PREVALENCE OF TUBERCULOSIS AND PARATUBERCULOSIS IN SOME CAPTIVE DEER OF MAHARASHTRA

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Received 28/07/2014 Accepted 13/08/2014

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ABSTRACT

Incidence of tuberculosis in various zoo animals has been reported by many workers. A total of 48 captive deer were tested for tuberculosis and paratuberculosis including 12 deer from 4 zoo/ parks of Maharashtra to know the prevalence of these two diseases. Selected samples from different centers were examined serologically. Highest prevalence of tuberculosis was noted at Mumbai (33.33%) due to compact population density, which increases the chance of contact of tuberculosis carrier persons and zoo attendants apart from infected animals. Mycobacterium of both bovine and human type was diagnosed using specific antigen.

KEY WORDS: Captive deer, Prevalence, Tuberculosis, Paratuberculosis

INTRODUCTION

Tuberculosis and Paratuberculosis occur in all species of domestic animals and birds. Few clear-cut records of diseases in wildlife in various zoo animals have been reported by many workers (Basak *et al*., 1976; Singh *et al*., 1991). The deer family is probably more frequently affected than any other species. The present communication places on record the occurrence and prevalence of tuberculosis and paratuberculosis in captive wild deer of Maharashtra State.

MATERIALS AND METHODS

Forty eight captive wild deer were tested for tuberculosis and paratuberculosis comprising 12 deer from 4 zoos/parks of Maharashtra. The requisite samples were collected and tested from 4 different centers viz., Maharajbagh Zoo, Nagpur (M'zoo, Ngp) Seminary Hills Deer Park, Nagpur (SHDP, Ngp.), Veer Mata Jijabai Bhosale Udyan, Byculla, Mumbai (VJBU, Mumbai) and Rajiv Gandhi Zoological Park & Wildlife Research Center, Katraj, Pune (RGZP, Pune). All deer were serologically tested for Passive Haemagglutination test described by Jagannath and Sengupta (1983) with slight modification. The tests were read as suggested by Stavitsky (1984) and prevalence was estimated.

RESULTS AND DISCUSSION

Out of 48 deer examined the overall prevalence of tuberculosis was found out to be 10.41% and paratuberculosis 6.25% .

The estimated prevalence of tuberculosis in the present study caused by *Mycobacterium tuberculosis* was 8.33% and that of *M. bovis* was 2.08%. The highest prevalence of tuberculosis caused by *M. tuberculosis* was 25% at VJBU Mumbai, followed by 8.33% at Seminary Hills Deer Park Nagpur and by M. bovis 8.33% at VJBU Mumbai.

Johne's disease caused by *Mycobacterium paratuberculosis* results in high morbidity and mortality in wild mammals (Chandel and Shah, 1991). In the present study 8.33% prevalence of *M. paratuberculosis* was observed at each place, i.e. Seminary Hills Deer Parks Nagpur, VJBV Mumbai & RGZP, Pune. Similar observations were reported by Pavlik *et al.* (2000) where they recorded 3.25% positive reactors in different species of deer.

While considering location wise prevalence, highest prevalence of tuberculosis was noted at Mumbai 33.33% followed by Nagpur 4.17%. The estimated prevalence of paratuberculosis in the present study each at Mumbai and Pune Zoo was 8.33%, while it was recorded 4.17% at Nagpur, which was supported by Reimann *et al*. (1979) and Nebbia *et al.* (2000).

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