

Pathological changes in the lungs of calves following intratracheal exposure to *Pasteurella multocida* B:2.

ABSTRACT

Pasteurella multocida B:2 is an etiological agent of hemorrhagic septicemia in cattle and buffaloes. It is commonly fatal and considered as one of the most economically important cattle diseases in Southeast Asia. This study describes the pathological changes in the lungs of calves following intra-tracheal challenge with wild-type *P. multocida* B:2. For this purpose, six calves of 8-month old were selected and divided into two groups of 3 calves. Calves of Group 1 were challenged with intra-tracheal 5 ml inoculum containing 10⁹ cfu/ml of wild-type *P. multocida* B:2, while the calves of Group 2 were similarly administered with PBS. All the challenged calves of Group 1 showed slight dullness and were found to be inactive within 72 hours after inoculation, but none died. Meanwhile, their lungs showed petechiations and patches of acute pneumonia affecting few lobules. Histological examinations revealed the presence of haemorrhages into the alveoli, whereas some sections showed thickened inter-alveolar septa due to congestion and the presence of neutrophils. However, pulmonary oedema was absent. *P. multocida* B:2 was successfully isolated from all the calves of Group 1.

Keyword: Pathology, lungs, calves, *Pasteurella multocida* B:2, intra-trachea