

HEMATURIA IN A WOLF (*Canis lupus*) ASSOCIATED WITH *Neisseria canis* INFECTION

R.S. Chauhan, S.C. Sharma* and P.K. Gupta

Abstract

Hematuria in a wolf has been detected with the clinical manifestations of restlessness, anorexia, painful micturition and blood mixed urine. On cultural examination of urine sample, Gram negative, bean shaped, arranged in pairs and bacteria simulating *Neisseria sp.* was isolated. On the basis of cultural, staining and biochemical characteristics the isolate was tentatively designated as *Neisseria canis*.

Introduction

Wolves (*Canis lupus*) are widely distributed throughout the world including Europe, North America and Asia. In India, wolves are seen in all parts except deserts and high mountains (Arora, 1994). The Indian wolf appears to be an adaptable species with its ability to survive in marginally disturbed areas by man. Wolves are also kept in captivity in zoos. The present paper describes a case of hematuria in a wolf kept in Nainital zoo.

Materials and Methods

A case of hematuria was reported in a wolf of about 10 years of age. In Nainital zoo, this lovely wolf was transferred from Lucknow zoo in mid 1996. The wolf was on boiled buffalo meat diet and was given 2.0 to 2.5 kg meat daily along with liver tonics. In the month of Feb. 1997, the wolf became sick with clinical signs of hematuria. The animal was given anesthesia for x-ray examination in order to see the presence of concretions in urinary tract. Urine was collected in sterile vials for cultural examination and antibacterial sensitivity tests (Chauhan, 1995).

Results and Discussion

Clinical examination of the affected wolf revealed fever, restlessness and pain. The wolf became weak, docile and frequently exhibited sigus dysuria. On radiological examination, there was no indication of the presence of calculi in urinary tract. However, the evidence of constipation was recorded in the radiograph. Physical and microscopic examination of urine revealed the presence of turbidity, red blood cells, leucocytes and some epithelial cells. On cultural examination, small, pin point watery colonies were observed with similar size and shape. Gram's staining revealed the presence of Gram negative cocci, bean shaped and arranged in pairs, which belongs to *Neisseria sp.* Further biochemical tests were employed. These included fermentation of sugars (glucose, maltose, sucrose, fructose, mannose, lactose) and oxidase test, the results of which were suggestive of *Neisseria canis* organism (Hold et al. 1994). This organism was found to be sensitive to ampicillin, ciprofloxacin, gentamicin and norfloxacin antibiotics.

The animal recovered in a week following treatment with cezolin/ampicillin, cystone, belamyl and neurobion. Carboz et al. (1993) reported local and systemic infections due to *Neisseria sp.* in canines and felines but there seems to be no report in the literature regarding association of *Neisseria canis* with hematuria in wolves. Plowan et al. (1987) isolated

Neisseria sp. from septicemic and chronic abscess in zoo animals. The isolation of *Neisseria canis* from a wolf with hematuria seems to be the first report of its kind.

References

- Arora, B.M., (1994). Wildlife Diseases in India. Associated offset Press, New Delhi.
- Chauhan, R.S., (1995). Text Book of Veterinary Clinical and Laboratory Diagnosis. Jay Pee Brothers Medical Publishers, New Delhi.
- Carboz, L., Ossent, P. and Gruber, H., (1993). Local and systemic infections due to bacteria of group EF4 (Neisseriaceae) in cats, dogs and in a badger-Bacteriological and Pathological findings. Schweizer Archiv Für Tier heilkunde. 135; 96-102 (Vet. Bull. 63: 6356).
- Hold, J.G., Krieg, N.R., Sneath, P.H.A., Staley, J.J. and Williams, S.T., (1994). Bergy's Manual of determinative bacteriology. 9th edn. Williams & Wilkins, Baltimore, U.S.A.
- Plowan, C.A., Montali, R.J., Philips, L.G.JR., Schlater, L.K. and Lowenstine, I.J., (1987). Septicemia and chronic abscess in Iguanas (*Cyclure cornuta* and *Iguana iguana*) associated with a *Neisseria sp.* Journal of Zoo Animal Medicine 18: 86-93.

College of Veterinary Sciences G.B. Pant University of Agriculture & Technology, Pantnagar-263 145, U.P.

* Circle Pathological Laboratory District Veterinary Hospital Nainital, U.P.

