Summary of the Choose an item thesis No 12356 Faculty of Veterinary Medicine, Urmia University.
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Title of thesis: Pathology of trachea, lung and kidney in spf eggs embryos inoculated for titration of avian infectious bronchitis virus M41 strain.

Summary

One of the most important illnesses impacting breed broiler and egg-laying hens is avian bronchitis. The poultry industry suffers substantial losses as a result of its high mortality rates and decreased egg yield. This disease is caused by a coronavirus, of which there are about 30 serotypes and 100 variations known. Vaccines are being developed for some severe cases, like the Massachusetts strain, to lessen the effects. Determining the vaccinal strain's titer is crucial to creating an effective vaccine. For this objective, calculating the virus's infectivity in the egg embryo (EID50) is the most effective way. It's crucial to closely monitor the effects of the virus in the embryos and identify the positive embryos in terms of the virus's influence when calculating the titer of the avian bronchitis virus in egg embryos.

As a result, in this experimental study, the virus of the eggs was first inoculated into the allantoic cavity of ten-day-old egg embryos using dilutions ranging from one thousandth to one hundred millionth in a tenth of a milliliter. After incubation, or on the fifth day after inoculation, the eggs' virus was moved to a cold room at four degrees Celsius. The following day, after disinfecting with ethyl alcohol, the allantoic fluid of every embryo was removed under sterile conditions to conduct a real-time PCR test on them. After the embryos were extracted from the eggs, the virus's outward effects such as dwarfism and hyperemia were investigated. Next, the embryos' kidneys, lungs, and trachea were deposited in 10% formalin for histology.

Hematoxylin and eosin staining and the NF-κB immunofluorescent test were performed after the slides were prepared.

The outcomes demonstrated that the greatest organ damage and viral multiplication It was diluted to a thousandth in embryos. Based on the virus dilution, various degrees of hyperemia, edema, cellular infiltration, and degeneration were seen in the evaluation of the trachea, lung slides, and mesonephros.

Keywords: histopathology, infectious bronchitis, trachea, lung, kidney, avian