

Camel Trypanosomosis, A potential Emerging Zoonosis: A Review

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ABSTRACT

Camels are comparatively less susceptible to many devastating diseases that affect other livestock species. Camel trypanosomosis (surra), caused by *Trypanosome evansi*, is a vector borne disease and one of the most important single cause of morbidity and mortality in camels. In the Sudan the disease is caused by *T. evansi*, and is known locally as Guffar. Camel trypanosomosis is an acute chronic disease of camel results in progressive anemia, anoxic condition and immunosuppression which later develop to other infections and death if untreated. It causes economic losses as a result of reduced productivity. The disease is transmitted non-cyclically by Tabanids and Stomoxys flies which are endemic in Africa, Asia central and South America. The disease is common in Sudan. The zoonotic importance of *T. evansi* in humans was highlighted in many publications in different parts of Africa and Asia. Though human infection by animal species is “not possible” because of a trypanolytic factor in human serum, there are several reports of atypical human infection caused by animal trypanosomes, such as *T. evansi*, *T. lewisi* and *T. congolense*, especially from India. In a scientific publication, nineteen atypical human cases of trypanosomiasis caused by animal trypanosomes are reported: 8 to *T. lewisi*, 5 to *T. evansi* and 4 of them are due to *T. brucei*, one to *T. vivax*, one to *T. congolense* and *T. brucei* species. The first confirmed case of human trypanosomiasis caused by *T. evansi* in a farmer from India in 2005. Morphologic examination of the parasites indicated the presence of large numbers of trypanosomes belonging to the species *T. evansi*. Serologic screening conducted in 1,806 persons from the same Indian village using the card agglutination test for trypanosomosis and *T. evansi*. A total of 410 (22.7%) people were positive by whole blood, but only 81 were confirmed positive by serum. Another report an Indian farmer who had fluctuating trypanosome parasitemia associated with febrile episodes for five months. Morphologic examination of the parasites indicated the presence of *Trypanosoma evansi*. In 2015, 38 year old women in southern Vietnam presented with fever, headache and arthralgia, microscopic examination of blood revealed infection with confirmed case of *T. evansi*. A linked epidemiological investigation revealed wide spread and previously unidentified burden of *T. evansi* in cattle. There are numerous challenges in the diagnosis and monitoring of atypical human trypanosomoses. It is essential to perform serosurveillance studies to determine the magnitude of the problem and to establish a case management protocol of detected cases. Animal trypanosomes have the potentiality to emerge as a new zoonosis. Further investigations in the field and laboratory are necessary. Livestock should also be handled with care to minimize accidental infection.

Keywords: camel trypanosomosis. *T. evansi*, zoonosis