

Management of gun-shot wounds in a Sloth Bear *Melursus ursinus*

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Gun-shot wounds should be considered serious until proved otherwise because of the tremendous kinetic energies and penetration effects potentially present (Crane, 1985). The present paper describes management of gun-shot wounds in a Sloth Bear (*Melursus ursinus*).

A captive male Sloth Bear aged about 5yr owned by *Amsena* a non-government organization was inflicted with bullet injuries from the security guard of the district collector of Nuapara on 25.vi.2006. While the collector was inspecting the NGO the bear escaped from the cage and attacked him. The security person immediately fired four rounds of bullets towards the bear to save the collector. The injured bear was presented to the surgery department, Orissa Veterinary College in a squeeze cage carried on a truck on 6.vii.2006 for thorough examination and treatment. The animal was anaesthetized using a mixture of 1.3mg of atropine sulphate, 300mg of xylazine hydro-chloride and 500mg of ketamine hydrochloride as single bolus intramuscular injection (Image 1^w). The bear became recumbent within 5min. Then it was removed from the cage (Image 2^w) and transported to the x-ray room by a wheeled trolley. The temperature, pulse, respiration and heart rate were 100.4°F, 76/min, 12/min and 80/min, respectively. The values of haemoglobin, total leucocytes count, neutrophil, eosinophil, lymphocyte and monocyte were recorded to be 8g%, 5,600/cu mm, 60, 4, 29 and 7. The biochemical parameters GPT, GOT and BUN were 17 U/L, 72 U/L and 24.2mg/dl. Radiographs were taken in lateral and ventro-dorsal views and processed. No bullets could be located in the leg or thigh regions. Complete examination of body revealed three wounds. A bullet entry wound of 1cm diameter on the left lateral region below the level of ischial arch and the exit wound of about 2cm diameter was located on the medial aspect of the thigh (Image 3^w). The tongue was injured with free portion nearly half the width on the left side injuring the lateral aspect of the lip also nearer to the commissure (Image 4^w). The wound was healing. The injury of the lip was about one-half inch at an oblique angle. There was a bruise of about one-half inch, might be due to bullet injury on the right side of the neck (Image 5^w); no bullet had penetrated into the neck. The wounds on the tongue, lip and neck regions were treated with Terramycin liquid as they were superficial. The wounds at the left hind limb were cleaned and exudates were collected into a sterile syringe for antibiotic sensitivity test. These wounds were also thoroughly cleaned and irrigated with Terramycin liquid after shaving the area. There was no trace of suppuration in the neck though it was 10 days old. The metal detector also did not indicate the presence of any metallic objects in the body (Image 6^w). One bottle each of DNS 5%, D5 and RL were administered intravenously throughout the treatment period. The bear was revived with 20mg of yohimbine hydrochloride after being placed back in the cage. It recovered within 15 minutes and returned back to the zoo by truck. Dressing of the wounds with terramycin liquid and fly repellent continued for three days. Thereafter, 1g of parenteral cefotaxime and local dressing with cephalaxine powder was done according to sensitivity test for five days. The bear recovered uneventfully. Though serious the gun-shot wounds in the present case had not penetrated deeper and the

^w See Images 1-6^w in the web supplement at www.zoosprint.org

vital structures as evidenced from the radiograph. The bear was active on the day it arrived to the veterinary hospital for surgery. Cleaning of entry and exit wounds and parenteral sensitive antibiotic resulted in healing of the gun-shot wounds as suggested by Bright and Probst (1985) in small animals.

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Dystocia in Barasingha *Rucervus duvaucelii*

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Dystocia is an occasional complication of parturition in both free ranging and captive exotic artiodactylids. The majority of dystocia cases in the monotocous species is foetal in type and is the outcome of abnormal presentation, position and posture and to excessive size of the foetus. Dystocia in posterior presentation is relatively much more common than dystocia in anterior presentation (Roberts, 2002).

It has to be treated in much the same way as it is in domestic species. The first aim of treatment is to convert it into normal anterior or posterior presentation and having done this hasten delivery by relatively gentle traction (Arthur *et al.*, 1982). Therefore, a case of dystocia of posterior presentation in captive Barasingha (Swamp Deer) *Rucervus duvaucelii* at the Arignar Anna Zoological Park (AAZP) is communicated.

A pregnant primipara Barasingha at AAZP aged about 4 years and in its first gestation showed symptoms of dystocia after its full term. Zoo authorities reported that the animal was showing symptoms for the past two hours with restlessness, intermittent straining, discharge from the genitalia with protruded hind limbs through the vulva (Image 1^w) with no progression in labour, hence it was suspected that she possessed foetus with mal presentation and or it was a case of foetus-maternal disproportion. Accordingly the animal was darted with 8mg of valethamate bromide to relax the cervix intramuscularly. The animal was left undisturbed for about 30 minutes and observed. The animal was still straining and the two protruding hind limbs were visible. It was decided to correct the malpresentation of foetus manually.

Clinical Examination and Treatment

The animal was tranquilized with air gun dart with a combination of 100mg xylazine and 75mg ketamine at 11.30hr on 02.viii.2005. The rectal temperature was 103°F. On clinical examination - per vaginal examination revealed presence of live foetus with two protruding hind limbs confirming the posterior presentation of foetus. Forced traction was applied in the traction points in the hind limbs, with help of artificial lubrication. Finally, the live foetus was delivered and the foetal membrane was completely removed. The animal was

treated with broad-spectrum antibiotics, analgesics and tetanus toxoid injection intramuscularly and metrinidazole and furzalidone combination as intra uterine therapy.

The antibiotics and analgesics treatment was continued for three days in the feed and the animal was kept under observation. There was regular progress in her feed consumption and finally the animal recovered completely. Roberts (2002) reported that incidence of dystocia in posterior presentation of foetus in unipara is high. The findings of Adams and Bishop (1963) who opined that 85% of all the dystocias were in heifers. In the present case dystocia (posterior presentation) coincides with the above author reports, since the animal is unipara and also it was in first parturition.

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VET BRIEF

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Anaesthetic and surgical management of epulis in a Black Bear *Selenarctos thibetanus*- A case report

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Tumours connected with jaw are termed epulis. Such tumours have been reported in cattle, buffaloes and camels (Tyagi & Singh, 1993; Parikh *et al.*, 1997) but rarely in wild mammals (Bell, 1968).

This Brief deals with anaesthetic and surgical management of epulis in a female domesticated Black Bear (*Selenarctos thibetanus*) of approximately 3 years of age weighing about 160kg. There were two tumourous growth of varying size at the level of both the upper canines. The growth on the right was bigger than that on the left side. The tumours were slow in occurrence since last six months. Radiograph of snouts in dorso-ventral projections demonstrated bony growth of varying size originating from both lower canines and involving entire cranial aspect of mandible (Image 1^w).

The animal was prepared for general anaesthesia by keeping off feed and off water for twenty four and twelve hours respectively. The bear was premedicated with atropine sulphate @ 0.01mg/kg bw. After 30 minutes of premedication a combination of xylazine @ 2mg and ketamine @ 8mg/kg bw was injected i/m in the thigh muscles by controlling the animal manually. Sedation was observed within 15min and the animal went into lateral recumbency. After 25min post xylazine-ketamine administration, 45ml of 5% thiopentone sodium was injected in recurrent tarsal vein to induce general anaesthesia. The level of anaesthesia was maintained by giving a booster dose of 30ml of 2.5% thiopentone sodium solution after 60min after first thiopentone sodium injection.

^w See Image 1^w in the web supplement at www.zoosprint.org

During sedation, the animal showed few bouts of vomiting reflexes without any vomitus, along with salivation and irregular respiration. However, these symptoms disappeared after induction of general anaesthesia and the animal stabilized with regular pattern of respiration and heart beats, though pharyngeal reflexes remained active during entire 120min period of operative procedure. Tumours along with the affected bony tissue was resected by gingivectomy. The removed mass of right and left side growth was 200 and 75g in weight, respectively. Haemostasis was carried out by electrothermocautery. Gum wound edges were closed with linen suture by putting simple interrupted mattress sutures. The bear did not show any symptom of pain during surgical intervention and completely recovered from anaesthesia after four hours of its induction. Postoperative care included daily intramuscular injections of streptopenicillin @ 10mg/kg bw for five days. Daily mouth wash with povidone-iodine solution followed by smearing of operated site with povidone-iodine ointment was carried out thrice a day preferably after every feed for a week. Sutures were removed on the 12th post-operative day. On the 20th post-operative day 1ml of vincristine was injected intravenously. Uneventful recovery was observed without any complication.

In the present case deep sedation was observed following intramuscular administration of xylazine and ketamine combination which facilitated restrain of animal for intravenous injection and aseptic preparation of site, but it did not produce satisfactory level of surgical anaesthesia required for drastic surgery of mouth cavity for tumour removal. Addison & Kolenosky (1979) and Singh *et al.* (1997) have also recommended xylazine-ketamine combination for chemical immobilization of wild carnivores. In the present case use of thiopentone sodium following xylazine-ketamine, produced satisfactory level of surgical anaesthesia for removal of tumourous growth without intubation of trachea as the laryngeal reflexes were present throughout the period of surgical intervention.

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VET BRIEF

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Rehabilitation of an injured Indian Cobra *Naja naja*

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The Indian Cobra *Naja naja* is one of the most persecuted snakes due to its notoreity as a poisonous snake and people's panic. An injured cobra was presented to the surgery department, Orissa Veterinary College for treatment by volunteers of the "Snake Help Line", an NGO looking after the wellbeing of snakes. The cobra measuring about 1.5m was immobile and remained with its hood