

LYMPHO SARCOMA IN A LEOPARD - A CASE REPORT

K. Sujatha¹, Ch. Srilatha² and N. Sailaja³

^{1,3} Assistant Professor; ² Associate Professor & University Head; Department of Pathology, College of Veterinary Science, Tirupati, Andhra Pradesh 517502, India

plus web supplement of 1 page

The incidence of occurrence of tumors in zoo animals is sporadic in nature (Sivadas *et al.*, 1968); malignant tumors are found to be more common than benign and most of the adult and aged animals succumbed to tumors (Rao, 2002). The incidence of lymphosarcoma in a Striped Hyena was recorded by Nashiruddullah and Chakraborty (2003) and a similar case has been reported herewith in a leopard.

A male leopard aged about eleven years belonging to S.V Zoological Park, Tirupati, was brought for postmortem examination. The animal was said to be ailing for ten days with dullness and anorexia. All visible mucous membranes were pale. Necropsy examination revealed free blood (approximately .5l) and lemon-sized blood clots in the abdominal cavity. Severe subcutaneous haemorrhages were noticed at the inner side of scapula and the ventral side of abdominal region on the left. Submaxillary, prescapular precrural and mesenteric lymph nodes were enlarged 3-4 times than normal (Image 1^w). Cut sections of the lymph nodes were firm and no demarcation between the cortex and medulla was noticed. The spleen was severely and diffusely enlarged (15 to 20 times) (Image 2^w) and was turgid and friable. The splenic capsule was ruptured in some places with the pulp bulging out. The liver was slightly enlarged and firm in consistency with yellowish discoloration. Trachea and bronchi contained blood mixed with froth. The stomach and the intestines showed catarrhal changes and were empty. Bone marrow was soft and reddish with a little fatty tissue.

Microscopic examination of impression smears of bone marrow, spleen, and lymph nodes revealed the presence of significant number of monomorphic population of medium-sized lymphocytes with hyperchromatic nucleus and occasional mitotic figures on Leishman's staining (Image 3^w). Represented tissue pieces preserved in 10% formal saline were processed in routine conventional method and stained by haematoxylin and eosin.

Histologically all the lymph nodes and spleen revealed broad sheets of lymphoblasts with anaplastic changes (Image 4^w). The architecture of spleen and lymph nodes is lost because of massive infiltration of lymphoblasts in the white pulp and in lymphoid follicles. Periportal infiltration of lymphocytes was also noticed in the liver. Pulmonary changes included edema and congestion with hyperplasia of bronchial epithelium. Multifocal accumulation of lymphoblasts in mucosa and submucosa of stomach and intestines were seen. The clinical gross and histopathological findings of the present case are in accordance with previous reports (Baruah, 1983; Jubb & Kennedy, 1985; Moulton, 1985) in the family Felidae.

REFERENCES

Baruah, M. (1983). Common diseases of wildlife in captivity with particular reference to northeastern region. Silver Jubilee Souvenir - Assam State Zoo, Guwhati, pp.32-35

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

© Zoo Outreach Organisation; www.zoosprint.org
Manuscript 1502; Received 10 January 2006; Revised received 14 June 2006;
Finally accepted 19 August 2006; Date of publication 21 September 2006

Jubb, K.V.P. and C.P. Kennedy (1985). pp.107-108. *A Text Book on Pathology of Domestic Animals*. 3rd ed. Academic Press, Inc, Orlando, Florida,

Moulton, E.J. (1985). pp. 156-160. *Tumors in Domestic Animals*. 2nd ed. University of California Press, Berkeley.

Nashiruddullah, N. and A. Chakraborty (2003). Spontaneous neoplasms in captive wild carnivores of the Assam State Zoo. *Indian Journal of Veterinary Pathology* 27(1): 39-41.

Rao, A.T. and L.N. Acharjyo (2002). *Diseases of Wild Felids*. 1st ed. Repro Print (P) Ltd., Nayapalli, Bhubaneswar.

Sivadas, C.G., A. Rajan, M.K. Nair and K.M. Rmachandran (1968). Neoplasms of captive wild animals. *Malaysian Veterinary Journal* 4: 173-195.



PREDATION BASED FATAL PERITONITIS IN A ROYAL BENGAL TIGER

J.L. Singh¹, D. Swaroop², M. Patel³ and L.K. Sanwal⁴

¹ Assoc. Prof. Department of Clinical Medicine, ² Principal Scientist & Head, Division of Medicine, I.V.R.I. Izatnagar, ³ Assistant Professor, Department of LPM, College of Veterinary and Animal Sciences, G.B. Pant University of Agriculture & Technology, Pantnagar, U.S. Nagar, Uttaranchal

⁴ Veterinary Officer, Nainital Zoo, Nainital, Uttaranchal

plus web supplement of 1 page

Prey species of big cats range from small porcupines to the big Gaur depending on availability and circumstances. After hunting the animals, eating voraciously is a common phenomenon. While doing so, the predator may gulp both edible and non-edible parts of the kill, sometimes proving fatal. Among big cats, secondary peritonitis due to penetration by sharp foreign objects is a rare phenomenon when compared to infection (Rathore & Khera, 1981). Among all types of foreign body peritonitis, prey-spine induced peritonitis is the least common. This paper describes a report on clinico-pathological aspect of squill-punctured secondary peritonitis.

An ailing Royal Bengal Tiger was rescued by the forest department during routine patrolling in the Jim Corbett National Park in July, 2003 and was transferred to the G.B. Pant High Altitude Zoo, Nainital for therapeutic management. The Nainital Zoo Health Advisory Committee examined the tiger and took history of the incident. While recording history from the forest officials, it was learnt that the tiger had lameness in both of its hind limbs, weakness due to starvation and was smelling foul from a distance. On close inspection, it was found to have maggot wounds in different parts of its body. The ailing tiger's blood and peritoneal fluid were collected and detail haematological and cellular examination were done using standard methods. The tiger was treated with Ivermectin, Cefatoxime, Gentamycin, multi-vitamins, Ringer's lactate standard doses and C.T.C. dressing for a week.

Distant examination of the animal showed dullness and weakness along with presence of maggotted wound throughout the body (Image 1^w). On clinical examination the tiger showed sunken eye condition, praying mantis posture, hypothermia (99°F), tucked up appearance of

^w see Images 1-3 in the web supplement at www.zoosprint.org

© Zoo Outreach Organisation; www.zoosprint.org
Manuscript 1480; Received 12 December 2005; Finally accepted 21 May
2006; Date of publication 21 September 2006

abdomen, reluctance to eat and move, tachycardia and severe aggression from abdominal palpation. The haematological investigations revealed neutrophilia, leukocytosis and anaemia. Further, cytological examination of peritoneal fluid demonstrated many neutrophils and erythrocytes, while Gram's staining demonstrated mixed infection of cocci and rods. The tiger succumbed after seven days of medication.

A similar case was reported by Singh *et al.* (1994), where the tiger was died due to coli septicemia. However, Timoney (1976) could treat the domestic cat which suffered from peritonitis due to infection. Necropsy examination showed presence of many porcupine quills in various parts of the intestine and viscera. Gross pathological examination demonstrated the presence of excessive peritoneal fluid and adhesion of peritoneum along with necrotic changes leading to its blackish colouration. Examination of gall bladder revealed its engorgement along with seepage of bile. Macroscopic examination of GIT demonstrated puncturing of intestinal loops by squills and later ballooning of intestine (Image 2^w). Haemorrhages in intestine and peritoneum and congestion in various visceral organs along with discrete necrotic foci in spleen, liver and peritoneum were the characteristic findings (Image 3^w).

On the basis of clinical observation and presence of quills, it can be concluded that the tiger had swallowed the porcupine. During the peristaltic movement, the quills had pierced the intestinal loops leading to the seepage of the gastro-intestinal tract contents into the peritoneal cavity. Subsequently, the animal developed traumatic peritonitis. In the places where the quills had punctured the body surface also, it had attracted flies leading to maggot infestation throughout the body. The tiger probably did not respond to treatment due to the aggravated condition.

REFERENCES

- Rathore, B.S. and S.S. Khera (1981). Causes of mortality in felines in free-living state and captivity in India. *Indian Veterinary Journal* 58: 271-276.
Singh, R.K., R. Rajeswari and L. Charl (1994). Coli septicemia in a tiger. *Indian Veterinary Journal* 71(4): 22.
Timoney, J.F. (1976). Feline infectious peritonitis. *Veterinary Clinical North America* 6: 391.

ACKNOWLEDGEMENT

Authors are highly thankful to the authority of G.B. Pant High Altitude Zoo, Nainital for giving permission to publish the case report. Thanks are also due to Dean C.V.A.Sc. Pantnagar to provide facilities for laboratory investigation.



VET BRIEF

ZOOS' PRINT JOURNAL 21(10): 2440-2441

THERAPEUTIC APPROACH IN FUNGAL INFECTION IN A JAGUAR *PANTHERA ONCA*

K. Senthilkumar¹, M.G. Jayathangaraj², S. Ramesh³, K. Devaki⁴ and Pathan Nazrullah Khan⁵

^{1,4,5} Arignar Anna Zoological Park, Vandalur, Chennai, Tamil Nadu 600048, India

^{2,3} Department of Wildlife Science, Madras Veterinary College, Chennai, Tamil Nadu 600007, India
Email: ¹drsenthil72@hotmail.com

Occurrence of dermatophytosis is seldom encountered in captive felids in zoos. An incidence of dermatomycosis in a black Jaguar (*Panthera onca*) is detailed here.

Frequent pawing of cheek regions was reported by an animal keeper of the Arignar Anna Zoological Park in an adult black Jaguar (Samsung) for two days. Closer examination of the felid revealed rubbing of both the cheek regions on the fence of the enclosure along with intermittent pawing and hair loss.

The Jaguar was physically restrained in the squeeze cage and direct skin scrapings and faecal samples were obtained and examined. A detailed examination of the felid further revealed existence of wounds near the cheek region and the animal was treated with an injection of 500mg of ampicillin and cloxacillin I/M in the morning and orally in the evening which was continued daily for seven days, along with local application of povidone iodine solution sprayed from a 20ml syringe externally, from a distance, over the discoloured alopecic patch in the cheek region. Ten grams of griseofulvin was administered orally with

meat, daily for two weeks. The animal's condition dramatically improved over this period and no pruritus or pawing was reported by the animal keeper.

The skin scrapings examined revealed evidence of fungal infections and based on both macroscopic and microscopic appearance of growth in Sabouraud's medium, *Microsporium* sp. infection was identified. Faecal examination failed to reveal any evidence of helminthes.

Encountering of *Microsporium* sp. infection in this Jaguar was in agreement with the findings by August (1977), who further quoted that felids in disease most commonly get affected with *Microsporium canis* infection, however, *Trichophyton* species may also be isolated occasionally. Occurrence of fungal infections in wild animals have also been reported by Fowler (1986) and Beynon and Cooper (1972).

The usage of griseofulvin yielded good results in this animal. This was in agreement with the reports furnished by August (1997) who stated that in case of fungal infections, topical therapy is only an adjuvant and not a sole therapy, thus stressing the need for systemic therapy also. Any topical application might irritate the wild felid and provoke licking and hence, application of topical therapy should not be the sole line of treatment in wild carnivores, as in this case.

Though treatment was carried out in this case vigorously, it is noteworthy to mention the report furnished by Chandler *et al.* (1996) who stated that dermatophytosis may be a self limiting disease and mild cases may not require drug therapy. However, pawing, rubbing and the resultant wounds or skin lesions necessitated effective clinical intervention by means of systemic administration of griseofulvin coupled with topical administration of povidone iodine solution. One should keep in mind that use of griseofulvin is contraindicated in pregnancy and long term administration extending for months together needs more careful assessments as griseofulvin is teratogenic in nature