

An unusual form of pasteurellosis in Spotted Deer (*Axis axis*)

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Pasteurellosis in Spotted Deer (*Axis axis*) has been reported from different parts of the world including India (Campbell & Saini, 1991; Ravishankar *et al.*, 2004) and these reports deal with the acute septicaemic form of the disease. This report deals with pasteurellosis in spotted deer with some unusual manifestations like abscessation in joints, internal organs and which is apparently chronic.

At Thrissur Zoo (Thrissur District, Kerala), 10 spotted deers (*Axis axis*) out of a herd of 50, died showing the following symptoms as discharge from eyes and nose, difficulty in walking and emaciation. Animals showed these symptoms for several days, gradually going down in condition, culminating in death. No other animal species in the zoo, especially the adjacent herd of Mithun, did reveal any sign of such an infection.

Three dead animals were presented to Department of Pathology, College of Veterinary and Animal Sciences, Mannuthy for further investigations. Post mortem examination revealed gangrenous arthritis, oedema and gelatinization of limb muscles, suppurative pneumonia with large abscesses in the entire lungs, cirrhotic liver, epicardial petechiae, myocardial necrosis, abomasitis and enteritis. Isolation of the causative agent was attempted from lungs, liver and spleen on blood agar under microaerophilic condition and intestinal contents were inoculated into Robertson's cooked meat medium in order to rule out the involvement of anaerobic organisms. The pus material from lungs was aspirated under sterile conditions and inoculated onto blood agar. Pathogenicity testing was done in eight weeks old albino mice by intraperitoneal inoculation, keeping adequate controls. Polymerase Chain Reaction (PM-PCR) was conducted using bacterial culture lysates as template DNA and the species specific primers for *Pasteurella multocida* (custom synthesized by M/s Genei, Bangalore, India) as per the method described by Townsend *et al.* (1998). Antibiotic sensitivity testing was also done as per standard procedures.

Smooth sectorial convex colonies suggestive of *Pasteurella* organisms were obtained in pure culture from all the internal organs and the pus material. No anaerobic organisms were isolated. Blood smear and impression smears prepared from the abscess, following Leishman's staining, revealed a large number of typical bipolar organisms. The isolate killed the mice in 12 hours and the organism was re-isolated from the internal organs of mice. Further characterization and biotyping of the isolate employing the methods described by Mutters *et al.* (1985) confirmed it to be *Pasteurella multocida* subsp. *Multocida*. PM-PCR revealed a band of 460 base pair, confirming it to be *P. multocida*. The isolates from the internal organs and the lung abscesses appeared

morphologically similar and were biochemically identical. Organisms were sensitive to oxytetracycline, cephalaxine, chloramphenicol, gentamicin and resistant to sulpha drugs.

Ravishankar *et al.* (2004) reported two outbreaks of deer pasteurellosis from Kerala with mortality rate upto 47.1% and that isolate was also resistant to sulpha drugs. There are several reports of *Pasteurella multocida* causing lung abscesses in human beings and in rabbits, but in deer such a sign is uncommon.

It is rather interesting to note that the animals suffered from the disease during the antler shedding period. The prolonged breeding period of the spotted deer and the persistent stress of the breeding season under captive conditions may have played its part in inflicting the infection, since Pasteurellosis can be an outcome of stress (Filion *et al.*, 1984). Also the disease was not going through an acute phase as the animals were not showing any sudden death and septicaemic signs during the post mortem, but died gradually due to loss of condition and emaciation, pointing towards the chronic nature of the infection. Perusal of the available literature did not reveal any such reports of pasteurellosis in spotted deer which is apparently chronic.

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Surgical management of paraphimosis in a Squirrel - a case report

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Introduction

Paraphimosis occurs when the penis is unable to retract into the prepuce. It may be associated with copulation, trauma, penile hematoma, neoplasia (Roberts, 1999), infection (Papazoglou, 2001) or foreign bodies. Constricted preputial opening due to a band of hair which preventing the return of the penis into the prepuce has also been reported by O' Connor, 1985. An injury to the penis does not allow it to be retracted easily and the impairment of circulation causes the penis to become oedematous and further compromises circulation. Various types of conservative therapies like hydrotherapy, massaging and diuretics have also been used to treat this condition. Present report describes a case of paraphimosis in a squirrel.

Case history and observations

A 45 days old squirrel was brought to the Teaching Veterinary Clinical Service complex, College of Veterinary Science, Sri Venkateswara Veterinary University, Tirupati with a complaint of paraphimosis (Fig. 1). The owner noticed this condition just after an injury that had occurred due to the cage. Clinical examination revealed congestion of penile mucosa. The length of exposed penis at the time of presentation was 1.50cm.

Treatment

The animal was surgically prepared and anaesthesia was achieved with xylazine hydrochloride@1.0mg/kg and ketamine hydrochloride@20mg/kg body weight intramuscularly. The animal was secured in dorsal recumbency and the area around the preputial orifice was cleaned with chlorhexidine solution. Gauze soaked with hyper osmolar solution of salt was applied with gentle force to the site to reduce the size of penis. Liquid paraffin was applied over the preputial orifice to provide lubrication during reduction. The size of the penis was gradually reduced and the exposed portion of the penis was repositioned. Portion of the preputial orifice was closed with simple interrupted pattern sutures using 3/0 poly glycolic acid. Post operatively animal was given oral antibiotics and dressing was done with Scavon ointment which contains Oil of Atasi (*Linum usitatissimum*), 50mg Tailapatra (*Eucalyptus globulus*), 30mg Karpooora (*Cinnamomum camphora*), 25mg Tulasi (*Ocimum sanctum*), 12mg Vacha (*Acorus calamus*) and 8mg Powder of Tankana (Shuddha) 18mg for 5 days.

Result and Discussion

The inability to withdraw the penis into the prepuce



Figure 1. Showing paraphimosis with oedematous swelling

was due to the oedema and swelling caused by trauma. Application of hyper osmolar salt solution, ice packs helps reduce the oedematous swelling (Tiwari, 2004) and drawing the prepuce over the penis with gentle force was successful in the correction of paraphimosis. Cranial advancement of the prepuce may be the treatment of choice for correction of idiopathic penile protrusion when the length of the exposed penis is 1.50cm or less (Papazoglou, 2001).

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