

The effect of adding Levamisole to colostrum on plasma oxidant-antioxidant balance in newborn goat kids

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Abstract

The ruminants newborn is susceptible to neonatal infections due to the immature immune system. Antioxidants can enhance the function of the immune system cells. Levamisole is an antioxidant that has been proposed as an immune system stimulator in ruminants infant. The aim of this study was to determine the effect of adding levamisole powder to colostrum on plasma oxidant-antioxidant balance in newborn kids. This study was performed on 18 male and female mixed breed newborn kids (average weight 3 kg). The kids were divided into 3 equal groups. Each group received one of the three oral treatments Includes; 30 ml saline, 400 IU vitamin E and 7 mg/kg of levamisole powder, per each of the three colostrum meals during the first 24 hours of life. At 0, 60, 150, 300, 720, 1080 and 1440 minutes after starting treatment, the plasma samples were taken from the kids and the amount of total antioxidant and total oxidant capacity of the plasma and its oxidative stress index were determined. Treatment with vitamin E and levamisole compared to negative control treatment caused a significant increase of the oxidant-antioxidant balance of the plasma towards the antioxidant. This study showed that levamisole has an antioxidant effect in the plasma of newborn goat kids.

Key words: Levamisole, Colostrum, Oxidant, Antioxidant, Goat kid

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