Successful Treatment of a Gunshot Injury in a Juvenile Elephant

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Introduction

There is an increase in incidences of man animal conflict throughout India, with human-elephant conflict being a prominent example. Wild elephants may suffer traumatic injuries due to gunshots and being pierced by spears as a result of conflict with people and additionally in fighting among themselves (Kadirvelu *et al*. 2014). Here, we report a case of gunshot injury in a juvenile female Asian elephant (*Elephas maximus*) and its treatment.

History

A juvenile wild female elephant 5 feet in shoulder height was found alone in Madanpur near human habitation in Aurangabad with a gunshot injury on her right hind leg (Fig. 1). It was immediately captured and brought to Sanjay Gandhi Biological Park, Patna, for treatment.

On clinical examination it was found to have a deep bullet wound that penetrated through the left hind leg. The bullet entered on the lateral aspect creating a wound 1 cm diameter and exited from the medial aspect, leaving an open wound 3 cm in diameter. She was in pain, with inflammation, pyrexia and pyogenic exudation from the wound. She abstained from weight bearing on the injured leg, resulting in abnormal gait. Radiography revealed a complete fracture of the tibia (Fig. 2) due to the impact of the bullet.

Clinical management

Staphyloccus spp. were isolated from culture of the pyogenic exudate and antibiotic sensitivity tests were conducted for selection of a suitable antibiotic (Table 1). Treatment proceeded with Tetanus Toxoid 3ml IM stat, Amoxicillin and Potassium Clavulanate 7.2 g total dose twice daily IM for 10 days along with analgesic Meloxicam 150 mg once daily IM. Vitamin B-Complex 15 ml IM was given on alternate days on five occasions, Pro biotic 2 boli were given twice daily for 7 days orally and Proteolytic enzyme serratiopeptidase 3 boli for 10 days orally. The wound was dressed with copious amounts of diluted potassium permanganate for 3 consecutive days to dissolve the pyogenic membrane, followed by painting with povidone iodine solution (Fowler & Mikota 2006). Topical spray (Benzene Hexacholoride)

Figure 1. Entry wound with nonbearing of weight on injured leg.

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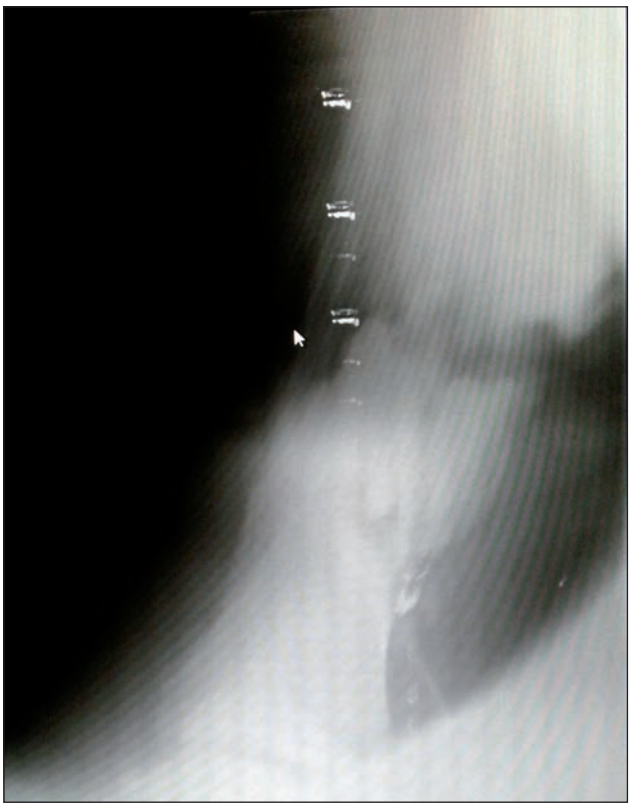

Figure 2. Radiograph showing fracture.

was used thrice daily to prevent secondary infections. The elephant recovered completely after one month of treatment (Fig. 3).

Wound healing can be prolonged in elephants due to their thick dermis. Wound healing is dependent on several factors such as wound management, type of wound, environment, site of wound, and nutritional status of the animal (Sukklad *et al*. 2006). In the present case, the treatment provided as well as the other ancillary factors provided a comparatively quick and full recovery.

Table 1. Culture and antibiotic sensitivity test results.

Antibiotic	Sensitivity
Levofloxacin	++++
Amikacin	+++
Ciprofloxacin	-
Gentamicin	+++
Ceftriaxone	+++
Cefotaxime	-
Chloramphenicol	++++
Cloxacillin	-
Amoxicillin & Clavulanic acid	++++
Enrofloxacin	++++
Moxiflox	-
Cefetrixone & Salbactum	-
Cobactan	++++

References

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Figure 3. Healed wound and bearing of weight after one month of treatment.