

Histopathology of unspecified *Leptospira sp.* (Field Isolates) isolated from diagnostic samples in the guinea pig

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ABSTRACT

Introduction: The Veterinary Research Institute lab received several samples for leptospira isolation after a pony in Perak tested serological positive for *Leptospira sp.* A strain of unspecified *Leptospira sp.* was isolated from sawdust samples and further identified using PCR and partial sequencing. **Objective:** The objective was to study the pathogenicity of the isolated *Leptospira* strain. **Materials and Method:** Guinea pigs were chosen for the study as they replicate the pathological changes seen in humans and other animals. The guinea pigs weighing between 140 and 250 grams were utilized, divided into two groups and housed with unlimited access to food and water. Group 1 was inoculated with an unspecified *Leptospira sp.*, while Group 2 inoculated with pathogenic *Leptospira interrogans*. These animals were being observed for 14 days. After observation period, the animals were culled, and histopathology tests were performed. **Result:** Histopathology in Group 1 revealed partial atelectasis, emphysema, and interstitial pneumonia in the lung. The liver exhibits congestion, bleeding, fatty liver, cell necrosis, and fibrin infiltration. The kidney has mild bleeding and congestion. The spleen was haemorrhagic. On the other hand, Group 2 depicts the outcomes of fibrin infiltration, bleeding, loss of alveolar architecture, and a fatty liver. This group's kidneys are haemorrhagic. In addition, there is splenic congestion and bleeding. **Conclusion:** This study demonstrates that *Leptospira sp.* in both study groups did not exhibit clinical indications during the study period, but histology revealed significant pathological changes in several organs that indicate unspecified *Leptospira* belongs to a pathogenic strain and shows a similar pattern to pathogenic *Leptospira sp.* This suggests that histopathology can be an alternative diagnostic method for leptospirosis in animals.