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

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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
Crossref Metadata

ABSTRACT

Recent Update: Effects of Aflatoxin in Broiler Chickens.

Aflatoxin is a worldwide problem in poultry industries as it is known to contaminate poultry feed. It 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. The research work was carried out on 18 local chicken cocks from the east of Algeria (age, 12-24 months, body weight 1.50-2.53 kg). And compared the quality of post-mortem sperm, obtained from epididymis and the vas deferens of 18 pairs of adult local chicken cock's sperm, and the effects of conservation in situ at different temperatures (2h and 24h at 20°C and after refrigeration at 4°C for 24h). The quality was significantly higher in post-mortem sperm, obtained from epididymis and the vas deferens levels, the efficacy of two post-mortem sperm retrieval techniques, the flushing and float-out methods in the collection of local chicken cock's sperm, and the effects of conservation in situ, at 25°C and 4°C for 24h, showed a significant difference for viability and motility of the spermatozoa recovered from vas deferens, no significant difference was observed between the flushing and float-out methods. So it can be concluded that good quality semen samples can be collected from the vas deferens with the post-mortem sperm retrieval techniques, the flushing and float-out methods with the effects of conservation in situ at different temperatures, 20°C and after refrigeration at 4°C for 24h. The characterization of post-mortem sperm of local chicken cocks in Eastern Algeria.

Keywords: Aflatoxin, Broiler Chickens, Post-mortem, Vas deferens.
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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 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 present study was to prepare 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