

PREVALENCE AND EFFECT OF BOVINE HERPESVIRUS TYPE 4 ON BIOCHEMICAL, HORMONAL AND ASSOCIATED LESIONS IN CATTLE IN NORTHERN CAMEROON

M.S. Fambo Nono^{1*}, O. Hassan¹, J. Kouamo¹, F. Ngoula²,
R.N. Guefack Nguena³

¹School of Veterinary Medicine and Sciences, University of Ngaoundere,
P.O. BOX 454, Ngaoundere, Cameroon

²Faculty of Agronomy and Agricultural Sciences, University of Dschang,
P.O. BOX 222, Dschang, Cameroon

³National Veterinary Laboratory (LANAVET), P.O. Box 503 Garoua-Cameroun
*e-mail: nonostyve@yahoo.fr

Abstract

This study was carried out on 938 zebus of all ages, in the Adamawa, North and Far North regions, from January to June 2022. Its objective was to assess the effect to bovine herpes virus type 4 (BoHV-4) on the biochemical and hormonal parameters, and highlight the lesion associated with the presence of this virus. Before slaughtering the animals, a macroscopic examination was done in order to determine the characteristics of the animals. After slaughter, organ lesions were determined by observing macroscopic malformations. Blood was collected, then the serum obtained and stored at -20°C. The diagnosis of BoHV-4 and the hormonal assays were performed by the indirect ELISA (Enzyme-linked Immunosorbent Assay) technique; biochemical assays were performed by colorimetry and absorbance reading by spectrophotometry. The overall BoHV-4 seroprevalence was 74,8%; and the prevalence by region were recorded as 56%, 94.9%, 97.7% respectively in Adamaoua, North and Far North. The Gudali breed aged between 4 to 7 years are the main risk factors for BoHV-4 seropositivity. In seropositive animals, mean concentration of glucose, cholesterol, ALT, AST, urea, creatinine, total protein, calcium, phosphorus and albumin were respectively $2,47 \pm 0,77$ g/l, $189,4 \pm 0,37$ mg/dl, $20,80 \pm 1,89$ U/l, $13,99 \pm 1,07$ U/l, $6,52 \pm 0,75$ mg/dl, $0,94 \pm 0,13$ mg/dl, $4,68 \pm 0,24$ mg/dl, $2,70 \pm 0,26$ mmol/l, $1,43 \pm 0,30$ mmol/l et $6,78 \pm 0,28$ g/l. Seropositivity to bovine herpes virus 4 would lead to a significant decrease in glucose, cholesterol, AST and total proteins; a significant increase in albumin. Mean estradiol and progesterone concentration in pregnant females were $1,48 \pm 0,57$ ng/ml et de $1,13 \pm 0,20$ ng/ml respectively; in non-pregnant females, these concentrations were $1,46 \pm 0,54$ ng/ml et de $1,10 \pm 0,20$ ng/ml respectively. The estradiol value was significantly elevated and that of progesterone remains normal. The mean testosterone value was low ($1,54$ ng/l). Creatinine and ALT were positively and strongly correlated with bovine herpes virus 4 seropositivity, while ALT and glucose were negatively and weakly correlated with this seropositivity.

Key words: Cattle, BoHV-4, prevalence, biochemical and hormonal parameters, lesions, Northern Cameroon