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Management of septic compound tibial fracture in black buck

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Abstract
The Black Buck (Antelope Cervicara) is also known as the Indian antelope. Normally Black Buck inhabits medium sized grassy and undulating terran and reaches slightly forest areas. In free-ranging ruminants among the non-infectious diseases, fracture constitutes a major reason for mortality. Tibial fracture is predominant in small ruminants among the long bone fractures. Tibial fractures account for the third most common type of fracture after femur and radius and ulna and comprise 21.0 per cent of all long bone fractures. Tibial diaphyseal fractures account for 75.0 per cent to 81.0 per cent of all tibial fractures. Treatment of traumatic injuries and fracture in non-domestic animals is a challenging task due to hindrance in restrain & regular dressing of wound. It is also difficult to restrain animal during examination. A clinical case of severe traumatic injury of tibia in Black Buck reported to referral veterinary poly clinics. The animal stabilise with analgesic agent & fluid therapy. Next day amputation carried out by pre-anaesthetic agent xylazene 0.2 mg/ kg body weight I/m and local anaesthetic agent inj Xylocaine epidurally.

Keywords: Black buck, tibial fracture, xylazine, amputation and butarphanol

Introduction
The Black Buck (*Antelope Cervicara*) is also known as the Indian antelope. This is the only representative of genus Antelope found in India. The animal has been enlisted in Schedule 1(part 1) of wild life protection act, 1972 and thus, a rare and endangered species found in India. Normally Black Buck inhabits medium sized grassy and undulating terran and reaches slightly forest areas. The consistent water requirement inclines them to be aggregated around perennial water availability basin. In free-ranging ruminants among the non-infectious diseases, fracture is a most common cause for mortality (Mboera and Kitalyr, 1992) [9]. Tibial fracture is a most predominant in small ruminants among the long bone fractures (Gahlod *et al.*, 2012) [3]. Treatment of traumatic injuries and fracture in non-domestic animals is a challenging due to hindrance in restrain and regular dressing of wound. Basic principles of fracture healing in wild animals are similar to other animals but the outcome varies with location, type, age and degree of fracture. Fracture immobilization technique and factors associated with patient also very important for outcome. There is a numerous options are available for fracture treatment, in which surgical options are preferred. In surgical management various categories of plates and intramedullary pins are used and plates are combined with intramedullary rods to resist rotational forces (Ayyappan *et al.*, 2011) [1]. Surgical reduction of fracture is preferred but it is also associated with risks of general anaesthesia, postoperative complications like infection or implant dislodgement particularly in wild animals, as they cannot be restrained frequently for antiseptic dressing of the surgical wound and parenteral medication. It is also difficult to restrain animal during examination. The artificial restraining may encounter them to stress and eventual acute death. For management of traumatic injuries fewer guidelines exist. It is also difficult to restrict an animal's movement during the postoperative period. The present case report describes the management of septic tibial fracture in a Black Buck (*Antilope cervicapra*).

Material and Methods
A clinical case of severe traumatic injury of tibia in Black Buck reported to referral veterinary poly clinics. History of animal revealed that animal strike with fence during jumping 3 days earlier. Clinical observation revealed compound distal tibial fracture with loss of skin, muscle

and lateral tarsal bone. Fracture site severely infected. The limb was radiographed to know the type and location of the fracture. Lateral radiographs revealed complete compound distal fracture with dislocated from hock joint of right hind limb. To save the life of animal, decided amputation from distal femur bone. The animal stabilised with analgesic agent Fuxin meglumine, broad spectrum antibiotic and fluid therapy. Next day amputation carried out by pre-anaesthetic agent xylazene 0.2 mg/ kg body weight I/M and local anaesthetic agent inj Lignocaine hydrochloride epidurally.

The animal was control in lateral recumbency with fractured limb upside. Site was aseptically prepared. The site of incision was isolated with rest part of bodies with sterile drape. An elliptical skin incision was given at posterior end of femur. After skin muscle were separated carefully by ligating encountered blood vessel. Finally distal end of femur removed with hexa blade. Muscles were closed by polyglycolic acid in simple cutaneous pattern and skin was closed by polymide in cross matters pattern. Animal post operatively prescribed with broad spectrum antibiotic amoxicillin sodium & Sulbactum sodium at the dose rate of 15 mg/ kg body weight intramuscularly for 7 days. Analgesic agent Inj. Fuxin meglumine given at the dose rate of 2 mg/ kg body weight I/M. Animal also treated with sedative like butarphanol at the dose rate of 0.4 mg/ kg body.

Clinical case of tibial fracture

Preparation surgical site Incision of skin & separation of muscles

Ligation of blood vessels & removal of distal femur Suture muscle and skin

Result and Discussions

The dose of xylazine 0.2 mg/ kg body weight, inj. Ketamine hydrochloride 2mg/kg body weight I/M and local anaesthetic agent inj xylocaine epidurally induced anaesthesia and muscle relaxation for the entire surgical procedure without any complications. Heart rate per minute, respiratory rate per minute and rectal temperature recorded during whole anaesthesia.

Heart rate, respiratory rate and rectal temperature were 76, 29 and 38.5 ºC after induction, 56, 18 and 37.0 ºC during maintenance and 65, 26 and 38.4 ºC before recovery respectively and were within nearly normal clinical limits (Sontakke *et al.*, 2009) [14]. The duration of anaesthetic maintenance was 34 minutes. Incremental dose of ketamine at the rate of 2 mg/kg body weight (Gahlod *et al.*, 2012 and Monteith *et al.*, 2012) [5, 10] was administered to maintain anaesthesia for 34 minutes Jessup *et al.* (1983) [7], Galka *et al.* (1999) [4] and William *et al.* (2014) [16] also reported xylazine-

ketamine produced immobilization and anaesthesia practiced in antelopes as a safe technique.

Tibial fractures account for the third most common type of fracture after femur and radius and ulna (Seaman and Simpson, 2004) [11] and comprise 21.0 per cent (Unger *et al.*, 1990) [15]. of all long bone fractures. Tibial diaphyseal fractures account for 75.0 per cent to 81.0 per cent of all tibial fractures (Boone *et al.*, 1986). Surgical (Singh, G.R. *et al.*, 1982; Singh, J. *et al.*, 1982) [12] and non-Surgical (Thiruthalinathan and Swaminathan, 1996) fracture reduction also described in deer. Animal start taking only very little amount of food, it may due to surgical and capture stress. Blanc and Brelurut (1997) also reported a decrease of 40% in grazing activity of red deer due to capture stress. Animal died on next day even taking all care, like control of stress and excitement. Stress occurred due to capture the animal in confined area. The animal was also struggling for standing; it may also create stress, muscule and nerve damage. Beringer *et al.* (1996) [2], Jacques *et al.* (2007) [6] and Kock *et al.* (1987) [8] also reported captures may involve risk of mortality & reduction in survival probability.

Conclusion

Immobilisation and surgical intervention should be carefully managed and implemented under strict veterinary control, generated short-term and hazardous behavioural modifications (Neumann *et al.*, 2011).

References

1. Ayyappan SM, Siju Simon BC, Dass A. Arun Prasad R. Suresh Kumar. Management of diaphyseal fracture using plate rod technique in a dog. Tamilnadu J Veterinary & Animal Sciences. 2011; 7:35-38.
2. Beringer JLP, Hansen W, Wilding J, Fischer SL. Sheriff. Factors affecting capture myopathy in white-tailed deer. Journal of Wildlife Management. 1996; 60:373–380.
3. Gahlod BM, Akhare SB, Thorat MG. Tibial Fracture and its Surgical Management using Internal and External Fixation in a Black buck. Intas Polyvet. 2012; 13(2):466-468.
4. Galka ME, Aguilar JM, Quevedo MJ, Villamandos RJM. Alpha-2 agonist dissociative anaesthetic combinations in fallow deer. J Zoo Wildlife Med. 1999; 30:451-453.
5. Gahlod BM, Akhare SB, Thorat MG. Tibial Fracture and its Surgical Management using Internal and External Fixation in a Black buck. Intas Polyvet. 2012; 13(2):466-468.
6. Jacques CN, Jenks JA, Sievers JD, Roddy DE, Lindzey FG. Survival of pronghorns in western South Dakota. Journal of Wildlife Management. 2007; 71:737–743.
7. Jessup DA, Clarkp WE, Gulleit A, Jones KR. Immobilization of mule deer with ketamine and xylazine and reversal of immobilization with yohimbine. J. Am. Vet. Med. 1983; 183:1339-1340
8. Kock MD, Jessup DA, Clark RK, Franti CE, Weaver RA. 1987b. Capture methods in five subspecies of free-ranging bighorn sheep: an evaluation of drop-net, drive-net, chemical immobilization and the net-gun. Journal of Wildlife Diseases. 1983; 23:634–640.
9. Mboera LEG, Kitalyr JI. 1992. Small ruminant research and development in Africa. Diseases of small ruminants in central Tanzania. Proceedings of the Second Biennial Conference of the African Small Ruminant Research Network, AICC, Arusha, Tanzania 7-11, December 1992.
10. Monteith KL, Monteith KB, Delger JA, Schmitz LE, Brinkman TJ, Deperno CS *et al*. Immobilization of white-tailed deer with telazol, ketamine and xylazine and evaluation of antagonists. J Wildlife Management. 2012; 76(7):1412-1419.
11. Seaman JA, Simpson AM. Tibial fractures. Clin. Tech. Small Anim. Pract. 2004; 19:151-167.
12. Singh GR, Mogha IV, Arora BM. Compound fracture of radius and ulna in deer (Axis axis) - A case report. Indian Journal of Veterinary Surgery. 1982; 3(1):38-41.
13. Singh J, Peshin PK, Singh AP. Repair of matatarsal fracture in a Barking Deer. Haryana Veterinary Journal. 1982; 21(1):48-49.
14. Sontakke SD, Umapathy G, Patil MS, Shivaji S. Tolazoline antagoniises ketaminexylazine anaesthesia in an endangered Black buck (Antelope cervicapra). European J Wildlife Res. 2009; 55(4):357-361.
15. Unger M, Montavon PM, Heim UFA. Classification of fractures of the long bones in the dog and cat: Introduction and clinical application. Vet. Comp. Ortho. Traumatol. 1990; 3:41-50.30.
16. William B, Bharathidasan J, Thirumurugan M, Arunprasad R, Kananan A, George TA. Three finger palpation technique of vas deferens for keyhole vasectomy in spotted (Axis axis) and Sambar deer (Cervus unicolor). Vet. World. 2014; 7:685-688.