Identification of Locally Isolated *Clostridium difficile* from Rabbits

Taha MM, El-Helw HA, El-Sergany EF, El Sawy H, Abdella YA and El-Meneisy AA.


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ABSTRACT

*Clostridium difficile* is one of the most important pathogens causing diarrhea and enteritis in rabbits as it causes pseudomembranous colitis that leads to intestinal damage and deaths. In this study, screening of rabbit farms from different localities in Egypt had shown rabbits suffered from diarrhea and enteritis to detect *Clostridium difficile* by ELISA, it revealed that five out of 50 samples (10%) were positive for it. These samples were further identification by cultivation and culture characters, microscopical examination, agglutination test, pathogenicity test and Polymerase Chain Reaction (PCR) by using specific primers for toxins genes (tcdA and tcdB). The results showing that three out of five isolates were confirmed as *Clostridium difficile* and concluded that these isolates causing pseudomembranous enterocolitis in rabbits and this disease unable to be treated by antibiotics, so it used for preparation of vaccine against the disease in rabbits.

**Keywords:** *Clostridiaum difficile*, Rabbits, Enteritis

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Foodborne Diseases Related to the Consumption of Flesh Foods in Morocco (2010-2016).


Research Paper
The current study aimed to determine the epidemiological profile of foodborne diseases associated with flesh foods during 2010-2016 in Morocco. A retrospective study of foodborne diseases caused by flesh foods recorded by the Moroccan anti-poison and pharmacovigilance center during 2010-2016. During this period, 2963 foodborne diseases related to flesh foods were declared to the center, in which 24.83% were registered in 2015, and 20.75% in 2013. Diseases occurred mostly in urban areas (67.06%). The major affected group’s ages were adults (33.81%) and children (14.44%). The average patient’s age was 25.09 ± 15.37 years. Male were the most vulnerable to infection (54.80%) with a sex ratio (male / female) of 1.72. The most incriminate flesh foods were respectively chicken (47.35%), aquatic products (30.94%) and red meat (16.57%). The high incidence rate was related to chicken skewers (3.55 per 100000 people), while the high fatality rate was associated with giblets (3.33%). Diseases due to the restauration outside home accounted for 58.15%. The majority of cases were collective (84.27%) and occurred significantly in spring (18.49%) and summer (14.51%). clinical symptoms were present in 67.19 % of cases, mostly moderate (81.77%) with four death cases corresponding to fatal condition. The high incidence rates were recorded in the regions of Sahara. Foodborne diseases are spreading progressively in Morocco, especially in summer and hot climates. The majority of these diseases are due to the consumption of contaminated flesh foods. Therefore, the responsible of food safety in Morocco must ensure the quality control of these foodstuffs.

**Keywords:** Epidemiology, Foodborne diseases, Meat, Morocco
Research Paper


Hassan FA, Abdel-Azeem NM, Abdel-Rahman SM, Amin HF and Abdel-Mawla LF.


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ABSTRACT
Total of 45 weaned male New Zealand White (NZW) rabbits about six weeks old with an average initial body weight 618.11±10.01g were randomly allotted to three dietary groups; the first group fed the basal diet without organic Se, the second fed basal diet +0.2 mg Se-yeast, the third fed basal diet +0.2 mg Se-algae. The obtained results showed that supplementation rabbit diets with Se-yeast and Se-algae have no impact on final body weight and average daily body weight gain. Se-algae supplementation tended to increase (P < 0.05) average daily feed intake. Rabbits group fed diet supplemented with Se-yeast achieved better (P<0.05) FCR than that group fed Se-algae (5.06 g feed/g gain). Supplementation of Se-algae at 0.2 mg was the highest (P < 0.05) in total protein, albumin, and globulin concentration (7.94, 4.16 and 3.78 g/dl). Diets supplemented with Se-yeast or Se-algae significantly reduced plasma creatinine levels compared to the control group. All recorded values of creatinine and urea concentrations were within the normal ranges. Dietary supplementation with 0.2 mg Se-yeast or Se-algae resulted in a significant (P < 0.05) decrease in the activity of AST enzyme. Plasma total cholesterol and plasma LDL levels were significantly decreased (P < 0.05) with dietary supplementation with Se-yeast or Se-algae. There was a significant (p < 0.05) decrease in plasma MDA level in rabbits fed diets supplemented with Se-yeast or Se-algae. While Catalase activity was significantly (P < 0.05) increased. Rabbits fed diet supplemented with Se-algae was the lowest (P < 0.05) group in ether extract meat content while dietary supplementation of Se-algae significantly increased (P < 0.05) Se content of rabbits meat of hind leg. Conclusively, Se-yeast and Se-algae can be used as selenium sources in growing rabbit diets without causing any adverse effects on growth performance. Besides, their beneficial effects in improving the antioxidative status.

**Keywords:** Anti-oxidative status, Carcass, Growth, Organic selenium, Rabbit
ABSTRACT
The effect of environmental heat stress on growth performance, stress and physiological
parameters of Ross-308 broiler chickens was studied. A total of 1600 Ross-308 broiler day old chicks were obtained
from the local farm in front of Sidoarjo, East Java, Indonesia. The chicks were divided into two equal groups A (n =
800) and B (n = 800). Group A was reared in high temperature (1010F) whereas group B was reared in heat free
environment. Stress hedging response, feed intake, body weight gain, feed conversion ratio, water intake, and
carcass yield were recorded. The results indicated that feed intake, weight gain, water intake, feed conversion
ratio and carcass yield were significantly (p < 0.05) lower in group A than group B. The current study was conducted
to observe the effect of heat stress on broiler chickens. Environmental heat stress is one of the most challenging
conditions which have adverse effect on the performance of broiler chickens. Broiler chickens are sensitive to
heat stress mainly due to not having sweat glands. The current study was conducted to observe the effect of heat
stress on performance and carcass yield of broiler chicks.