

Ethiopathogenesis of Caseous Lymphadenitis in a Mice Model

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Abstract

Corynebacterium pseudotuberculosis is a facultative, gram-positive intracellular small club-shaped rod which produces lesions similar to those of tuberculosis. It is known worldwide to cause caseous lymphadenitis (CLA) in sheep and goats. Caseous lymphadenitis is characterized by abscess formation in lymph nodes and/or visceral organs. Recent outbreak of CLA in Taman Pertanian University (TPU) farm, UPM reported that the CLA lesions were also found in the visceral organs. In the present investigation attempts were made to study the ethiopathogenesis of CLA in mice models which involved comparing the clinical signs, haemogram and biochemistry, and histopathological changes in visceral organs between the diseased and non diseased group. As an overall summary of this project, CLA in mice resulted in clinical signs such as huddling together, dejection, anorexia, pasty feces and accompanied by rapid and shallow respiration pattern. The haemogram and serum biochemistry profile showed significant ($p < 0.05$) differences in the mean values between the diseased group and non-diseased group which include lymphocyte, plasma protein, monocyte, eosinophil, total bilirubin, total protein and potassium. Lastly, the most pronounced histopathological changes in the visceral organs were septicemia with severe congestion and increased vascularization together with the presence of capsulated abscess, micro-abscesses formation, infiltration of neutrophils and macrophages, tubercule granulomas, necrosis and early signs of degeneration in majority of the infected mice.

Keywords: *Corynebacterium pseudotuberculosis*, caseous lymphadenitis (CLA), ethiopathogenesis, septicaemia, tubercule granuloma.