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Incidental finding of *Hepatozoon canis* infection in two dogs of the same household in Trinidad

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Hepatozoon canis is one of the two *Hepatozoon* spp. that can infect dogs. It can be transmitted transplacentally or by ingestion of whole or parts of the definitive host *Rhipicephalus sanguineus* that contains mature *H. canis* oocysts. A five-year old mixed breed bitch was presented to a veterinary clinic for evaluation following a dog fight. Examination of the blood smear of this bitch revealed *Hepatozoon* spp. gamonts present in the neutrophils and monocytes ranging from 26.31 to 29.33 µm in length and 11.56 to 12.65 µm in width which were larger than the dimension reported for *H. canis* and *H. americanum* in other studies. The level of parasitaemia was approximately 2%. Clinical signs of anorexia, fever, recumbency and muscle hyperaesthesia were observed with this bitch. A neutrophilia and a normocytic normochromic non-regenerative anaemia were obtained on complete blood count (CBC) which was consistent with *Hepatozoon* infections. Diagnosis was confirmed by polymerase chain reaction (PCR) amplification of the 18S rRNA followed by DNA sequencing of the amplicon. Although, the other dog in the household appeared asymptomatic, *Hepatozoon canis* infection was confirmed by both microscopic examination of blood smears and PCR analysis. *Anaplasma* / *Ehrlichia* DNA were not amplified. Phylogenetic analysis revealed that the *H. canis* sequences from these two dogs were similar to those from Venezuela and St Kitts but not Brazil. This is the first reported case of *Hepatozoon canis* infections in dogs in Trinidad that was confirmed by molecular techniques.

Chronic infectious diseases through centuries

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The agents of typhus and para typhus have been discovered in the early 90's (1908 till 1930). The authors of these discoveries received the Nobel Prize and died of the disease because of the lack of proper treatment: specific medical antibiotics. Although the main vector of typhus (*Rickettsia prowazeki*, *R. conori*, *R. mooseri*, *Coxiella burnetii*) and para typhus (*Mycoplasma* and *Chlamydia*) is the rat, staying well alive on the planet, these investigations are not currently offered by the average serological laboratories. Typhus and para typhus, just as Borreliosis, are the origin of many vascular diseases as they are known to tear endothelial cells, due to their obligated intra cellular position. None of those conditions are no more or not yet presented in any medical syllabus, except in the Pasteur Institute in Tunis. They travel from concentration camps to history without being engulfed by the medical fraternity except for Borreliosis that had to substitute its original name for Lyme disease to survive. The rehabilitation of these mass killers of all time in our protocols seems incontournable to allow clear diagnoses in Medicine, to move from symptomatic to etiological treatments. On the other hand, as one germ alone is never found in a patient, we add to our routine investigations; Toxoplasmosis, Brucellosis, *Helicobacter pylori* and Bilharziosis. This last one is on a drastic increase since recent migration flow. A germ can be carried by human without symptoms. It is therefore, important to link their presence to possible unbalances they might create in their victims. Liver, kidneys, FBC, Thyroid, iron and auto immune factors will allow us to differentiate the active from the inactive germs.