HAEMOPROTEUS COLUMBAE INFECTION IN A FLOCK OF PIGEONS

P., Selvaraj, C.G., Umesh, U., Preethi, D., Sumathi, A. P. Nambi, and S. Prathaban,

Centre for Advanced Faculty Training in Veterinary Clinical Medicine, Ethics and Jurisprudence, Madras Veterinary College, TANUVAS, Chennai – 600 007

Corresponding author : Email - selvorajupmd@rediffmail.com

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Pigeons and doves are affected by a number of economically important diseases and among which hemoparasitic diseases are very significant (Powers, 2002). *Haemoproteus* spp. are the most commonly occurring avian blood parasite which infect red blood cells (RBCs) of birds especially pigeons and are closely related to the malaria parasites. *Pseudolinchia canariensis,* a Hippoboscid fly was incriminated as the vector of *H. columbae* in *Columba livia* in natural and experimental infections. Many pigeons harbor the organism without showing signs. This paper reports incidence of the haemoprotozoan - *Haemoproteus columbae* in seven pigeons in a flock of 56 pigeons and its clinical management.

Case History and Clinical observation

A group of seven pigeons (from a flock of 56), aged between six to eighteen months were presented to the Small Animal Medical Outpatient Clinic of the Madras Veterinary College Teaching Hospital, with the history of inappetence, lethargy for the past four days.

Physical examination revealed a dull and depressed mentation. On close observation of plumage, pigeon louse was identified in all the birds. Obvious torticollis was observed in two out of the seven birds and no other neurological abnormalities detected. Detailed systemic examination of the birds could not detect any classical abnormalities. Fecal examination of the birds revealed absence of parasitic ova. Blood samples were collected from the wing vein of the birds for making thin smears on clean, sterile glass slides and screened for haemoparasitic infestations. Result of the blood smear examination revealed typical “halter” shaped gametocytes of *Haemoprotozoan columbae* in RBCs of all the blood samples.

TREATMENT AND DISCUSSION

After diagnostic confirmation, the birds were treated for pigeon malaria with Chloroquine (2000 mg/l in water for 1 day) along with vitamin supplements for 5 days as per the suggested protocols of Ritchie *et al.* (1992). Topical insecticide - Permethrin (0.25%) was sprayed in the pigeon’s habitat for the control of vectors. All the birds were reported to have recovered completely from the disease.

Pigeons (*Columba livia*) accompany human settlements worldwide. Several species of parasites occur in pigeons throughout the globe (Paperna and Smallridge, 2002). *Haemoproteus columbae*, a haematozoan closely related to the classical malarial parasite – *Plasmodium,* causes pigeon malaria in domestic and wild pigeons. In columbids seven species of *Haemoproteus. H.columbae, H. sacharovi, H. maccallumi, H. melopeliae, H. turtur, H.perise* and *H. palumbis* were described.

Antimalarial drugs such as Chloroquine are useful in treating *Haemoproteus* sp. infection. However, medications are not generally recommended as the parasite is usually non-pathogenic (Ritchie,1999). Transmissions of *Haemoproteus sp*. to susceptible birds are minimized by reducing or eliminating the vector population. This is often achieved by habitat management to decrease vector breeding sites and by killing these insects with judicious application of pesticides that affect larval or adult stages. Infections with fleas are best controlled by removing the litter, followed by treatment of the

pigeon house with permethrin as 0.25% or 0.5% spray (Permin and Hansen, 1995). In the present case, there was an overall improvement in all other birds' health and feeding habits, following Permethrin spray.

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