

Abstract

Ascites is a metabolic disorder which many predisposing factors contribute in its development. Increased mortality often occur in broilers with high rate of growth manifesting as ascites. The goal of this study is to simultaneously compare the effects of Garlic and *Nephramine* on etiological parameters related to ascites syndrome in broilers. For this aim, a number of 130 one-day-old chicks were bought and maintained under equal conditions such as light, temperature, humidity and vaccination. On 7th day, 120 chicks were classified into 5 groups with 2 replicates so that in each repeat there were 12 chickens. Then, in order to investigate ascites, a volume of 0.12 % sodium was added to drinking water of 4 group of chickens. On 14th day, two chickens were chosen from each repeat, necropsied and examined in terms of ascites. Afterwards, sodium amount in drinking water of chickens was increased to 0.24 % and treatment of groups with *Nephramine* and Garlic was started simultaneously. Experiment groups were as follows: 1) Control, 2) 0.24 % sodium in drinking water, 3) 0.24 % sodium + 2 % Garlic in food, 4) 0.24 % sodium in drinking water + 0.1 % *Nephramine* in drinking water, and 5) 0.24 % sodium + 2 % Garlic in food + 0.1 % *Nephramine* in drinking water. On 21th day, 5 chickens of each replicate were randomly chosen and killed. In order to assess hematocrit volume blood samples were obtained in tubes containing anticoagulant. Then, carcass was necropsied to weigh the right ventricle (RV), total ventricles (TV), lung and bursa of Fabricius. Results of sampling in days 14 and 21 were statistically analyzed using SPSS[®] software. The hematocrit volume, RV/TV proportion as well as other factors in day 14 did not show significant difference ($P>0.05$), suggesting that 0.12 % sodium addition to drinking water has not influential impact on ascites development and higher amount of sodium are needed to induce ascites. But according to results of day 21, weight of RV in groups 2 and 3 demonstrated a remarkable difference comparing to control group ($P<0.05$). The RV/TV proportion in group 4 showed a decrease comparing to group 2, but it was not statistically significant ($P>0.05$). Additionally, hematocrit volume in day 21 showed a remarkable difference in *Nephramine*-received group than other experimental categories ($P<0.05$). Given the decrease of RV/TV proportion in *Nephramine*-received group as well as its significant reduction in hematocrit volume, it can be deduced that *Nephramine* usage can decrease ascites syndrome to some extent.

Key words: garlic, *Nephramin*, RV/TV, PCV, ascites syndrome.



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