

Postmortem examination revealed inflamed uterine horns with a small tear near the uterine bifurcation. A cyst of about 5–6cm in diameter was also observed in one lung, which was unrelated to the death of the animal. Death in such case might be related to multiple stress caused by physical exertion, excitement, anaesthesia and prolonged manipulation.

**Maggot infestation in upper eyelid of Lion (*Panthera leo*):** Maggot wounds are very common in domestic and wild animals, especially in summer and rainy season when the fly population is high. Maggot wounds are usually present in areas where animals cannot lick. Turpentine oil is used in these cases to remove the maggots from the wound. While treating maggot wounds on the face near eyes, the oil may accidentally seep into the eyes causing conjunctivitis. The present case describes the successful management of maggot wound in the upper eyelid of a lion.

One male adult hybrid lion was presented with maggot infestation in the upper eyelid, which due to swelling drooped to cover the eyeball. The lion was enclosed in a narrow caged house and turpentine oil was sprayed on the wound with syringe. After 5min the eye and wound was washed with tap water under pressure to remove the dead and live maggots. Iodoform mixed with glycerin was applied locally. Iodoform exerts fly repellent effect due to its odor. Ivermectin (@ 0.2mg/kg, 40mg total) was given intra-muscularly. Ivermectin is a broad-spectrum ecto- and endo parasitic drug with good efficacy against maggots (Sharma, 1994). Within 3–4 days of treatment, the wound was granulating and healed completely without any complications. Alternatively, the animal could be anesthetized once for removal of maggots and medication, but repetitive tranquilization or anaesthesia is not desirable.

**Pasteurellosis in Sambar (*Rusa unicorn*):** An incidence of sudden death in an adult Sambar maintained in a Deer Safari is reported here. Postmortem examination revealed haemorrhagic spots on visceral organs including trachea, lungs, heart, rumen and spleen (Image 1<sup>st</sup> & 2<sup>nd</sup>). Impression smears made from cut surfaces of organs stained with Giemsa revealed gram-negative bipolar rods suggesting *Pasteurella* spp. infection. Cultural examination was not done to confirm the diagnosis. Preventive measures adopted to save the rest of the deer included cleaning of water premises, change of water, preventing entry of public in the deer safari and administration of broad-spectrum antibiotic (enrofloxacin 10%) in about double dose (@ 10mg/kg) mixed in feed for five days. No death was reported later. Pasteurellosis in deer has earlier been reported by Srinivasan *et al.* (1977) and Damodaran *et al.* (1977) with similar lesions in visceral organs on postmortem examination.

#### References

- Amend, J.F., P.A. Klavano & E.C. Stone (1972). Premedication with xylazine to eliminate muscular hypertonicity in cats during ketamine anaesthesia. *Veterinary Medicine Small Animal Clinician* 67(12): 1305–1307.
- Arora, B.M. (2000). *Restraint and Translocation of Wild Animals*, 1<sup>st</sup> edition. Published by Central Zoo Authority, New Delhi, 13pp.
- Damodaran, S., M. Thanikachalam & P.V. Ramachandran (1977). Pasteurellosis in a herd of spotted deer (*Axis axis*). *Cherion* 6(1): 40–43.
- Dutta, B., D. Kalita & D.K. Lahon (1999). Xylazine and ketamine anaesthesia in two black bears. *Indian Veterinary Journal* 76: 553–555.
- Kumar, A., V.K. Bhalla & V.K. Sharma (2002). Management of abscess in a Himalayan Black Bear (*Selenarctos thibetanus*). *Wildlife Information Bulletin* 8(1): 46.
- Kumar, A. (2006). Chemical restraint and shifting of a neelgai (*B. tragocamelus*). *Zoos' Print* 21(12): 7.
- Pandey, S.K., V.P. Chandrapuria & M.R. Malik (1994). Fibroma over submandibular salivary gland in a black bear (*Melursus ursinus*). *Indian Veterinary Journal* 71: 1260–61.
- Selvam, N.P., R. Thiruthalinathan, D. Swaminathan & V. Krishnamurthy (1996). Photosensitization and its treatment in an Asian Elephant - a case report. *Zoos' Print Journal* 11(4): 13.
- Sharma, T.R. (1994). Efficacy of ivermectin in treating maggot wounds in lions. *Indian Veterinary Journal* 71: 275–276.
- Srinivasan, V.A., A.T. Venugopalan & R.A. Balaprakasam (1977). A note of Pasteurella infection in deer. *Indian Veterinary Journal* 54: 409–410.
- Yate, S. (1973). Clinical use of xylazine. A new drug for old problems. *Veterinary Medicine Small Animal Clinician* 68(5): 486.

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VET BRIEF

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## Electric burn injury in the oral cavity in a Nilgiri Langur *Trachypithecus johnii* - a case report

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plus web supplement of 1 page

Wild animals are exposed to various physical injuries like burns due to fire, electrocution etc. Electrocution to wild animals occur from accidental contact with either illegal electric wire fencing, or from overhead live wires. Electric burns of the oral cavity can involve lip, tongue, mucous membrane and underlying bone (Nichter *et al.*, 1985). Small animals typically receive low voltage injuries from chewing electrical cords. Alternating current causes sustained tetanic contractions of striated muscles which can make it impossible for a victim to release from the source until the circuit is broken (Remensnyder, 1990). An acute case of electric burn injury of the oral cavity, tongue and face in a Nilgiri langur and its successful treatment is discussed.

A 15yr old male Nilgiri Langur weighing 10.5kg was brought to the teaching Veterinary College Hospital, Pookot, Wayanad by the forest officials who found the animal lying near a transformer with injuries apparently resulting from electrocution. The animal was dehydrated; its mouth open and continuous drooling of saliva. The eyes were tightly closed and the periorbital region and face were edematous. There was complete charring of skin in the face and singeing of hair in the fore head and other hairy areas (Image 1<sup>st</sup>). The respiration, pulse rate and body temperature were 24/min, 134/min and 39.2°C, respectively and all the visible mucous membranes were congested. General anaesthesia was effected with 150mg of ketamine hydrochloride (Neon Lab), intramuscularly after premedicating with diazepam 2ml (Ranbaxy), intramuscularly. Examination of the oral cavity revealed that both dorsal and ventral aspects of tongue were lacerated and there was peeling of mucosa. The lacerations were cleaned with potassium permanganate lotion (0.1%) and painted with Dentogel® (Indoco remedies). The facial region was cleaned with potassium permanganate lotion and was painted with povidone iodine. The eyes were cleaned with 2% boric lotion and gentamicin eye drops were applied. Ringer lactate (250ml, Sanctus Pharma) was given intravenously. Inj. amoxicillin (250mg, Intas Pharma), inj. meloxicam (2ml, Intas Pharma) and inj Beplex Forte (2ml, Anglo-French drugs) were given intramuscularly.

The same treatment was repeated on the second day after anaesthetizing the animal with 150mg ketamine hydrochloride. Ringer lactate (100ml) was also given intravenously. Inj amoxicillin was repeated at 12hr intervals. The animal started showing improvement. The same treatment was continued for the next six days.

On third day the animal opened its eye with difficulty. By the fourth day, the tongue lacerations showed marked signs of healing and the animal started accepting fruits. The treatment was continued for three more days and the animal made an uneventful recovery (Image 2<sup>nd</sup>) and was released back to wild by the forest officials after observing the animal

<sup>W</sup> See Images in the web supplement at [www.zoosprint.org](http://www.zoosprint.org)

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for three more days.

In low voltage injuries pulmonary oedema is the most life threatening complication in animals that survive the shock. Early aggressive removal of all devitalized tissues is the most important aspect of treatment (Remensnyder, 1990). Second intention healing of the lip injuries particularly those involving the commissure can limit opening of the mouth (Harvey, 1993). Topical antimicrobial agents are applied to control burn wound sepsis until debridement. Mefanide is the agent of choice because of its ability to penetrate deeply (Pope, 1985).

#### References

- Pope, E.R. (1985).** Thermal, electrical, and chemical burns and cold injuries, pp.356-372. In: Slatter (ed.), *Text book of Small Animal Surgery*, 2<sup>nd</sup> edition, WB Saunders Company, Philadelphia, 370pp.
- Nichter, L.S., R.F Morgan, C.A. Bryant, P.C. Haines, C.A. Bacchetta & R.F. Edich (1985).** Electric burns of the oral cavity. *Comprehensive Therapy* 11(4): 65-71.
- Remensnyder, J.P. (1990).** Acute electrical injuries. In: Martin Jaj (ed.), *Acute Management of Burned Patient*. WB Saunders, Philadelphia, 66pp.
- Harvey, C.E. (1993).** Oral cavity, pp 499-521. In: Slatter (ed.), *Text book of Small Animal Surgery*, 2<sup>nd</sup> edition, WB Saunders Company, Philadelphia, 510pp.

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VET BRIEF

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### Pulmonary anthracosis in large wild felids

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*Plus web supplement of 1 page*

Anthracosis is the deposition of carbon or coal dust in the lungs. It is so frequent in city-reared animals especially in dogs, horses and mules used in and around coal mines (Runnells, 1960; Jubb & Kennedy, 1985; Jones & Hunt, 1983). The lungs and its lymph nodes are reservoirs for various dust particles; the dust is also found free in the bronchioles and alveoli, in macrophages in the alveoli and medulla of lymph nodes. Anthracosis condition has been reported in different domestic animals; few reports are available on wild animals. Hence the present communication records the occurrence of pulmonary anthracosis in lions and leopard of both sexes living at S.V. Zoo Park, Tirupati during the year 2005. However, these animals were brought from Kerala Circus.

Carcasses of lions (5) and leopard (1) of both sexes were aged about 16-25 years. On necropsy, examination of the lungs revealed generalized uniform distribution of minute dark spots on the sub pleural surface of lungs (Image 1<sup>w</sup>). Represented lung pieces were collected in 10% formalin and processed by routine conventional methods.

Histological studies of lung tissue revealed the deposition of minute black granules in clumps in alveolar walls and macrophages in inter alveolar connective tissue septa. The macrophages laden with carbon particles were also seen in the peribronchiolar area. The minute black particles proved negative for haemosiderin and melanin pigment on special staining. The gross and microscopic observations recorded in this observation are similar to Farrow (1975) and Gupta (1991).

The chances of felines at S.V. Zoo Park, getting exposed to coal particulars are remote since the zoo area is relatively free from such

<sup>w</sup> See Image 1<sup>w</sup> in the web supplement at [www.zoosprint.org](http://www.zoosprint.org)

pollution. However, since these lions and leopards in the S.V. Zoo Park were brought from Kerala Circus, the possible justification of anthracosis in these animals could be due to the movement of circus animals to many industrial cities and inhalation of coal particles might have resulted in anthracosis.

#### References

- Farrow, C.S. (1975).** Smoke inhalation in the: Current concepts of Pathophysiology and management. *Veterinary Medicine and Small Animal Clinician*. 70: 406- 414.
- Gupta, V. K. & R.C. Katoch (1991).** Pulmonary Anthracosis in dog: A case report. *Indian Journal of Veterinary Pathology* 15(1): 47.
- Jones & R.D. Hunt (1983).** *Veterinary Pathology*. 5<sup>th</sup> edition. Lea and Febiger, Philadelphia, USA.
- Jubb, K.V., P.C. Kennedy & N. Palmer (1985).** *Pathology of Domestic Animals*. Vol. 2, 3<sup>rd</sup> edition. Academic Press, Inc. London.
- Runnells, R.A., W.S. Monlux & A.W. Monlux (1960).** *Principles of Veterinary Pathology*; 6<sup>th</sup> edition. The Iowa State University Press, USA.



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