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

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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 contamination in broiler chickens. The birds were fed with a basal diet without aflatoxin contamination, group B with aflatoxin (>1 ppb), group C with aflatoxin (5-10 ppb), group D with aflatoxin (10-50 ppb), and group E with aflatoxin (50-100 ppb). The findings indicated that the birds fed with aflatoxin had a lower body weight gain, lower feed conversion ratio, and higher mortality rate compared to the control group. The antibodies against aflatoxin were detected in the sera of the aflatoxin-fed groups. Immunohistochemistry revealed pathological changes in the liver, spleen, and other organs of the aflatoxin-fed birds. The results suggest that aflatoxin poses a significant health risk to broiler chickens.
Microalgae Biomass Application in Commercial Broilers Nutrition and Their Efficacy

ABSTRACT
Abdo SM, Amer SA, Ahmed HM, Mahmoud RH, Salama AA and Kutkat MA-A. Using microalgal biomass in animal diets has been studied recently. Many species of cultivated microalgae have been used as feed additives for the enhancement of different performances. The content of mineral and amino acids as well as the fatty acid profile of feed and water intake as well as enhanced viability of chickens. And in regards to immune function and body weight, they have similar effect with the free microalgae groups in normal conditions. Some microalgae have been reported to improve weight gain, antibody response, microbial population and other factors in birds. In conclusion, dried microalgal biomass harvested from HRAP can be used in broiler ration with no negative impact on feed and water intake as well as enhanced viability of chickens. The results showed that the microalgae have no hazard effect on feed and water intake as well as enhanced viability of chickens. And in regards to immune function and body weight, they have similar effect with the free microalgae groups in normal conditions. Some microalgae have been reported to improve weight gain, antibody response, microbial population and other factors in birds. In conclusion, dried microalgal biomass harvested from HRAP can be used in broiler ration with no negative impact on feed and water intake as well as enhanced viability of chickens. The results showed that the microalgae have no hazard effect.
ABSTRACT

Clostridium perfringens is the most important cause of enteritis in domestic animals, in chicken and turkey, it is well known as a pathogen responsible for necrotic enteritis, hepatitis, and cholecystitis. The disease in turkeys is characterized by either a severe form with high mortality rates or a subclinical form with reduced growth rate and increased condemnation rate. The major factor responsible for the pathogenicity of Clostridium perfringens is 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 was revealed that antibody titer expressed as 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 the use of Clostridium perfringens alpha Toxoid with a recommended dose of 48 MLD is able to protect turkeys for 6 months.

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