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
Aflatoxin is a worldwide problem in poultry industries as it is known to contaminate poultry feed. Aflatoxin induces stress and increases mortality rate during infection in poultry, especially broiler chickens. The objectives of this study was to observe the pathological effects due to aflatoxin in broiler chickens. Recent Update: Effects of Aflatoxin in Broiler Chickens. The characterization of Post-Mortem Sperm of Local Chicken Cocks in Eastern Algeria. The present study was to determine the effect of different bedding materials on the hematological and serum biochemical parameters of the broiler chickens. The aim of the present study was to determine the effect of different bedding materials on the hematological and serum biochemical parameters of the broiler chickens. Effects of Feeding Different Levels of Baker's Yeast on Performance and Hematological Parameters in Broiler Chickens.
Using microalgal biomass in animal diets has been studied recently. Many species of cultivated microalgae, such as *Nannochloropsis* and *Chlorella*, have been used as food additives due to their high nutritional value. These microalgae contain high levels of vitamins, minerals, and essential fatty acids, which are beneficial for animal health. Among the advantages of using microalgae in animal feed is their potential to reduce the use of antibiotics and other growth promoters, thereby improving animal welfare and reducing environmental impacts.

In the presented study, the effects of adding *Gracilaria* sp. (a type of red microalga) to the diets of broiler chicks were investigated. The microalgae biomass was collected from high rate algal ponds (HRAP) and used as a feed additive in the broiler ration. The study aimed to evaluate the performance of broiler chicks fed different levels of *Gracilaria* sp. as a feed additive.

The results of the study showed that the inclusion of *Gracilaria* sp. in the broiler diet had no deleterious effect on growth rate, weight gain, poultry viability, and immune response. The meat quality of the broilers fed the microalgae-added diet was also comparable to that of the control group. Furthermore, the use of inactivated Newcastle disease virus (NDV) vaccines genotype II or non-vaccinated controls showed no significant differences in protection rate and body weight gain. In conclusion, microalgae can be used in broiler ration with no adverse effects on performance and growth.

**Keywords:** Microalgae biomass, Immune response, Newcastle disease virus, Poultry feed, Antibiotic residues, Broiler chicken, Databases, Meta-analysis.
Preparation of Necrotic Enteritis Vaccine for Turkey. El-Sergany E, Hamed E-H, El-Sawy H, Medhat T, Yasser A and Alaa E-M.

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ABSTRACT
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 characterize by either severe form with high rate of mortalities or subclinical form of reduce growth rate and increase condemnation rate. The major factor responsible for pathogenicity of Clostridium perfringens was alpha toxin. The aim of present study was to prepare of Clostridium perfringens alpha Toxoid vaccine for controlling the necrotic enteritis disease. The vaccine was prepared at different doses depend on lethality of 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