

## **Clinical and pathological changes in goats inoculated *Corynebacterium pseudotuberculosis* by intradermal, intranasal and oral routes**

### **ABSTRACT**

This study describes lesions and clinical responses that develop in goats following experimental infection with *Corynebacterium pseudotuberculosis* by intradermal, intranasal and oral administration. Three groups of 5 goats each were given 1 ml inoculum containing 10<sup>7</sup> cfu/ml live *Corynebacterium pseudotuberculosis* by intradermal, intranasal and oral routes, respectively. Controls were unexposed normals. Goats were assessed for clinical signs, body temperature and blood cell count and serum biochemistry. The animals were euthanized 30 days after exposure and pre-scapular, submandibular, supra-mammary, inguinal and mesenteric lymph nodes, lung, liver and kidneys were excised for bacterial isolation and histopathology examinations. Compared with controls, goats inoculated with *Corynebacterium pseudotuberculosis* showed higher body temperatures at week 1 which returned to normal by week 2. Intradermal infection increased leukocytes and ALT levels and induced severe abscesses in lymph nodes. Pulmonary congestion, liver abscesses, splenomegalia and renal congestion were found. Intranasal infection produced the most apparent severe lesions in the mesenteric lymph nodes whereas oral administration induced the most severe supra-mammary lymph nodes lesions. The results suggest that intradermal *C. pseudotuberculosis* infection in goats may induce the most severe and widespread lesions compared with other routes of administration.

**Keyword:** Pathology; *Corynebacterium pseudotuberculosis*; Goats