

Comparative study on the effect of salbutamol and formoterol on electrocardiogram, blood pressure, glucose and potassium of blood serum amounts in dogs

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Received: 30.03.2021

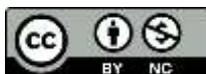
Accepted: 28.09.2021

Abstract

Today, respiratory diseases are one of the most common problems in animals and humans. One of the methods to control respiratory diseases is the use of bronchodilator drugs such as salbutamol and formoterol. The aim of the present study was to compare the effect of salbutamol and formoterol on electrocardiogram, blood pressure, potassium and glucose changes in dogs. For this purpose, fifteen male adult dogs were used. After a health check, animals were divided into three groups: control, salbutamol and formoterol. Treatment groups were inhaled daily with a single dose of one puff twice daily (morning and night) for 7 days. Finally, 4 hours after the last administration, electrocardiogram, blood pressure and arterial oxygen saturation were measured. Then, blood samples were taken from cephalic vein (5 ml) to measure blood potassium and glucose levels. Results showed that Administration of salbutamol caused a significant decrease in systolic and diastolic blood pressure, while formoterol caused a significant increase in blood pressure. Salbutamol and formoterol significantly increased heart rate. Blood potassium level as well as RR interval in electrocardiogram were significantly reduced in the groups treated with both drugs compared with the control group. The group treated with salbutamol showed a significant increase in blood glucose compared with the control group. According to the results, administration of salbutamol and formoterol reduced potassium unlike glucose. Salbutamol also was more effective than formoterol on cardiac effects and arrhythmogenic potential. Therefore, the administration of salbutamol and formoterol in cardiac or diabetic patients should be treated with caution and control.

Key words: Salbutamol, Formoterol, Electrocardiogram, Blood pressure, Dog

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