Tail amputation in Indian Spectacled Cobra *Naja naja* - A case study

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Indian Spectacled Cobra *Naja naja* is a smooth-scaled, black or dark brown to yellowish-white, medium sized snake, measuring about 1.5-2m. The underside is usually white or yellowish with a wide dark neckband. Hood marking and classic design shows a connected pair of rings. It is the most widely distributed species in India and is one of the 'big 4' important snakes. These cobras are common in rice growing areas that have plenty of rats for their food and holes to live in. Cobras are hunted and killed for their skin and out of fear. The Government of India has controlled export of Cobra skin and the species is now protected under Schedule II of the Indian Wildlife (Protection) Act (1972) (Whitaker, 2002). Around 700-800 snakes are rescued and rehabilitated by WILD WORLD of Animal HELP Foundation every year. Amongst these, 1-2% snakes have injuries over their body, incurred from people trying to kill them.

An adult male Indian Spectacled Cobra was rescued from 'ghatlodia' area of Ahmedabad city on 15 April 2007, with perceptible swelling over the tail region from the wrath of humans..

On clinical examination, prolapse of left hemipenis was observed (Image 1[w]). Fracture of vertebral column behind the cloaca was discovered with a cripitation sound on palpation. No sensation was observed on the posterior fractured part of tail. So, based on clinical observation, it was decided to amputate the tail at the fracture site.

The head of Cobra was restrained by 'three finger grip' by a trained handler. Inj. meloxicam @ 0.2mg/kg body weight i/m (Bradey, 2001) was administered. Then anaesthesia was induced with inj. ketamine @ 30mg/kg body weight i/m (Bradey, 2001). After 10-15 minutes of anaesthetic injection, isoflurane was used to maintain the anaesthesia in boyl's apparatus.

Endotracheal tube No. 2.0 was passed through the larynx and anaesthesia was maintained with 3% isoflurane in 1.5 liters oxygen per minute. During the isoflurane anaesthesia the cobra was ventilated manually five times/minute by giving pressure on ventilation rubber bag. Monitoring of heart beat was done every five minutes to observe the condition of the snake. The surgical site was washed with normal saline solution and then sprayed with spirit (rubbing alchohol) and again painted with betadiene solution.

'U' shaped incision was made on the ventral and dorsal side of the tail at the fractured site. The skin was dissected bluntly to anterior part of surgical site (Image 2[w]). The muscle was incised ventrally with help of surgical blade to open intravertebral space. This part was cut with a bone cutter. The right part of hemipenis was ligated with catgut no '0' and cut with a pair of scissors. The muscle was sutured with catgut no '0' to close the bone part. Skin was sutured by horizontal mattress suture line with nylon.

The animal was dressed daily for seven days with betadine and acrillin ointment. Inj. enrofloxacin @ 5 mg/kg body weight i/m (Divers, 1998) and inj. meloxicam @ 0.2 mg/kg body weight i/m were given for five days. After nine days after the wound had healed properly (Image 3[w]) the snake was released back in wild.

[w] See Image 1-3[w] in the websupplement at www.zoosprint.org

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References

Whitaker R. (2002). *Common Indian Snakes - A Field Guide.* Macmillan India Ltd., pp.55-58.

Diver's S.J. (1998). Antimicrobials in reptiles. *Exotic Veterinary Magazine* (DVM) 1: 23.

Diver's S.J. (1999). Anaesthesia in reptiles. *Exotic Veterinary Magazine* (DVM) 1(3): 7-8.

Bradey Teresa (2001). Recognizing pain in exotic animals. *Exotic Veterinary Magazine* (DVM) 3(3): 21-26.

Adynamic ileus in a tigress *Panthera tigris*

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A Royal Bengal tigress "Devi" aged 17 years at Nandan Kanan zoo was noted to be off-feed for 48 hours. The animal had been kept in a squeeze cage for treatment of a chronic wound in the lumbar region (Image 1[w]). The temperature and respiration rates were recorded to be 99.8^{0}F and 14/min. The case was referred to Orissa Veterinary College for treatment. On examination, the wound was found to be septic and extending about 6cm into the muscles. The tigress was dull with posterior weakness. She was bearing weight in her hind limbs when excited. The sensory perception of hind limbs, perineum and tail was fair to painful stimulus. Sterile swabs were collected from the wound for culture and sensitivity test. Blood samples were also collected for haematological examination.

The wound was irrigated with 0.1% potassium permanganate lotion and dried with cotton swabs (Image 2[w]). Povidone-iodine (Betadine lotion; Win-Medicare Pvt.Ltd., New Delhi) 5% lotion was poured into the wound cavity. The tigress was administered with 500ml each of 5% Dextrose(D5), Ringers lactate (RLClaris Life Sciences Ltd., Ahmedabad), Rintose (Wockhard Ltd., Mumbai) through lateral coccygeal vein and two ampoules of Ranitidine 1ml inj. (Ranitin inj.; Torrent Pharma Ltd.,) two ampoules of Vitamin B-complex (Optineuron.; Lupin Lab.) 3ml inj. and 1g of Cefotaxime sodium inj.(Taxim; Alkem Laboratories Ltd.,Mumbai) intramuscularly on 18.iv.2006 and continued for five days. After a week on 25.iv.2006 it was reported that there was improvement in the intake of meat to about 3kg/day with healing of the wound, but there was absence of defecation since 18.iv.2006. Adynamic ileus was suspected.

Antibiotics were changed on the basis of sensitivity test. The tigress was treated with DNS 5%, D5, RL, Rintose 500ml each along with Amikacin 1gm inj. (Mikacin; Aristo Pharmaceuticals), Optineuron 3ml x 2 ampoules, Ranitin 1ml x 2 ampoules and irrigation of wound with ciprofloxacin. Blood examination revealed haemoglobin, RBC, WBC, neutrophil, lymphocyte, monocyte and eosinophil to be 11g%, 6.5 millions/mm^3, 13 thousands/mm^3, 65%, 30%, 2% and 3%, respectively with absence of any haemoparasite. Soap water enema was given of about 3l. The animal vomited with few nematodes in the vomitus. Hence, 3ml of Ivermectin inj. (Virbac Animal Health India Ltd.) was administered

[w] See Images in the websupplement at www.zoosprint.org

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subcutaneously. The tigress defecated large amount of faecoliths the next day. The fluid, antibiotic and supportive therapy were continued daily for five days since she cooperated well in the squeeze cage with enema given at three-day interval. The tigress improved and relapsed intermittently. Finally, she died on 16.v.2006. The carcass weighed 110.5kg. On postmortem examination the muscles were atrophied with little congestion. Lungs were congested and compressed. Cardiac muscles were firm. Subcutaneous and pericardial fat was deep yellow. Liver was mildly firm. Gastric and intestinal contents were scanty with mucous. The histopathological examination of liver, kidney, heart, lungs, stomach and intestine did not reveal any significant changes. Hence, the death of the tigress was attributed to off-feed condition associated with senility.

In the present case the tigress was off-feed and might have suffered from adynamic ileus. The wound in the lumbar region healed due to dressing and specific antibiotic therapy. The exact cause of the ileus may be associated with senility. Administration of fluid, electrolyte, and antibiotic along with supported therapy resulted in temporary improvement until the condition relapsed. The colon which is a very distensible organ that stores faeces before elimination makes the course of the disease frequently long. The affected animals lose their appetite and die of starvation as happened in this case. Similar findings were observed in dogs and cats by Pass (1985).

Reference

Pass, M.A. (1985). Small Intestine, pp.738-752. In: Douglas H. Slatter (ed.). *Text Book of Small Animal Surgery. 1st Edition.* W.B. Saunders Company. Philadelphia, 743pp.

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Prospective studies on prevalence of gastrointestinal parasites in zoo birds

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In spite of the better management in zoos, birds sometimes are under stress either due to the climatic changes, housing conditions or nutrition. In most zoos regular deworming programme is mandated by the Central Zoo Authority. This study was undertaken to know the prevalence of the parasitic infection to plan out effective preventive programme for specific parasites. It was conducted for a period of six months at Shri Sayaji Baugh Zoo, Vadodara. The zoo was visited every month and faecal droplets were collected in sample collection bottle from each cage of different bird groups. A total of 282 faecal samples were collected from 437 birds and examined.

Housing: Birds of each group were kept in separate cage under deep litter system. Each cage having water trough and feed trough. Deep litter material was changed every month and cages were daily cleaned early in the morning.

Feeding and watering schedule: Feeding was done through feed trough from 0830 to 0900hr and from 1430 to 1500hr daily. Feeds were separate for each group of birds.

Collection of faecal sample from zoo: About 5-20g of faeces of were collected from each cage of the aviary for screening for parasitic infection.

Storage and preservation of faecal sample: Faecal materials were kept separately in plastic collection bottles and stored in the laboratory refrigerator until examination.

Examination of faecal samples: Faecal samples were examined grossly for presence of gravid segments of cestodes immature and mature parasites, and later were processed for qualitative examination.

Qualitative examination: Fresh group droppings were processed by sedimentation technique in laboratory using the methods as described by Thienpont (1979) and Georgi (1985).

Results and Discussion: Several species of trematodes, cestodes and nematodes were found in free-living birds. Enumeration of all of them would be an arduous task of little practical value because most helminthes cause insignificant damage to the host. However, under certain conditions like stress, parasites may effect either the survival or reproduction of host populations especially in captivity.

In the present study, the overall prevalence of parasitic infection in various groups of birds is illustrated in Table 1.

Out of 282 faecal samples 101 samples were positive for parasitic load (35.86 %). Among them *Ascaridia* spp. 30 (27.3%), *Eimeria* spp. 33 (30.03%), *Capillaria* spp. 9 (8.19%), *Strongyloides* spp. 4 (3.64%) and mixed infection in 15 (13.65%) infection was observed in most of the birds. The above observations substantiate the findings of Patel *et al.* (2000) of prevalence of *Ascaris* and *Capillaria* spp. as 20.75 % and 13.2 % along with 17.92 % prevalence of *Eimeria* spp. from faecal samples of pigeon group. They also recorded *Ascaridia galli* and *Cotugnia digonopora* from hariyal pigeon and *Ascaridia galli* from postmortem of parakeet, peacock and cockatiel.

Little research has been conducted on diseases and ailments affecting wild birds, and most of the investigational and diagnostic work has been carried out on an ad-hoc basis in response to a sudden large-scale mortality in a particular area (Abrey, 1993).

It has been observed from the present study that the over all prevalence of parasitic load was found to be 35.81% in the zoo. The higher prevalence of parasites was found about 83.33% in group one of peafowl (*Pavo cristatus*), where as mixed infection of parasites was observed in the pigeon group; the Pheasant (*Chrysolophus* spp.) group did not revealed any parasitic load. Most of the birds revealed prevalence of A*scaridia* spp., *Eimeria* spp., *Strongyloides* spp. and *Capillaria* spp. alone or mixed.

References

Abrey, A.N.S. (1993). Diseases of free-ranging birds, pp.163-174. In: Fowler, M.E. (ed.). *Zoo and Wild Animal Medicine. Current Therapy-3.* W.B. Saunders Company. The Curtis Centre, Pennsylvania 19106.

Georgi, J.R. (1985). *Parasitology for Veterinarians* 4th Ed. W.B. Saunders, London, pp.344-348.

Patel, P.V., A.I. Patel, R.K. Sahu & R. Vyas (2000). Prevalence of Gastro-intestinal parasites in captive birds of Gujarat Zoos. *Zoos' Print Journal* 15 (7) : 295-296.

Thienpont, D. (1979). *Diagnosing Helminthiasis through coprological examination.* Beerse Jansen Research Foundation.1st edition, pp.44-67.

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