Research Paper

The Effect of In Ovo Exposition to Ethanol Upon Osteogenesis of the Chicken Embryo.

Boussouar H, Khenenou T, Bennoune O and Berghiche A.

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ABSTRACT

Excessive alcohol consumption by a pregnant woman may delay foetal development and may cause malformations. In this study, the model of the chicken embryo to demonstrate the teratogenic effect of ethanol (33%) on the chicken osteogenesis on the 10th day of embryonic development have been used. 49 fertilized eggs were used in present investigation. Hence, different doses of ethanol were injected into the chicken embryos at 33% (20, 40, 80μl) in the air space at gastrulation and, on the other hand, an equivalent amount of the mentioned doses of distilled water were injected into the control-group eggs which was done once in every two days in order to maintain a high concentration in the blood. Experiments were repeatedly and independently carried out for three times. The eggs were incubated in a humid incubator at the temperature of 37.7 °C and at 60-65% of humidity. On the 10th day of incubation, the embryos were taken out and fixed in formalin at 10%. After that, the eggs were sectioned at 5μm of thickness with a Leica micrtome and, then, stained with the Hematoxylin and eosin. Histological examination has revealed that the exposition of chicken embryos to ethanol (33%) delays the skeletal development in a dose-dependent manner by reducing the length of the cartilaginous proliferation zone and hypertrophic zone during the bone formation period. Furthermore, under the effect of ethanol, the cell proliferation activities were repressed. In conclusion, present results indicated that using ethanol to treat chicken embryos at early stages caused considerable malformations and a decreased in the embryo survival rate. The exposition to alcohol affects the chicken osteogenesis in a dose-dependent manner.

Keywords: Chicken embryo, Ethanol, Malformations, Osteogenesis, Teratogenic effect
The objectives of this study were to observe the pathological effects due to aflatoxin in broiler chickens. A total of 120 chickens were divided into four groups, group A fed with a basal diet without aflatoxin contamination, group B with aflatoxin (> 1 ppb), group C with 51 ppb aflatoxin, and group D with 101 ppb aflatoxin. The results showed that aflatoxicosis in broiler chickens significantly increased the concentration of plasma lipids, especially triglycerides and cholesterol, and decreased the level of total protein. The effects of aflatoxin on the liver and kidney were also observed, with decreased liver weight and increased kidney weight. The histological examination revealed liver damage with necrosis and steatosis, and kidney damage with interstitial fibrosis. The findings suggest that aflatoxin is a severe threat to the health and performance of broiler chickens.
algae were found effective in maintaining animal growth performance, and in improving body viral shedding and normal viability of chickens were estimated in order to assess the efficiency Furthermore, future studies should be applied with increasing microalgae percent in poultry feed up to 5, 10 or 20% (W/W) in order to assess better performance on poultry production.

**ABSTRACT**

Keywords: Microalgae Biomass Application in Commercial Broilers Nutrition and Their Efficacy Against Challenge with Epidemic Newcastle Disease Virus in Egypt.

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Clostridium perfringens is the most important cause of enteritis in domestic animals, in chicken and turkey it well known as pathogen responsible for necrotic enteritis, hepatitis, and cholecystitis. The disease in turkey characterized by either severe form with high rate of mortalities or subclinical form of reduced growth rate and increased condemnation rate. The major factor responsible for pathogenicity of Clostridium perfringens was alpha toxin. The aim of the present study was to prepare a Clostridium perfringens alpha Toxoid vaccine for controlling the necrotic enteritis disease. The vaccine was prepared at different doses depending on the lethality of the toxin (24, 48 and 96 Minimum Lethal Dose) for controlling necrotic enteritis disease. Antibody titer elicited by vaccination was measured by toxin neutralization test, ELISA, and challenge test. It revealed that antibody titer expressed by international antitoxin unit per ml was 7.4, 4.1 and 1.26 respectively according to the mentioned dose, and also the protection percent against challenge was 100% when vaccinated with either 48 or 96 Minimum Lethal Dose, while it gave 80% when vaccinated with 24 Minimum Lethal Dose. It concluded that use of Clostridium perfringens alpha Toxoid with recommended dose of 48 MLD able to protect turkey for 6 months.

Keywords: Alpha toxin, Clostridium perfringens, Turkey, Type A, Vaccine