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## SEROLOGICAL EVIDENCE OF LEPTOSPIRAL ANTIBODIES IN DOGS IN PERIPHERAL AREAS AROUND CHENNAI

V. Vijayanand<sup>1</sup>, A. Arun Prasad<sup>2</sup>, Mala Shammi<sup>3</sup> and R.C. Rajasundaram<sup>4</sup>

Veterinary University Peripheral Hospital, TANUVAS  
Madhavarm Milk Colony, Chennai – 600051

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Leptospirosis, a world wide zoonosis, has been gaining importance as a re-emerging disease. The disease, occurring in man and animals is caused by antigenically distinct serovars of *Leptospira interrogans* (Greene, 1995). The incidence is significantly higher in countries with warm climate than in temperate regions (Ratnam, 1994). Further, the incidence of the disease peaks during rainy season in warm regions (Ventataraman *et al.*, 1992). Most cases of canine leptospirosis occur due to serovars *canicola* and *icterohaemorrhagiae* (Baldwin and Atkins, 1987). However, a gradual change has occurred in prevalent serovars with *pomona*, *grippotyphosa* and *bratislava* being reported more commonly (Scanziani *et al.*, 2002).

A knowledge of the prevalent serovars and their maintenance hosts is essential to understand the epidemiology of the disease in any region (Hartskeerl *et al.*, 1996). The present communication throws more light on the predominant serovars of *Leptospira* in the dog population of Madhavaram area, North Chennai.

Serum samples were collected from forty eight dogs brought to Veterinary University Peripheral Hospital, Chennai with the symptoms of anorexia, fever, vomiting, dehydration, sub-lumbar pain and in some dogs, icterus. Sera were tested by microscopic agglutination test (MAT) using a panel of 12 *Leptospira* antigens namely *icterohaemorrhagiae*, *canicola*, *grippotyphosa*, *hebdomadis*, *pomona*, *autumnalis*, *pyrogenes*, *tarassovi*, *ballum*, *javanica*, *australis* and *hardjo*.

A titre of 1 : 100 were regarded as significant (Vijayachari *et al.*, 2001). Those sera samples which gave the highest titre to serovars were only taken into account.

The result of MAT indicated that 30 (62.5%) sera had significant microscopic agglutination titre. The sera reacted to different serovars namely *australis* 22 (73.33%), *canicola* 8 (26.66%), *javanica* 6 (20%), *hebdomadis* 6 (20%), *ballum* 5 (16.66%), *tarassovi* 4 (13.33%), *autumnalis* 4 (13.33%), *icterohaemorrhagiae* 3 (10%), *pyrogenes* 3 (10%), *hardjo* 2 (6.66%), *pomona* 1 (3.33%) and *grippotyphosa* 1 (3.33%). Fifteen sera reacted to two or more serovars.

Most clinical cases of Leptospirosis in dogs are caused by serovars *canicola*, *icterohaemorrhagiae*, *grippotyphosa* and *pomona* (Rentko *et al.*, 1992). In addition, other serovars namely *australis*, *javanica*, *ballum*, *hardjo*, *autumnalis* and *pyrogenes* were recorded by Senthilkumar *et al.* (2006). Immunity to leptospirosis is largely humoral and is relatively serovar specific (Adler *et al.*, 1977). Thus, immunization protects against infection caused by the homologous serovar or antigenically similar serovars only. Vaccines must therefore contain serovars representative of those present in the population to be immunized. Since immunization plays an important role in the prevention of the disease, identification of the predominant serovars in each region is essential. The commercial vaccine being used at present contains *Leptospira canicola*, *L*

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Corresponding author : 1. 2. & 3. Assistant Professors      4. Professor and Head

*.icterohaemorrhagiae*, *L. grippityphosa* and *L. pomona* serovars. Since, immunized dogs may be infected with serovars other than those contained in commercial vaccines ( Brown *et al.*, 1996 ), the authors advocate the use of a polyvalent vaccine which includes other predominant serovars in addition to the existing ones for effective protection against Leptospirosis as suggested by Adesiyun *et al* (2006).

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