عنوان مقاله:

Effects of Parenteral Vitamin D۳ Supplementation on Hematological Parameters of Healthy Holstein Bulls

محل انتشار:

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خلاصه مقاله:

Vitamin D has been shown to play physiological functions beyond calcium and phosphorus homeostasis and control bone metabolism in the body since its cellular receptors are present in numerous tissues. A total of ۲۰ healthy bulls were divided into four groups to evaluate the effect of different doses of vitamin D۳ on the number of bovine blood cells. Groups A, B, C, and D received ۱۱,۰۰۰, ۲۲,۰۰۰, ۳۳,۰۰۰, and ۴۴,۰۰۰ units/kg of vitamin D۳, respectively. The control group was injected with ۱۰ ml of physiological saline intramuscularly. Blood samples were taken before the injection, as well as ۲, ۴, and ۶ days after the injection; furthermore, the white blood cell counts (including granulocytes and lymphocytes), hematocrit, haemoglobin, and platelets were examined by a cell counter. The results showed that vitamin D could cause leukopenia (e.g., neutropenia and lymphopenia), thrombocytopenia, as well as an increase in hematocrit and hemoglobin levels in the blood. Although the mentioned increase or decrease is largely dose- and time-dependent, the first and best group to indicate this is group B. To find the second group, the investigation of the long-term effects of injections, especially in high doses, and evaluation of different tests are required with larger .groups over a longer period

کلمات کلیدی:

Vitamin D۳, White blood cell, Hematocrit, Hemoglobin, Platelet, Cattle