

Clinical Efficacy of Tiamulin 45% in the Prevention and Control of CRD-Complex in Broilers

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Abstract

Tiamulin is one of the macrolide antibacterial compounds which is very effective against mycoplasmas and gram-positive bacteria. This compound is also active against many Gram-negative bacteria other than *Enterobacteriaceae* family. This drug is used to treat CRD and infectious synovitis, prevent and control CRD in broiler chickens, prevent and control CRD in breeder broilers and layers. A total of 10000 broiler chicks (ross 308) were placed in two houses, each with 4000 birds. Management and nutritional conditions and all health and vaccination programs were similar in both houses. Chickens in house 1 for 4 days at the age of 4-7 days of age were treated with water-soluble powder Tiamulin 45% (Vetaque Co., Iran) at a daily rate of 100 grams in 400 liters of drinking water and also at the beginning of week 4 for 4 days with the same drug at a daily rate of 100 grams per 200 liters of drinking water (DW). Chickens in House 2 were given water-soluble powder Tiamulin 45% (Jamedat Afagh Co, Iran) similar to Tiamulin 45% of Vetaque Co. At day 1, 28 and 42 of age, 20 birds from each house blood sampled and all the serum samples were tested for MG with RSA test. One percent of chickens from each house were weighed at weekly interval until day 49 of age. Food consumption and Feed conversion ratio (FCR) were calculated weekly for each two houses. The percentage of various diseases and complications and mortalities, as well as the autopsy findings, were recorded in both houses. In each house, 60 chickens were kept as controls without taking any drugs. The flock did not show any important problem until the beginning of 4 weeks. Due to the occurrence of respiratory complications in chickens and the observation of gross pathology findings of colibacillosis (fibrinous airsacculitis, perihepatitis, pericarditis) at 30 days of age in both houses, in addition to Tiamulin 45%, doxycycline 50% with a dose of 300 gr/1000 L of DW were used in both houses for 4 days. The average weight of chickens in two houses at different ages were compared using SPSS ver. 10 and the Independent-Samples T-test statistical method and no statistically significant difference was observed. The FCR at the end of the experiment was not significantly different in the two houses. Samples were also taken from the dead carcasses with signs of yolk sac infection or colibacillosis and *Escherichia coli* was isolated which showed full sensitivity to florfenicol, Fosbac, doxycycline, and lincospectin and moderate sensitivity to tiamulin. About 20% of the serum samples taken from day-old chicks were positive for MG with RSA test, but the samples taken at days 28 and 42 of age were negative for MG. The percentage of mortalities of control birds without medication at the end of the period was 55% and their average weight gain in each of the two houses at the end of the period was about 2 kg, which was significantly less than the chickens consuming Tiamulin ($P \leq 0.05$). According to the results, no specific difference was found between Tiamulin 45% made two companies. At the end of the experiment, the chickens of both houses that received Tiamulin 45% demonstrated better performance than those of control birds.

Keywords: Broiler, Chicken, CRD-Complex, Colibacillosis, Tiamulin