

Emergence of bovine Ehrlichiosis in Belgium

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Bovine ehrlichiosis is a tick-borne rickettsial disease caused by *Anaplasma phagocytophilia*. This rickettsia is known to infect leukocytes and may induce leukopenia. The disease can also be transmitted to humans (risk of zoonosis). Outbreaks in cattle have been described in many European countries and in the U.S.A. Geographic repartition is closely related to the biotope of the vector (*Ixodes ricinus*). In Belgium, cases have been described in humans and dogs but never in cattle. This is the first report of ehrlichiosis in a cattle herd in Belgium.

This first case was diagnosed in 2004 in a mixed cattle herd (Normande and Belgian Blue) with 150 heads. All of the affected animals (24 pregnant BB which 4 heifers and 20 cows, and 2 pregnant Normande cows) came from the same pasture, with trees, high grass, weed and a stream. The pasture was surrounded by cornfields, wild vegetation and trees and was then protected from wind (micro-climate). All of the 26 animals in that pasture showed recurrent hyperthermia (up to 41°C), 9 of them also showed mastitis and 1 aborted in the late pregnancy period. The non-infected animals, coming from different pastures (without trees and weed, water coming from public distribution) showed no symptoms.

Samples were taken in 7 affected animals. During the first two days of hyperthermia, direct microscopic examination was performed from peripheral blood samples (ears) and from jugular vein (conserved on EDTA tubes). Serology were realised 15-21 days after the outbreak. *Anaplasma phagocytophilia* (indirect fluorescent antibody assays based on *A. phagocytophilia* from USA, Cypres, CA and specific IgG conjugate with FITC), leptospirosis (microscopic agglutination test), *neospira* (ELISA) and Q fever (ELISA) were asked. Coupled serology for Adenovirus, BHV-4, BHV-1, BVD, PI3 and RSV-B were also performed. Milk samples from mastitis infected cows were taken for bacteriology analyzes.

Examination of blood smears revealed negative results for piroplasmosis and anaplasmosis but positive for ehrlichiosis (3/7). Serology revealed positive for *A. phagocytophilia* (4 positives and 3 weak positives) and weak positive for *neospira* (1 cow) but negative for *leptospira* (7/7), and Q fever (7/7). Coupled serology was not significant. Bacteriology from milk sample showed different non-specific pathogens. Recurrent fever in pastured cattle is a non-specific symptom, and can be related to different pathogens, e.g. *Babesia*, *Leptospira*, *Anaplasma*, *Borrelia*, and Q fever. Bovine ehrlichiosis is transmitted by tick species *Ixodes ricinus* which is known to be widely shed in Belgium. Belgian practitioners should now include ehrlichiosis in their differential diagnosis when confronted with pastured cattle suffering from recurrent fever episode.

Key words : Ehrlichiosis – Hyperthermia – pasture – tick – leukocytes