

Evaluation of frequency of anti-*Babesia microti* antibodies in serum of villagers

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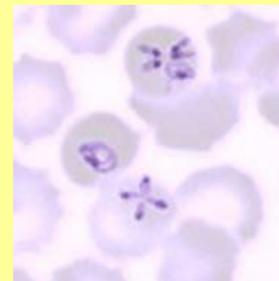
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Introduction

Babesia is a protozoan parasite of which *Babesia microti* and *Babesia divergens* are the two species most frequently found to infect humans. Infections from other species of *Babesia* have been documented in humans, but are not regularly seen. It is an increasing problem worldwide because of the expansion of tick habitats and the increased mobility of animals, which promote the spread of parasites into new geographical areas. Although numerous epidemiologic studies were carried out about babesiosis around the world, there are only a several studies presented in Turkey. The objective of our study was to measure frequency of presence of anti-*Babesia microti* antibodies in serum of people exposed to tick bite.

Materials and Methods

Study group consisted of 127 villagers (98 men, 29 women) working in rural area of Kocaeli, in whom IgM and IgG anti-*Babesia microti* antibodies were detected by immunofluorescent method. In the same group, antibodies against *Borrelia burgdorferi* were searched for with two-step procedure (ELISA and Western blot). SPSS 20.0 programme was used for statistical analysis. Cross variables were compared using Ki-Kare test (Pearson Ki-Kare/Likelihood Ratio).



Results

Anti-*Babesia microti* IgG antibodies were found 11 person (8.6%) in the analyzed group. In only one case (0.8%) anti-*Babesia microti* IgM antibodies were found. *Borrelia burgdorferi* were searched for with two-step procedure and found in 8 person (6.3%). Anti-*Babesia microti* antibodies were found only in person with detectable anti-*Borrelia burgdorferi* antibodies. There was no statistical difference in antibody seropositivity rates according to sex groups, age groups occupational groups and recall of tick bites.

Conclusions

Villagers, who are at high risk of repeated tick bites, may be asymptotically infected with *Babesia microti*. Babesiosis is a common disease in domestic animals such as cattle, sheep in Turkey province so, there is a risk for the population living in this region. Detailed studies are necessary to elucidate other *Babesia spp.*

