

GEAR-Symposium, 27.-31.9.2001, Cairo, Egypt
“Umweltverschmutzung in Ägypten:
Folgen für Mensch, Tier und Pflanze”

SEROLOGICAL DETECTION OF BORRELIA BURGDORFERI
ANTIBODIES IN THE BOVINE AND OVINE SERUM

By

Ragy S.Seleim*^S; Hisham S.Nada; Hoda M.Zaki*; Rizk**
El-Sharnobi* and Sahar R.Mohamed*

*Bacteriology Department, Animal health Research Institute, Dokki, Cairo, Egypt

**Bacteriology Department, Faculty of Vet. Med. Tanta University

*Corresponding author

Keywords: Borrelia burgdorferi, Bovine, Ovine, Serology, ELISA, Western blot,

Summmary

A total of 255 blood samples (114 from cattle and 141 from sheep) were collected from farms with history of Borrelia burgdorferi-digital dermatitis infection. Among these animals 24 (21.1%) cattle and 21 (14.9%) sheep had typical symptoms of the disease, while the rest of samples were collected from contact and non-contact animal groups. B. burgdorferi flagellar protein (41kDa) was used as a coating antigen in indirect ELISA, as well as in Western blot technique to detect its specific antibodies in the serum of clinical cases as well as in contact and non contact animals.

In cattle ELISA could detect 79.2% of the clinical cases as positive to the infection with B. burgdorferi, whereas Western blott could detect 75% of these cases. In sheep, ELISA as well as Western blott could equally detect 85.7% infection among the symptomatic animals. In contact and non contact animal groups, ELISA showed relative superiority over Western blott in detecting the B. burgdorferi infection. In cattle ELISA could detect 10.8% and 4% in contact and non contact animals respectively against 9.2% and 4% detected by Western blot technique. In sheep relatively similar results to those of cattle were obtained. ELISA could detect 6.2% and 4.3% in contact and non contact animals respectively, against 5.2% and 0% by Western blot.