

PHYSIOLOGICAL AND BIOCHEMICAL INDICES OF CALVES BLOOD IN CLINICAL TRIALS OF FORTILIT

N. Zhyla, N. Shkodyak, O. Pyatnychko, N. Lisova, O. Sobodosh, O. Maksymovych

State Scientific-Research Control Institute of Veterinary Medicinal Product
and Feed Additives

11, Donetska str., Lviv, 79019, Ukraine

The article presents the results of clinical trials of veterinary preparation Fortilit (Ukraine) under the treatment of calves with metabolic disorders and hypotrophy.

Clinical trials were conducted on the base of the farm (Pchany village, Zhydachivsky district, Lviv region) on 2,5–3-months old calves, volynska meat breed, with the symptoms of growth retardation and metabolic disorders. Clinical observations have been revealed the depressed state, periodic digestive disorders and diarrhea syndrome, signs of anemia state and intoxication of sick animals. It was formed two groups of sick calves including 10 goals. For calves of the first group, the experimental preparation Fortifit was used in a dose of 15 ml per 10 kg of body weight, once a day, subcutaneously, for 5 days; calves of the second (II) group received a 0,9% solution of sodium chloride.

Laboratory blood tests for evaluation of physiological state of the calves' organism and biochemical homeostasis were carried out before the use and at 10 day after the use of the drug. Morpho-functional state of the calves' organism before and after treatment established by morphological and biochemical indices of blood that determined in accordance with generally accepted methods. The morphological (number of red blood cells, the number of white blood cells, hematocrit value, hemoglobin concentration, leukocytogram) by conventional methods and biochemical (content of total serum protein and its fractions, activity of ALT, AST, AP, concentration of Iron, Calcium, Sodium and Phosphorus) calves' blood parameters were studied on biochemical analyzer Humalyzer 3000 using sets of reagents and standards of firm Human.

The influence of preparation Fortilit on haematological and biochemical parameters of calves' blood was studied. The reliable increasing of blood haemoglobin concentration, amount of erythrocytes, hematocrit index, α_2 - and γ -globulins relative quantity and decrease of serum albumins content were established after the drug's application. On the basis changes of mineral exchange indices the increasing of serum concentration of Iron,

Calcium and Phosphorus was found. The decrease of serum enzyme's AST activity under the treatment testifies the positive effect of Fortilit on the intensification of free monoacid's transamination processes, which were used by calves organism as energetic material.

The high level of therapeutic efficiency and safety of preparation in the dose and method recommended by the manufacturer during the treatment of calves with metabolic disorders and hypotrophy has been proved.

Due to the complex content of biologically active substances the preparation Fortilit positively influenced on morpho-functional state of calves organism, namely: activated adaptive immunity and hematopoiesis processes, restored the electrolyte balance, normalized and stimulated metabolism and animal growth.

Keywords: CALVES, HYPOTROPHY, FORTILIT, HEMATOLOGICAL AND BIOCHEMICAL BLOOD INDICES, MINERAL EXCHANGE, THERAPEUTIC EFFICIENCY, SAFETY.