

SEROLOGICAL SURVEY FOR *Ehrlichia canis* IN DOGS FROM THE MEDITERRANEAN REGION OF ALICANTE (SPAIN)*

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SUMMARY : *Ehrlichia canis* is the agent responsible for canine ehrlichiosis most common in the Mediterranean region. Although the clinical characteristics of this parasitic disease are well known, the epidemiological and clinical patterns of this disease have not been developed on regarding the dogs that are present in this region. The principal objective of this study is to evaluate the seroprevalence of the *E. canis* and to characterise the clinical and epidemiological consequences of this pathology in 222 dogs.

Keywords : Dog, ehrlichiosis, Spain.

RÉSUMÉ : *Ehrlichia canis* est l'agent responsable de l'ehrlichiose canine dans la région méditerranéenne. Même si la caractérisation clinique de cette maladie parasitaire est bien connue dans cette région, il n'y a pas de données épidémiologiques et cliniques de cette maladie chez les chiens d'auberge de cette région. L'objectif principal a été d'évaluer la séroprévalence de *E. canis* et de caractériser les conséquences cliniques et épidémiologiques de cette infection sur 222 chiens.

Mots-clés : Chien, ehrlichiose, Espagne.



I - INTRODUCTION

Ehrlichia canis, the causal agent of canine ehrlichiosis, has a broad geographic distribution. In Spain, even though it is possibly present throughout the entire country, the disease has only been described in Cataluña [Font *et al.*, 1988], in the center of the country [Anda *et al.*, 1990 ; Sáinz *et al.*, 1995], in the eastern coastal region [Rodríguez, 1990] and in Galicia [López, 1994], seroprevalence data is even more scarce. Canine ehrlichiosis is transmitted by the tick *Rhipicephalus sanguineus*, which becomes infected after the ingestion of infected canine leukocytes. The variable and non-specific clinical signs and the

difficulty in demonstrating the causal ehrlichia (either by direct observation or by culture) make serological techniques, the most reliable for the diagnosis of *E. canis* infection [Troy and Forrester, 1990].

During the last few years, clinical ehrlichiosis has been diagnosed from the Mediterranean region of Alicante (west Spain). Accordingly, the main objective of our work was to determine the seroprevalence of *E. canis* antibodies in dogs of this area. In all cases the clinical and epidemiological consequences of this infection were evaluated.

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II - MATERIALS AND METHODS

Therefore, ELISA and indirect fluorescent antibody (IFA) testing was used to survey for the presence of antibodies against *E. canis* in blood samples of 222 dogs. Of the animals under study, 102 (46%) came from collectives such as animal refuges, breeders or canine residences, while 120 (54%) proceeded from different clinics throughout the city of Alicante.

Of the total number of animals studied, 86 (39%) were male and 136 (61%) were female. Each animal was submitted to a physical exploration and posterior blood extraction that permitted the realization of a complete hematological analysis and biochemical plasmatic study.

III - RESULTS AND DISCUSSION

Of the dogs studied, 94 (42%) resulted positive to *E. canis*, obtaining titres of between 1/80 and 1/2560, being noteworthy the elevated proportion of animals that proceeded from canine collectives (74% of the seropositive animals). Of the total dogs infected, 26 (28%) were male and 68 (72%) were female. The average age of the animals infected was 5

years. With respect to the hematological alterations noted, it is important to point out that, trombocitipenia that was evident in 51 (54%) of the infected animals, leucocitosis in 18 (19%) and a marked anemia in four of the animals under study (4%). The biochemical results demonstrated azotemia in 27 cases (29%).

IV - CONCLUSION

In conclusion, our data suggests the existence of an important number of dogs infected with *E. canis* in the mediterranean region of Alicante (Spain). The prevalence we observed in this area was 42%, which is mayor than the prevalence found in other zones in Spain, such as the Comunidad Autonómica de Castilla-Leon with 19,2% [Sainz *et al.*, 1996] and in the Central area of Spain with 14% [Anda *et al.*,

1990]. *E. canis* infects dogs without age or sex predilection and infected carrier dogs also may play an important reservoir role in Spain. This should be taken into account from a clinical point of view, being aware of this pathological process. Bearing this in mind, dogs should be examined on a regular basis. In addition, different measures of sanitary policies should be enacted to control this infection.

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