

Rabies in Rhino at National Zoological Park, New Delhi - A case report

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Introduction

Rabies is a viral infection of the central nervous system. It is primarily a disease of animals belonging to the families: Canidae, Felidae, Chiroptera, etc. It has also been recorded in most warm-blooded animals, both domesticated and wild, which become infected through contact with these major vector species. Man in turn has become exposed to the disease through transmission from both wild and domestic animals.

Rabies poses an important problem in India, as in several South East Asian countries, from the public health point of view. The disease presents a complex epidemiological picture and is endemic in this country.



Rhino at National Zoological Park showing rabies symptoms

Case history

One female Rhino named Mohini, aged about 19 years at the National Zoological Park, New Delhi was reported to have fallen down in her enclosure on the morning of 23 April 2001. Within one hour of her falling down the animal started showing acute colic symptoms such as paddling movements of all four legs, respiratory distress in the form of panting. Conjunctivae of the animal were infected and dark red in appearance. The animal made groaning sounds and was off-feed and restless.

The rhino was given antibiotics, sedatives, antihistaminics and dextrose saline (5%) but did not show any improvement and died on the evening of 24th April 2001 at around 8.30 P.M.

Post-mortem findings

Stomach was filled partially with undigested fodder. Its mucous membrane was congested. Small and large intestine were deeply congested. The mucous membrane had echymotic haemorrhages spread over entire length and breadth of small and large intestine. The lumen of intestine was filled with dull brownish coloured ingesta. Caecum and colon contained impacted ingesta and the mucosa was congested. Liver showed slight congestion. Spleen and

kidney did not show any pathological lesions. Lungs did not reveal any pathological lesions. Heart was deeply congested. Echymotic haemorrhages were present in the epicardium, myocardium and endocardium. The auricles and ventricles contained current jelly clots. Brain and meninges showed marked congestions with engorgement of blood vessels.

Laboratory investigations

Heart blood swabs and peritoneal fluid were collected aseptically for cultural examination. Intestinal contents were collected for chemical / toxicological examination. Fodder sample was also collected for chemical / toxicological investigation. Pieces of lung, liver, spleen, stomach, small intestine, colon and brain were collected in 10% formalin for histopathological investigation.

Laboratory findings

Heart blood swab was found positive for *Staphylococcus sp.* (Coagulase - ve). Peritoneal fluid swab was found positive for *Staphylococcus sp.* Fodder samples and Intestinal contents were found negative for presence of any toxic material.

Histopathological findings

Brain: The brain section from cerebrum revealed engorgement of

capillaries with infiltration of lymphocytes perivascularly in dilated V.R. space (perivascular cuffing). The neuronal cells were variably degenerated in gray matter with evidence of satellitosis and occasional neuronphagia.

The majority of neurons revealed presence of acidophilic intracytoplasmic inclusion bodies having faint bluish tinge indistinguishable from Negri bodies. These inclusions were found singly or multiple and were of variable size.

Intestine: Denuded or sloughed mucosal epithelium were observed. Glandular tissue in mucosa appeared distorted. There were sloughed off epithelial cells. Some of the epithelial cells even necrosed. There was oedema, congestion and haemorrhages in mucosa and lamina propria. Infiltration of mononuclear cells including macrophages and lymphocytes in mucosal tissues was evident. Macrophages loaded with hemosiderin were evident in lamina propria. Tendency towards syncytial cell formation. Edema and congestion extending upto serosal layer. Muscularis was thick, appeared more

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eosinophilic along with degenerative changes and serofibrinous exudates.

Discussion

There was no history of dog bite or bite from any wild animals except that the animal had small wounds on the back and wither regions caused by pecking by crows. There was presence of squirrel and mongoose in the open enclosure of the animal. It might be possible that the rabies infection entered in the animal through wounds due to pecking by the crows or licking of wounds by squirrel or mongoose which are known to be the carrier of rabies infection. Typical symptoms of rabies such as salivation, staggering gait, hydrophobia, aggressive behaviour etc. were not present in this animal.

The pathological lesions noticed at the time of post mortem in the internal organs of the animal may be due to staphylococcal infection since the heart blood swab and peritoneal fluid swab were found positive for *Staphylococcus* (coagulase negative).

The veterinary team was treating the female 'Mohini' (Rhino) upto 12.30 midnight. At the time the male Rhino 'Daboo' was locked inside the cell, but to our surprise and shock the male was also found dead in the next day morning. The male did not show any symptoms of sickness, but investigation in the animal cell revealed that this animal might have dashed against the wall and door after 12.30 AM as blood stains could be seen in this area. No apparent changes were noticed during post mortem. The cause of death of this animal was also attributed as Rabies, which might have been communicated from the female.

Acknowledgement

Our sincere thanks are due to the Director, IVRI, Izatnagar for their kind co-operation and encouragement.

The authors are also thankful to the staff members of Animal Section and Hospital Section of National Zoological Park, New Delhi.

Announcement : Position Available

Position: Field biologist/ ecologist for Center for Bear Rehab. and Conservation (**black bear rehabilitation project**)

Program: Wild Rescue

Reports to: Coordinator, Wild Rescue

Job loc: Seijosa, Pakke Tiger Reserve, Arunachal Pradesh

Closing date (if specified): 1 November 2003

Hiring Organization: Wildlife Trust of India

Job Description:

Contractual full-time position for a field biologist / ecologist is available with Wildlife Trust of India at Seijosa, Pakke tiger reserve, Arunachal Pradesh, India. Advanced degree(s) and experience sought (see below).

Essential qualifications required:

Minimum qualifications are master's degree in conservation biology/ wildlife sciences/ ecology/ zoology/ environmental sciences with two years professional biological experience in field conservation projects or a Doctorate in one of the biological sciences. Persons with experience working with bears and bear management will be preferred. Familiarity with modern ecological survey methods and the use of appropriate equipment including use of radio-telemetry. Ability to gather data, write comprehensive reports and present findings.

Additional required skills & capabilities: Ability to speak northeastern languages or interest and willingness to learn the languages will be an advantage. You should be able to work in very isolated conditions and be experienced in off-road driving. Use of computer software like Word, Excel, Power Point, and excellent written, communication and organization skills.

Responsibilities:

- Developing and implementing research projects
- Collecting data on feeding, behavior and habitat utilization of black bears
- Conducting data analysis and interpretation; and planning of field studies
- Preparing planning documents and progress reports

- Formulating bear population and habitat management policy and strategy recommendations
- Monitoring of released black bears will be one of the appointee's activities, along with collection of data on released bears in the study area
- Evaluating effectiveness of the bear rehabilitation program
- Providing technical assistance to forest department and other agency personnel
- Interacting with the public, especially on matters pertaining to bears and bear management.

Salary & benefits: Contract will initially be for six month on probation with the possibility of extension thereafter. Benefits include free on-site single accommodation. Salary will be commensurate with qualifications & field experience. Benefits include 30 paid holidays; 5 days of festival leave as per WTI rules per year.

Application Procedure:

Wildlife Trust of India is committed to saving our environment. We appreciate the submission of the application materials electronically!

Applicants should send: Cover letter, Resume and names of three professional references.

To Apply: Send application materials to email: info@wti.org.in

You may also send your application to:

Director, Administration,
Wildlife Trust of India,
C – 644, New Friends colony,
New Delhi – 110 065.

For more information, please have a look at our website: www.wti.org.in

No phone calls please.

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