PASTEURELLOSIS IN A CHITAL DEER (*AXIS AXIS*) IN CAPTIVITY

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Pasteurellosis, an infectious disease caused by *Pasteurella multocida*, a bipolar, gram-negative bacterium is widely reported in domestic animals. The disease is also reported in several species of deer (Sinha, 1975; Damodaran *et al.*, 1977; Parihar, 1979; Chakraborty *et al.*, 1995). In the present paper, a sporadic case of pasteurellosis in a Chital (*Axis axis*) in Maharajbag Zoo, College of Agriculture, Nagpur is reported.

On 25 November 1998 a male deer of about five years old was found dead in the enclosure. The carcass was immediately removed from the enclosure and was sent for postmortem examination at the pathology department, Nagpur Veterinary College. The gross changes noticed on postmortem examination is described in Table 1.

Pasteurella multocida was observed on culturing heart blood, lung and liver exudates on blood agar. Heart blood and lung impression smears also revealed bipolar organisms morphologically indistinguishable from *other Pasteurella* species.

Pneumonia caused by *Pasteurella* species have been reported by earlier workers. Sudden death in 1500 Sambars (*Cervus unicolor*) was reported by Sinha (1975) and acute death of seven chitals and one barking deer (*Muntiacus muntjak*) due to pasteurellosis has been reported by George (1986). Chakraborty *et al.*, 1995 recorded 17 cases of bacterial pneumonia in deer of which *Pasteurella* species were isolated from four cases. Damodaran *et al.* (1977) and Srinivasan *et al.* (1977) also reported the isolation of *P. multocida* from the heart blood, lungs and liver of deer. In the present case the death was sudden without any clinical signs of illness. The gross changes noticed were similar to the findings recorded by earlier workers.

It is known that the *Pasteurella* organisms are opportunistic pathogens, which are commonly present in the respiratory tract of animals without causing the disease and multiply to produce the disease during conditions of stress due to over-crowding, change in weather, transportation or starvation. In the present case, sharp decrease of temperature might have resulted in setting the disease. Considering the hazards of this disease, following steps were taken immediately.

1. All the animals were protected from cold breeze by providing proper shelter, bedding etc.
2. Phenol 0.5% (disinfectant) was sprayed in the deer paddock.
3. Feed and drinking water were changed and water purifiers were added in drinking water pool.
4. As a prophylactic measure, sulpha drugs (Cotrimol-Alembic Pharma), Livex liquid (Alembic Pharma), Rumigest powder (Alembic Pharma) were given to all deer for three days.

Further incidence of the disease was not encountered and hence vaccination against pasteurellosis was not undertaken.

Table 1. Details of postmortem findings.

Name of Organ	Pathological findings	Remarks
Visible mucous membranes	Congestion	
Larynx and throat muscles	Hemorrhages	
Heart		
a. Epicardium	Hemorrhages	
b. Ventricles	Chicken fat clots	
Trachea	Hemorrhages on mucous membrane filled with froth	Heart blood showed bipolar organisms on microscopic examination.
Lungs	Edematous with congestion	Impression smears revealed bipolar organisms.
Liver	Congestion with granular surface	
Spleen, kidney, stomach and intestine	Congestion	

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REDUCTION OF A FRACTURE OF THE HUMERUS OF A BRAHMINY KITE (*HALIASTUR INDUS*)

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A juvenile Brahminy Kite (*Haliastur indus*) was presented to the Zoo hospital with a history of an attack by a dog the previous day. When examined, a fracture of the right humerus (more towards the anterior end) was observed. The fractured ends of the bone had also overlapped. The injured site was oedematous and bluish in colouration.

It was decided to reduce the fracture and the bird was tranquilized using 5mg of Ketamine Hydrochloride. The weight of the bird was 500g. The bird was anaesthatised after two minutes of administration of the drug and was ready for the surgery in five minutes. The area around the injury was cleaned using normal saline and gauze. Upon closer examination, the muscles of the area around the fracture were found to be inflammed as a result of the injury.

The distal part of the wing was rotated and pushed through the opening of the injury so that it was in line with the other part of the humerus. Clindamycin (150mg) was infiltrated around the wound and a steroid ointment was applied for the oedema to subside. The opening was closed using nylon suture material.

As there was no way to immobilize the humerus, it was decided to use a hub of a disposable needle to achieve at least partial immobilization of the humerus. The hub of a needle was split into two and wrapped well with cotton wool and adhesive plaster, and was kept on each side of the reduced fracture. A nylon thread was passed through the wing web and then over the needle hub and the two ends were tied to keep them in position.

Clindamycin (150mg) was given intramuscularly as antibiotic. The bird was kept in a dark box until recovery. After three hours, the bird recovered fully and was transferred to a cage.

The oedema and bluish colouration had subsided the following day and the bird was observed to be very alert. When placed on the ground it made few attempts to fly but in vain.

Since the bird tried to remove the padded hub of the needle on the dorsal side of its wing, it was decided to introduce an Elizabethan collar. The antibiotic cover was continued twice a day for seven days. In addition Calcium powder and Vitamin C were given with its meal.

The bird recovered fully after three weeks and the padded hubs of the needle were removed.

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