ABSTRACT

The aim of this study was to determine the hematological and serological changes in experimentally infected sheep and goats and to validate use of Real time reverse transcriptase PCR analysis in diagnosing PPRV in Kenya. In this study, five sheep and five goats aged 3-6 months and of different sexes were experimentally infected with lineage III PPR virus. Further, two goats and two sheep that were confirmed using c-ELISA kit to be free from PPR were used as controls. Hematological examination of infected animals revealed a modest decrease in lymphocyte counts (L) and a slight increase in Neutrophils (N) and White Blood Cell Count (WBC) in goats. Parameters of the erythron apart from an increase in HB were unremarkable in goats. An increase in White Blood Cells (WBC), Neutrophilia, lymphopaenia and relative change in red blood cells (RBCs) parameters were consistently observed in infected sheep. Serology revealed the presence of antibodies against PPRV by 10th day post infection with both goats and sheep showing mean competition percentage of 41.10 Â±10 and 40.768 Â±5.26, respectively. Antibodies against PPRV continued to rise by day 14 where both goats and sheep showed a mean competition percentage of 29.77 Â±4.98 and 22.51 Â±6.69, respectively. Real-time -PCR revealed positive amplification in ocular swabs, mesenteric lymph nodes, intestines and in lungs. Results of this study indicated that infection with PPR in sheep and goats provide valuable data about hematological and serological findings that can be used for diagnosis of PPR. Samples of choice for real-time PCR diagnosis for PPR are ocular swabs, mesenteric lymph nodes, intestines and lungs.