POLYMERASE CHAIN REACTION DETECTION OF *CORYNEBACTERIUM PSEUDOTUBERCULOSIS* IN MICE FOLLOWING ORAL INOCULATION WITH THE BACTERIA

Ahmad Fauzan Muhdi, [1]Abdul Rahman Omar & [2,3]Faez Firdaus Jesse Abdullah
[1]Department of Veterinary Pathology & Microbiology
[2]Department of Veterinary Clinical Studies
[3]Ruminant Diseases Research Centre
Faculty of Veterinary Medicine
Universiti Putra Malaysia, 43400 UPM Serdang, Selangor, Malaysia

Abstract

Caseous lymphadenitis (CLA) is caused by aetiological agent *Corynebacterium pseudotuberculosis* which is an intracellular gram-positive, facultative anaerobic small curved rod bacteria. The infection of CLA may occur through the ingestion of contaminated food with the bacteria. Hence, this study was conducted to prove that the oral route will give same signs with other routes of transmission. This study was conducted to detect *C. pseudotuberculosis* using PCR from various organs in mice following oral route inoculation to demonstrate a natural route of the transmission of the bacteria in goat and sheep and the development of cheaper animal models to study *C. pseudotuberculosis*. A total of 8 mice were inoculated orally with the bacteria and 7 organs were collected for detection using PCR. PCR on DNA extracted using a pair of *C. pseudotuberculosis* specific primers was positive in some organs which were 3 samples of lymph node, 5 samples of brain and 1 sample of liver. Although the results in this study showed minimum detection of *C. pseudotuberculosis* in many organs, the PCR used in this study may successfully be applied for the detection and diagnosis of the bacteria in mice and oral inoculation or digestion transmission revealed presence of the bacteria and may produce effect in a chronic period.

Keywords: *Corynebacterium pseudotuberculosis*, PCR, oral inoculation