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**Title** " STUDIES ON SOME CLOSTRIDIAL ENTERIC DISEASES AFFECTING WEANED RABBITS IN EGYPT "

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### Abstract

A total of 714 samples were collected from 19 rabbits farms located in 8 Egyptian governorates representing Port-Said, Giza, Cairo, Beni Suef, Fayoum, El-Qaliubiya, El-Sharkea and El-Menoufia. About 676 samples including 582 rectal swabs, 60 intestine and 34 liver were obtained from 329 weaned rabbits. Moreover, 38 samples were taken from the farms environment as 18 sample from water and 20 from feed. The results showed that 293 (79.8%) *Clostridial* isolates were recovered from surveyed rabbit's farms, (78.7 %) were single infection while (1.08%) were mixed infection between different *Clostridial* spp. *Clostridial* strains were identified as 93 (26%) *C. perfringens*, 92 (25.7%) *C. tertium*, 51 (14.2%) *C. sporogenes*, 34 (9.5%) *C. bifermentans*, 14 (3.9%) *C. septicum* and 9 (2.5%) *C. difficile*. The isolated *C. perfringens* were 89 (95.69%) toxigenic that differentiated by serological methods as well as conventional and multiplex PCR into single types representing 15 (16.12%) type (A), 4 (4.3%) type (B), 15 (16.12%) type (D) and 4 (4.3%) type (E) while mixed types of *C. perfringens* were 32 (34.4%) types (A and D), 4 (4.3%) types (A and E) and 15 (16.12%) types (B and D), while 4 (4.3%) were non toxigenic. Out of 38 environmental samples (20 feed and 18 water samples), 6 (15.78%) and 1 (2.63%) *C. perfringens* strains were respectively recovered. The incidence of *Clostridial* strains at Port Said, Giza, Cairo, Beni Suef, Fayoum, El-Qaliubiya, Al-Sharkia and Menoufia were 36.5, 36.5, 43.7, 42.5, 42.7, 43.2, 43.4 and 38.9%, respectively. Experimental infection of weaned rabbits with *C. perfringens* types A, B, D & E and *C. difficile* by both oral and S/C routes revealed that mortality was high in 1<sup>st</sup> day post infection and commonly observed signs were diarrhea and bloat. The post mortem findings were enteritis, typhlitis, hepatitis and congestion in both kidney and spleen. The histopathological changes were confirmatory to the post-mortem lesions. The performance parameters showed significant decrease in the challenged groups. The *in-vitro* sensitivity of the most prevalent toxigenic types of *C. perfringens* as well as *C. difficile* indicated that all types were highly sensitive for Amoxicillin / Clavulanic acid and Ampicillin, whereas they were resistant to Colistine, Erythromycin and Lincomycin.

**Keywords:** Weaned rabbits, *Clostridium* species, Egypt, PCR, Serotyping, Infection, Antibiotics.