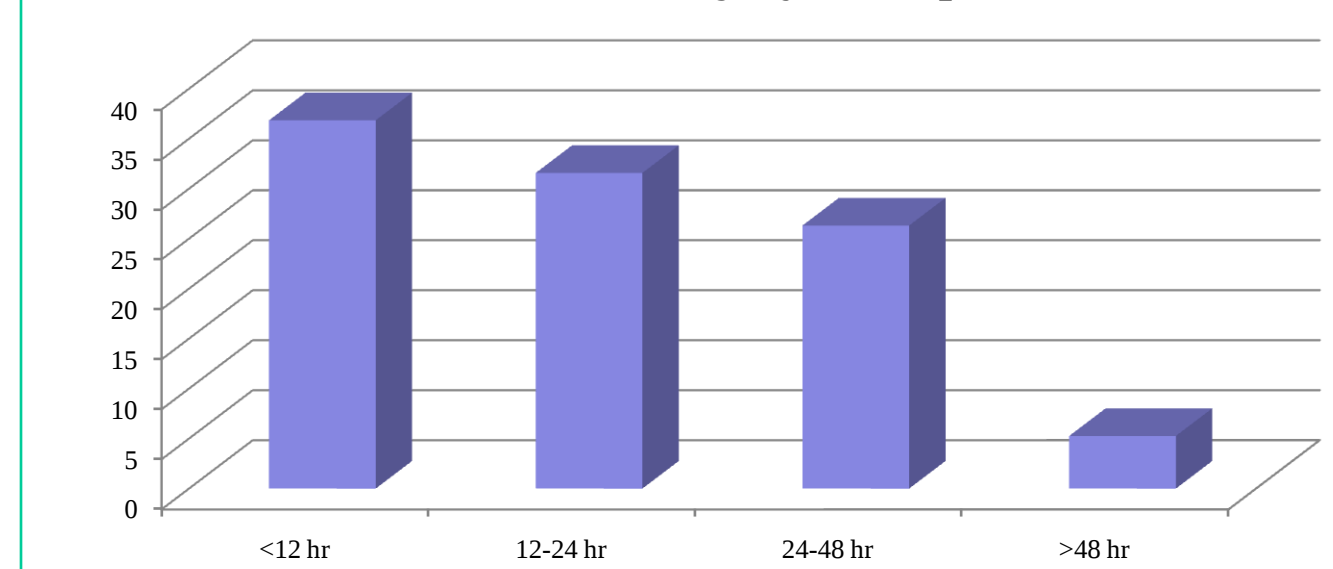
31-45 yr was the most common age group affected

2. Sex distribution



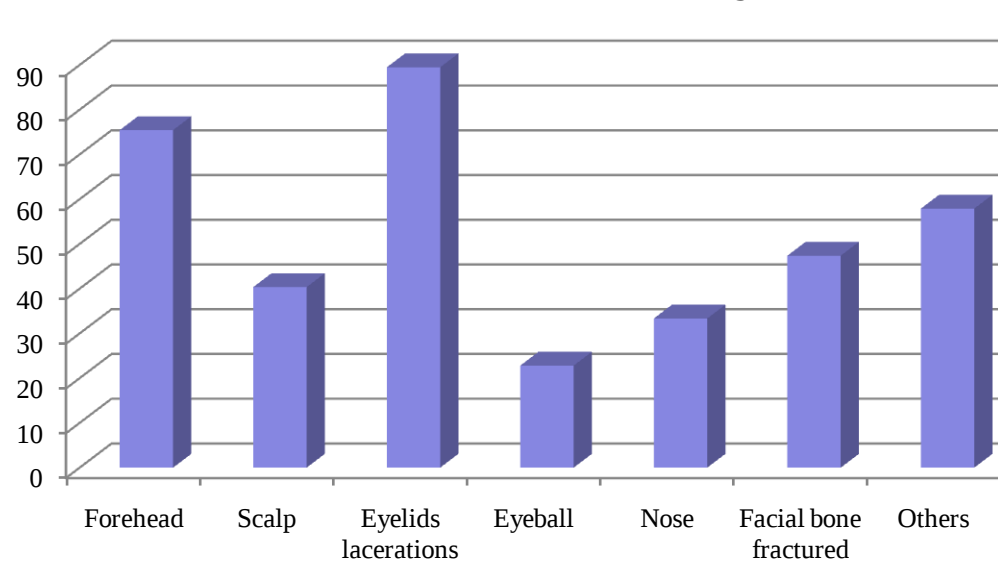
Male were affected in over 93% of cases

3. Time from injury to hospital



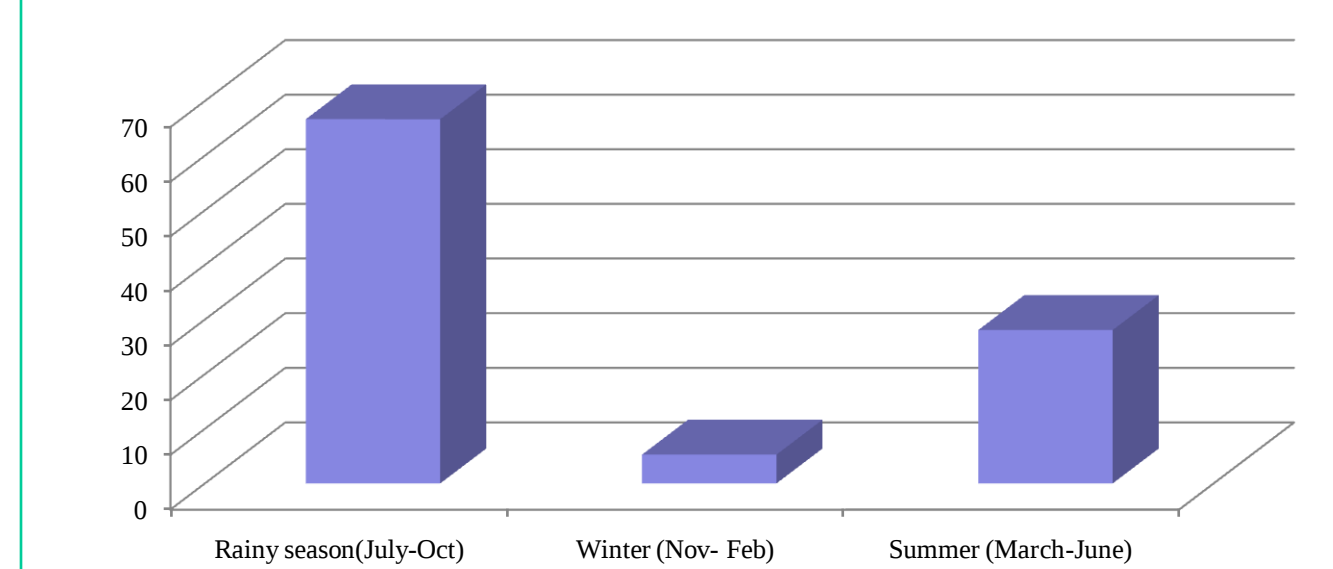
Only 36% patients attended hospital within 12 hr of injury

4. Ocular and adenrxal injuries



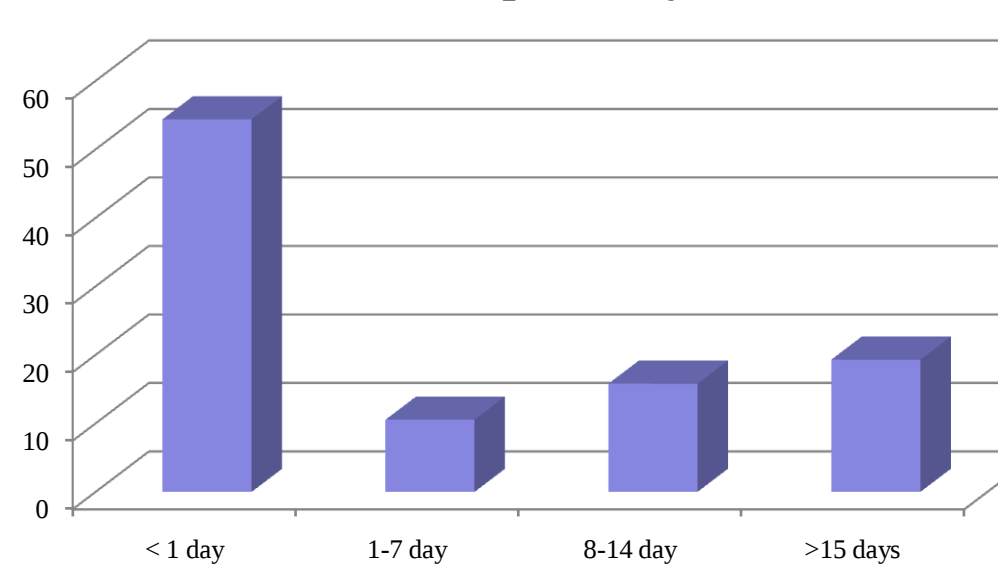
Almost 90% of patients had eyelid lacerations

5. Seasonal variation



66% bear attacks occurred in rainy season

6. Hospital stay



54% cases had hospital stay of less than 1 day

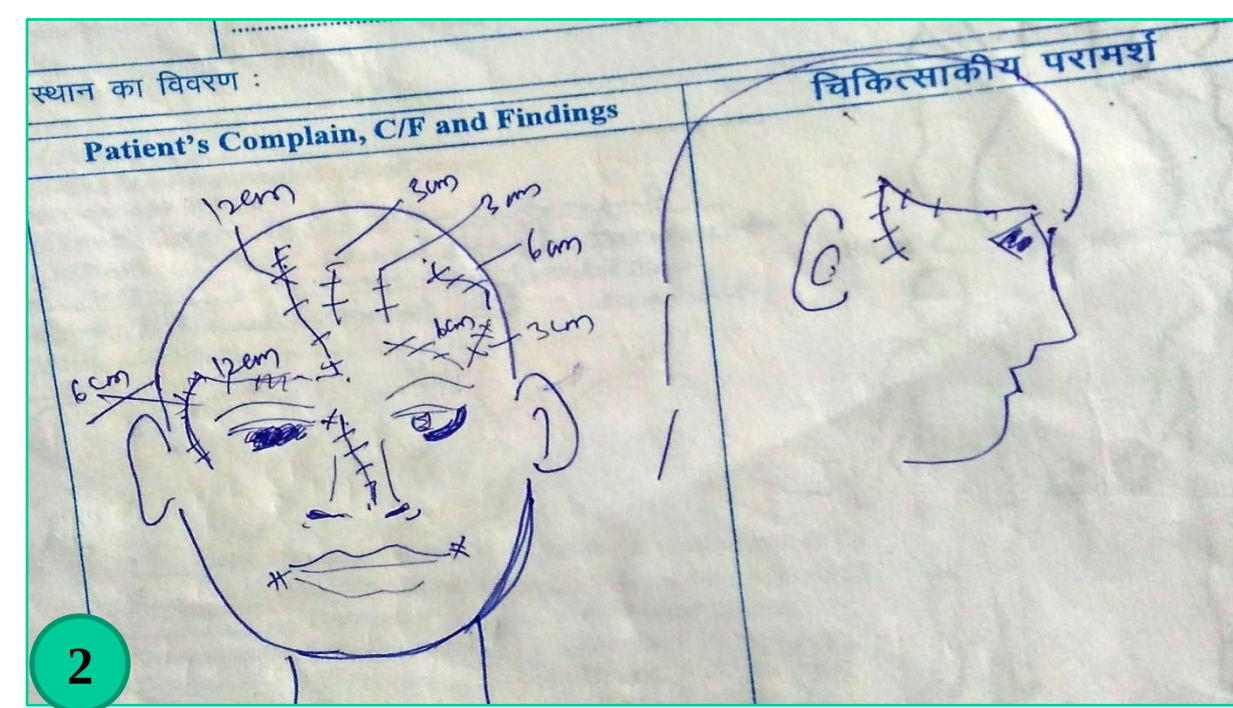
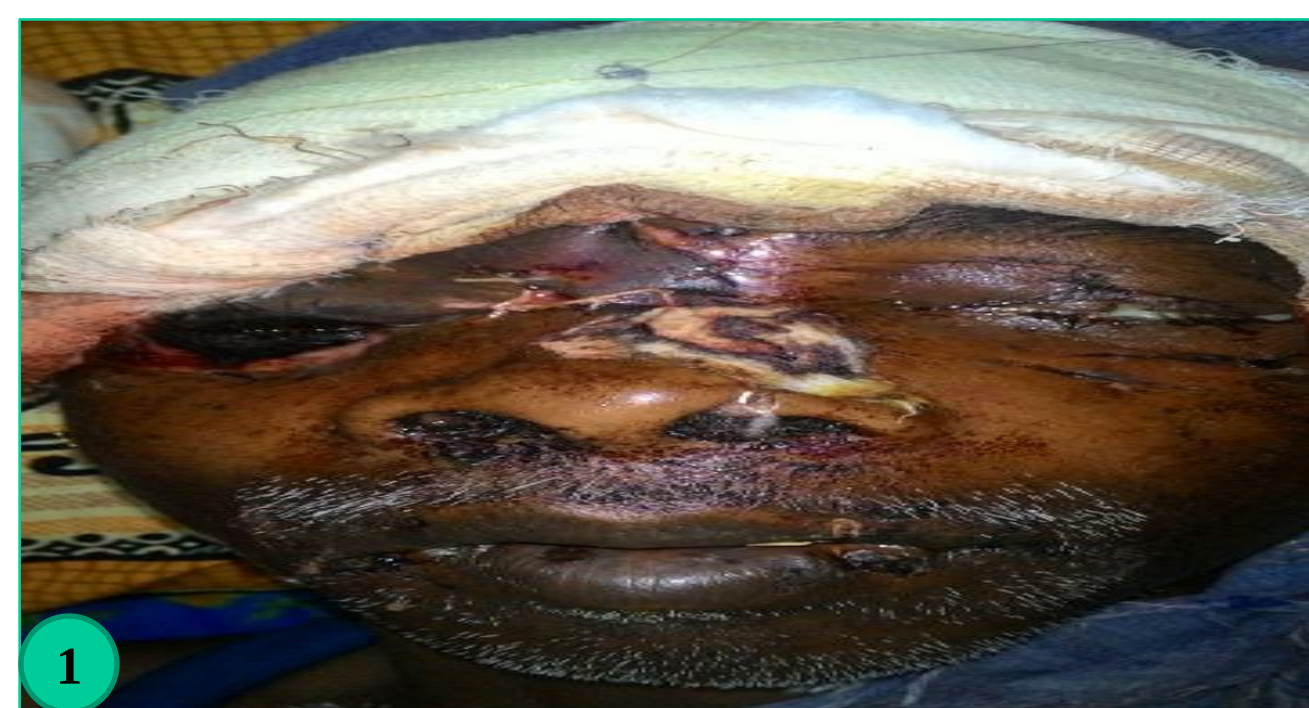


Figure: Bear bite ocular injuries

1. 52 year male with right eye enucleated by bear
2. Injuries represented schematically (Patient 1) by a resident
3. 47 year male 3<sup>rd</sup> day post injury
4. Same patient (Fig 3) , 5 months after being discharged

## DISCUSSION

Bear attacks constitute 0.1% of all animal attacks in India. With encroachment of animal's habitat and competition for food and resources, incidence of attack is increasing.

In this study, middle-aged population was more commonly affected and over 90% of them were male. This can be explained by their working outdoors in search of food, livelihood etc. In other studies also outdoor activity was related with animal attacks<sup>2,3</sup>. In this study, almost all the victims came from rural areas which are similar to the epidemiological study of animal bites in India<sup>1</sup>.

Over 60% patients attended the hospital >12 hr after injury and 37% patients received the primary treatment within 12 hrs from the local PHC.

Face and eyelids lacerations were seen in more than 80% of the cases as this is the most accessible part of the body. This was very similar to other studies<sup>4</sup>. In 4 cases, empty eye socket were seen which may have been caused from the long claws of animal. Multiple facial bone fractures were also found in some patients, resulting from the fist blow of animal. No injuries to abdominal viscera, chest and brain were observed in this study.

## CONCLUSION

Bear attack victims pose great challenge to treat. Detailed description of socio-ecological factors helps in planning preventive strategy for the human animal encounter.

## ACKNOWLEDGEMENT

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## REFERENCES

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