The aim of this study was to establish a reverse transcription-polymerase chain reaction (RT-PCR) for the diagnosis of avian influenza virus in paraffin embedded tissues of experimentally infected animals, and to correlate viral detection by this method with the histological changes. Eight groups of 10 Arbor Acres chickens of 5 weeks of age were inoculated intravenously with 10^1 to 10^8 50% chicken lethal doses of avian influenza virus A/Ck/Queretaro/20/95 (H5N2). All chickens were subjected to a general histopathological examination. Three organs were analyzed by RT-PCR (one chicken per dose): lung, encephalon, and kidney. The main histopathologic lesions in all organs examined from infected birds were: necrosis of lymphoid tissue (in lung, spleen, bursa of Fabricius, and cecal tonsils), vasculitis, acute renal tubular necrosis, non-suppurative encephalitis, and multifocal necrosis in all of the organs studied. The main differences with other highly pathogenic strains (fowl plague (H7N7), Ck/Scot/59 (H5N1), Tern/S.A. (H5N3), Ty/Ont/66 (H5N9), and Ck/Penn/83 (H5N2)) were: greater frequency of vascular injury, nephropathogenicity, pancreatic islet cell necrosis, and diffuse necrosis of lymphoid tissue. These findings collectively constitute a distinctive feature of the strain under study. Influenza virus was detected in lung tissue by RT-PCR, regardless of the viral dose, as well as in encephalon and kidney in seven of eight doses used. These results are indicative of viral replication in the three organs studied; hence, the pathologic changes can be attributed to viral replication, without excluding other mechanisms of cell injury.

**Keywords**

Avian influenza, histopathology, rt-pcr