Prevalence of Avian Influenza H5N6 in Birds: A Systematic Review and Meta-analysis of Other Viral Zoonosis


ABSTRACT

Avian influenza viruses (AIV) are zoonotic pathogens that can potentially affect humans and potentially be epidemic in a region. Birds (such as poultry and wild birds) serve as potential reservoirs for these viruses, highlighting the importance of determining AIV prevalence in the avian population. No systematic reviews have been published on this issue in the world so far. The present systematic literature review following the PRISMA standard, with meta-analysis, used three databases to globally assess the Influenza H5N6 infection in birds (including poultry and wild birds). A model of random-effects meta-analysis was performed to calculate the pooled prevalence and 95% Confidence Interval (95% CI) for the prevalence of Influenza H5N6 infection in birds. A total number of 14,605 articles published from 2015 to 2020 were retrieved. After screening the abstract/title, 37 articles were selected for full-text assessment, and 15 were included for qualitative and quantitative analyses. Of the total number of birds (n = 13,416 birds), the pool prevalence by RT-PCR was 3.5% (95% CI: 2.8-4.3%). From the total, 39.67% of the birds assessed were ducks (family Anatidae), in which pool prevalence was 7.7% (95% CI: 4.4-11.0). In chickens (Gallus gallus domesticus), the pool prevalence was 3.3% (95% CI 1.9-4.8). Vietnam was the country with the highest pool prevalence; 7.9% (95% CI 4.0-11.7%). Bangladesh was the country with the lowest pool prevalence of 0.4% (95% CI 0.2-0.7%). A considerable proportion of infected birds tested positive highlighted the relevance of individual animals as reservoirs of H5N6. Ducks and chickens were found to be positive by RT-PCR in over 3% of the cases. These data suggest their relevance in maintaining zoonotic transmission and their potential implications for epidemics and even pandemics in the near future.

Keywords: H5N6, Influenza, Meta-Analysis, Molecular diagnosis, RT-PCR, Systematic Review

[Full text- PDF ] [XML] [Google Scholar]
A 10-year (2008-2017) retrospective canine-mediated human rabies epidemiology was studied from Sukraraj Tropical Hospital, Kathmandu, Nepal. The findings revealed that the number of human rabies deaths recorded in Nepal during the study period. On average, 49 human rabies deaths were recorded in Nepal during the study period. A total of 482 human rabies deaths were recorded in Nepal during the study period. On average, 36,995 PEP dosages were used per year for stray dog bites.

The PEP consumption and the number of human deaths were negatively correlated. A total of 2,102 people were bitten by mostly stray dogs. There was a gradual increase in PEP use throughout 10 years. On average, 36,995 PEP dosages were used per year for stray dog bites. A Retrospective Study on Dog Bite Associated Rabies in Human and the Use of Post-exposure Prophylaxis in Nepal during 2008 to 2017

Keywords: Human rabies occurrences was consistent with minor fluctuations throughout the study period. Hence, it is recommended that the government agencies and other concerned stakeholders should organize mass vaccination and population management program for stray dogs in order to reduce the country’s rabies burden.
Production of Newcastle Disease Polyclonal Antibody as the Alternative of Immunohistochemistry Primary Antibody against Newcastle Disease in Poultry


Production of Newcastle Disease Polyclonal Antibody as the Alternative of Immunohistochemistry Primary Antibody against Newcastle Disease in Poultry.

mutations at Y13N, H22N. Moreover, mutation at G74E in Egyptian viruses recorded in the seven Egyptian viruses in this study (A-Egypt-AN1-2020 to A-Egypt-AN7-2020) were clustered especially in Sharkia (78%), Ismailia (62.5%), and Alexandria (60%).

The viral protein1 (VP1) in subgroup 2A. Furthermore, Q139 and Q144 amino acid substitutions, which are important in all viruses in the group A and B. All Egyptian viruses in the current study had specific new viral replication, were observed in all viruses. The field viruses in the study were distinct from the vaccinal strains by phylogenetic analysis and A.A. identity. In conclusion, the CAV was high economic losses in poultry production. In the present study, tissue samples (bone marrow, A/Egypt/AN2/2020, A/Egypt/AN4/2020), and S140A in the hypervariable region was found in continuously circulating in Egypt from different genotypes. It acquired new specific mutations comparing with Del-Rose reference strains, V75I, M97L, and K139Q, E144Q were recorded in

Research Paper

ABSTRACT

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It is important to conduct continuous monitoring on the genetic evolution of CAV and further studies are required to understand the infection and pathogenicity of this virus.

Keywords:

Chicken Anemia Virus, Egypt, Genetic evolution, Viral protein 1 gene

Assessing the Chronic Poisoning of White Mice Affected by Mospilan RP and Actara 25 WG.


Role of elastin in the thickening of the postpartum vaginal wall

Elastin levels were significantly correlated with epithelial thickness.

Elastin

568, 931µm

4, 498, 349µm

Parous Mouse

PREGNANT MOUSE

30 days at the doses of 1/10 of Median Lethal Dose reported as 65 and 363 mg/kg of body weight, respectively. The affected mice showed thrombocytosis, neutrophilic leukocytosis, and lymphocytopenia. Blood plasma hyperproteinemia in mice treated with Mospilan RP and Actara 25 WG was recorded.

In Mospilan RP and Actara 25 WG treated groups, there was a reduction in urea content by 24.9% and 20.1%, respectively. The activity of alanine aminotransferase increased to 23.0% only in mice that were given Mospilan RP but not in mice that were given Actara 25 WG.

Fish and fish products are one of Morocco’s most important export products. Fish parasitism seems to have a predilection to infest the Atlantic Pomfret (Brama brama) as the main fish species concerned with this hazard were Hake (26%)

Keywords:

Fish, Morocco, Notification, Parasite, Rapid alert system for food and feed

Analysis of Notifications of the Rapid Alert System concerning Parasites in Fishery Products

World Vet. J.
This study was conducted to observe the influences of essential lysine on the content of Omega-3 and Omega-6 of Patin catfish. This was an experimental study with a completely randomized design method, consisting of four treatments and five replications. The treatment groups of 48 chickens. Chickens of group one fed a plain diet without any supplement. The relative organ weights of the spleen, bursa of Fabricius, and thymus increased significantly in broilers fed with WY, YCW, and YE, and the highest values were observed in the chickens fed with WY. It can be demonstrated that the supplementation of WY increased significantly in broilers fed with WY, YCW, and YE, and the highest values were observed in the chickens fed with WY. It can be demonstrated that the supplementation of WY increased significantly in broilers fed with WY, YCW, and YE, and the highest values were observed in the chickens fed with WY. It can be demonstrated that the supplementation of WY increased significantly in broilers fed with WY, YCW, and YE, and the highest values were observed in the chickens fed with WY.
Moreover, the addition of essential amino acids, such as lysine, by giving up to 2.5% cannot reduce the feed conversion ratio in carp. The present experiment was conducted for a year. The results showed that the addition of lysine as much as 2% in commercial feed can increase the energy retention and decrease conversion ratio. It can be concluded that the use of lysine has different effects related to the increase in retention and decrease conversion ratio in carp.

The Effect of Lipopolysaccharide Subunit Vaccine of Brucella abortus on Montanide ISA 70 Adjuvant on Sheep.

ABSTRACT

Brucellosis is one of the most important zoonotic diseases in the entire world. This disease causes the need for excessive feed. One of the vaccine components that can be used is lipopolysaccharide subunit vaccine in the Montanide ISA 70 adjuvant. The samples were divided into three groups, each containing six sheep. In the control group, the samples had an injection of lipopolysaccharide. The result of the study on IFN-γ level indicated the control group had a greater IFN-γ level value in comparison with the dose of 50 μg/ml. The administration of the lipopolysaccharide subunit vaccine at a dose of 50 μg/ml revealed a greater IFN-γ level value in comparison with the dose of 100 μg/ml. The result of the study on IFN-γ level indicated the control group had a greater IFN-γ level value than the treatment group. In Conclusion, the administration of the lipopolysaccharide subunit vaccine of Brucella abortus can influence the antibody titer and IFN-γ secretion on sheep.

The Effect of Lysine Supplementation in Commercial Feed in Carp (Osphronemus gouramy).

ABSTRACT

One way that can accelerate the growth of this fish in order to shorten the maintenance period is by the addition of essential amino acids, such as lysine. However, this certainly gives its own influence on energy retention. Therefore, the aim of this study was to determine the influences of addition of lysine in feed on energy retention and feed conversion ratio of carp. The research showed that the addition of lysine as much as 2% in commercial feed can increase the energy retention and decrease conversion ratio in carp. Osphronemus gouramy.

Keywords: Lysine, Commercial Feed, Energy Retention, Conversion Ratio, Carp.
The effect of energy and protein supplementation on the biochemical blood parameters of crossbreed Holstein cows was studied. The study aimed to evaluate the effect of protein and energy supplementation on the total serum protein and urea concentrations in Holstein cows. Three groups of Holstein cows raised in small stakeholder farmers in Yogyakarta were assigned to different treatment groups: T0 (basal diet), T1 (5% energy and protein supplementation), and T2 (10% energy and protein supplementation). The basal diet included soybean meal and corn meal in order to depress the stress from adaptive feeding.

The results showed that the total serum protein and urea concentrations in treated cows were significantly lower than those in the basal diet. Total serum protein and urea in T1 were 3.07 mmol/L ± 0.82 mmol/L rather than T0 (0.98 mmol/L ± 0.40 mmol/L) and T2 (1.37 mmol/L ± 0.06 mmol/L). There was no significant difference in blood cholesterol among all treatment groups.

In conclusion, the addition of energy and protein supplementation to the diet of crossbreed Holstein cows significantly improved the biochemical blood parameters, specifically reducing the total serum protein and urea concentrations.

