

Seroprevalence of Visceral Leishmaniasis in Dogs of Semnan by direct agglutination test

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Abstract

The Mediterranean form of visceral leishmaniasis (VL), or kala-azar, is a potentially fatal vector-borne zoonotic disease caused by *Leishmania infantum*, which is sporadic in most parts of Iran, while in other parts it is considered endemic. Domestic dogs (*Canis familiaris*) are the primary reservoir hosts for human VL. The objective of the present study is to determine the seroprevalence of VL in the dogs with owners in rural areas of Semnan. For this purpose, 140 blood samples from dogs, which had no clinical signs, were taken randomly. Blood samples were tested by direct agglutination test (DAT) to detect the anti-*Leishmania* antibodies in dogs, using a cut-off value of $\geq 1:80$. We considered anti-leishmanial antibodies titers at $\geq 1:320$ with a clinical sign as *Leishmania* infection and at $\geq 1:80$ with no clinical symptoms as parasitologically infected. Pathological specimens including spleen, liver, and lymph nodes from an infected dog (1:20480) were prepared for Dub smear in Laboratory and staining with Giemsa. Also, the stages of amastigote leishmaniae were had been observed in isolated tissues. The anti-*Leishmania* antibody ($\geq 1:320$) was detected in 4 dogs (2.9 %) of the total 140 studied dogs. No significant difference between VL infection and gender & age was found. The results of this study showed that VL with low endemicity is circulating in dogs of Semnan.

Key word: Visceral Leishmaniasis, Direct Agglutination Test, Dog, Semnan

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