Molecular epidemiology of *Babesia* species in animals and humans in Ghana

S. K.Botchie[1], G. I. Djameh[1], F. A.Azerigyik[1], E. Blay[2] and I. Ayi[1].

[1]Parasitology Department, Noguchi Memorial Institute for Medical Research , College of Health Sciences, University of Ghana, Legon; [2]Section of Environmental Parasitology, Tokyo Medical and Dental University, Bunkyo-ku, Tokyo- Japan.

Email: ayiirene224@gmail.com

Abstract

Babesiosis, a zoonotic disease, is caused by the protozoans *Babesia spp*. In Ghana there have been reports of about 72% of all out-patients presenting with febrile illnesses. Although malaria is the leading cause of febrile episodes in the country it currently has a prevalence of 27%-32% among febrile patients which leaves a febrile prevalence deficit of about 40%. Fevers of unknown origin, defined as prolonged body temperatures of 38.3^{o}C lasting for three weeks or more with inconclusive diagnosis, are reported to be the cause of the deficit febrile episodes. . Babesiosis which also presents with fever has not been well investigated in Ghana. This study aimed at detecting *Babesia spp* infections in humans and animals. Genomic DNA was extracted from archived human and freshly collected animal blood samples and analyzed using PCR to detect *Babesia spp*. A total of 561 archived clinical samples from immune-competent and immune-compromised humans, 60 domestic dogs from veterinary clinics, 25 goats, 25 sheep and 26 cattle from farms were screened using *Babesia* primers. Results showed 5% (3/60) positive for *Babesia canis* in the dogs. *Babesia* was, however, not detected in any of the other animals or human samples. Detection of *Babesia spp* in dogs is evident that the infection is in Ghana and may be in humans. It is, therefore, recommended that a comprehensive study is carried out to determine possible active transmission to humans and contributing to febrile episodes.

Key words: Febrile illnesses of unknown origin; Babesiosis; PCR; Humans; Domestic animals.

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Biography:



Mr. Botchie K. Senyo is a young post-graduate Biomedical Research Scientist with the Department of Parasitology, Noguchi Memorial Institute for Medical Research (NMIMR). He is an enthusiastic young man with very innovative ideas and initiatives that are very beneficial to the smooth running of key research areas in the Department of Parasitology. The Babesia studies, for instance, is a new area he is taking up in the Department. Hence, his participation in this conference will expose him to experienced veterinary parasitologists with whom he can share information and collaborate. This opportunity will also boost his career progression in biomedical research.