



P 38 Seroprevalence and possible cross-reactivity of antibodies to rickettsial pathogens in tick infested dogs

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Dogs may serve as a biological indicator for the presence and prevalence of *Rickettsia* spp. known to be pathogenic for humans and animals.

Thirty-one dogs from eastern Austria were examined for tick infestation for 6 months. Canine blood samples (n=31 after 6 months, n=4 after 12 months) were tested for antibodies to *Rickettsia slovaca*, *R. helvetica*, and *R. conorii* by IFAT (MegaCor, Austria). Sera were also tested for antibodies to *Anaplasma phagocytophilum* and *Babesia canis* to evaluate cross-reactivity. Twelve ticks were tested for rickettsial DNA by rrl-rrf ITS PCR.

Seroprevalence for *R. slovaca*, *R. helvetica*, and *R. conorii* was 20%, 26%, and 29%, respectively. Antibodies to *A. phagocytophilum* were found in 57% and to *B. canis* in 17%. All samples that tested positive for either *R. slovaca* or *R. helvetica* were positive for *R. conorii* and *A. phagocytophilum*. Antibodies to *B. canis* did not correlate with the results of the rickettsial tests.

The PCR on 7 ticks originating from 5/31 dogs delivered positive results for *Rickettsia* spp. According to their sequences, 3 groups were formed: (i) *R. helvetica* isolated from 2 *I. ricinus*; (ii) from 2 *Dermacentor reticulatus*, showing high similarity to *R. massilae*, but the alignment revealed a gap of about 60 bp between the sample and the GenBank entry for *R. massilae*; (iii) samples from *I. ricinus* showed a high similarity with an undetermined genus entry in the data base.

Rickettsial pathogens could be detected in ticks collected from dogs. Seroprevalence in dogs ranged from 20 to 29% making regular infection very likely. Results make cross-reactivity of antibodies to the pathogens very likely because *R. conorii* is unlikely to occur in eastern Austria as the vector (*Rhipicephalus sanguineus*) is not endemic. *A. phagocytophilum* may also be responsible for cross-reactive antibodies, whereas *B. canis* is not.