

## **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 Barberry fruit and Aspirin 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 7<sup>th</sup> day, they were classified into 5 groups with 2 replicates so that in each replicate there were 12 chickens. Then, in order to instigate ascites, a volume of 0.12 % sodium was added to drinking water of 4 group of chickens. On 14<sup>th</sup> day, two chickens were chosen from each replicate, 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 Aspirin and Barberry fruit was started simultaneously. Experiment groups were as follows: 1) Control, 2) 0.24 % sodium in drinking water, 3) 0.24 % sodium + 0.2 % Aspirin in drinking water, 4) 0.24 % sodium in drinking water + 1 % Barberry fruit in food, and 5) 0.24 % sodium + 0.2 % Aspirin in drinking water + 1 % Barberry fruit in food.

On 21<sup>th</sup> 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 ( $P<0.05$ ). Also, RV/TV proportion in groups 2 and 5 showed a substantial difference in comparison to control group ( $P<0.05$ ). Although hematocrit volume in day 21 was not affected by our experimental diets ( $P>0.05$ ), but it was improved in groups 3 and 5 compared with the group receiving sodium. Regarding lower mortality in Aspirin- and Barberry-treated groups and relatively improved hematocrit and RV/TV proportion, it is noteworthy that using Aspirin and Barberry are preventive for ascites to some extent.

Key words: Aspirin, Barberry, ascites, Pcv, RV/TV, RV/BW



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**Effects of acetylsalicylic acid  
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syndrome indicators of broiler  
chickens**

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