



Rickettsia conorii in dogs with hematological disorders in Marche region: preliminary study.

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Background. *Rickettsia conorii* are obligate intracellular coccoid and Gram-negative organisms, responsible for Mediterranean spotted fever. In Mediterranean countries, dogs are natural host of the infection, however, the clinical progression and clinical signs associated with the disease are not fully understood.

Objectives. The aim of the study is to describe clinical and hematological alterations in dogs seropositive for *Rickettsia conorii* in Marche Region (central Italy) in dogs showing weakness, depression, loss of appetite, difficulty walking and to describe the hematological alterations.

Material and Methods. From January 2022 to April 2023, 31 dogs of different breeds and aged between 5 months and 12 years, were presented to the veterinary hospital for anemia and/or thrombocytopenia and symptoms as depression, loss of appetite, difficulty walking. Haemato-biochemical and tests (PCR or IFAT) for vector-borne blood diseases were performed in all patients.

Results. 26 out 31 dogs resulted positive for *Rickettsia conorii* antibody in serum (IgG and IgM). Among these 1/26 was also positive for *Toxoplasma gondii* IgG and IgM, 2/26 was also positive for *Anaplasma phagocytophilum*, 4/26 were positive for *Ehrlichia canis*, 1/26 was also positive for *Leishmania spp.*, and 1/26 was also positive for *Babesia canis*.

Conclusion. The findings of *Rickettsia conorii* in all dogs with symptoms and hematological disorders as anemia and thrombocytopenia shows an increasing tendency in Marche region. This vector-borne disease should always be tested in dogs with suspected clinical or clinical-pathological symptoms.

Age (months)	Sex	Breed	Hematological alteration	Vector-born disease*
120	f/n	Bernese Mountain dog	Leukocytosis	-
102	f/n	Caucasian Shepherd	Thrombocytopenia	<i>Leishmania spp.</i>
120	f	Cavalier King Charles Spaniel	IMHA, thrombocytopenia	-
39	m	Chihuahua	Thrombocytopenia	-
127	f/n	Chihuahua	IMHA, thrombocytopenia	-
69	f/n	Cocker spaniel	IMHA, thrombocytopenia	<i>Anaplasma phagocytophilum, Ehrlichia canis, Babesia canis</i>
48	f/n	German Pinscher	IMHA, thrombocytopenia	-
120	f/n	Jack russel	Thrombocytopenia	-
72	f/n	Jack Russel	IMHA	-
55	f/n	Labrador retriever	Neutrophilia, eosinopenia	<i>Toxoplasma gondii</i>
72	f/n	Labrador retriever	IMHA	-
36	m	Maltese	Leukopenia	-
108	f/n	Mixed	IMHA	-
84	f/n	Mixed	IMHA, thrombocytopenia	-
12	m	Mixed	Thrombocytosis	<i>Ehrlichia canis</i>
48	f/n	Mixed	IMHA	-
84	f/n	Mixed	IMHA	<i>Anaplasma phagocytophilum</i>
108	m/n	Mixed	IMHA	-
60	f/n	Rottweiler	Thrombocytopenia	-
48	f	Segugio italiano	Leukopenia	-
5	m	English Setter	IMHA	-
114	m/n	Irish Setter	Thrombocytopenia	<i>Ehrlichia canis</i>
96	m/n	Volpino italiano	IMHA, thrombocytopenia	-
68	f/n	Weimaraner	Leukopenia	-
4	m	Weimaraner	IMHA	<i>Ehrlichia canis</i>

Table 1: Dogs resulted positive for *Rickettsia conorii* antibody IMHA: Immune-mediated hemolytic anemia; f: female; m: male; n: neutered

* Other vector born disease in dogs positive for *Rickettsia conorii*.