Clinico-pathological findings of the 2011 outbreak of Peste des Petits Ruminants (PPR) in Tandahimba district, southern Tanzania

Muse, E A; Matondo, R B; Karimuribo, E D; Misinzo, G; Albano, M O; Gitao, C G  
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Abstract

Although PPR outbreaks were reported in Northern Tanzania since 2008, there has been no description of the clinical or pathological manifestation of the disease, an important criterion in guiding veterinarians and farmers on proper recognition and diagnosis of the disease. A study was therefore conducted to investigate and describe clinical signs and pathological lesions associated with 2011 Peste des petits ruminants (PPR) outbreak in goats and sheep in Tandahimba district located in Southern Tanzania. The investigation involved taking history and conducting clinical examination of PPR suspected cases (25 goats and 3 sheep) in the study district which had neither a history of vaccination against PPR nor previous illness due to PPR. This work was complemented by collection of pathological samples and specimens for laboratory examination. A detailed post-mortem was performed on three sacrificed animals followed by collection of specimens including lungs, liver, spleen and lymph nodes for histopathological examination. Clinical samples from 30 animals which included swabs from ocular, nasal and mouth lesions were also collected for confirmation of PPR through detection of PPR ribonucleic acid using reverse transcription polymerase chain reaction (RT-PCR). Clinical examinations of the cases showed signs suggestive of PPR including severe depression, high fever (41oC), anorexia, muco-pululent nasal discharge, erosive and necrotic stomatitis, mild diarrhoea and skin nodules. Post mortem examination showed evidence of pneumonia including lung congestion and consolidation, increased thickness of inter-alveolar walls, moderate infiltration of inflammatory cells in bronchial subepithelial and perivascular layers. Overall 56.7% of the samples (n=30) tested were positive for PPR by RTPCR. This study has confirmed and described the presence of PPR in southern Tanzania. A more detailed study including other districts is recommended to provide more information regarding the magnitude and factors associated with PPR in Southern Tanzania.