

EXAMINATION OF LIVER FUNCTIONS IN DOGS WITH PARVOVIRUS ENTERITIS

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Summary. The aim of this work was to establish blood morphological parameters and some biochemical parameter fluctuations in dogs ill with parvovirus enteritis; to estimate a degree of liver function disorder (or absence of such a disorder), and to find out the time of liver function recovery.

During five last years (1997 – 2001 years) in Lithuanian Veterinary Academy Dr. L. Kriaučeliūnas Small animal clinic Departments of Internal diseases and Infectious diseases every year approximately 1454 dogs were treated, 473 of them had gastrointestinal tract diseases, which is 32,5 % of total cases. Almost one fifth (19,0 %) of gastrointestinal diseases is recognized as parvovirus (which makes 6,2 % of number cases). Parvovirus enteritis is one of the most common infectious diseases in Lithuania. Most of the dogs, which were ill with parvovirus enteritis and were treated in LVA Dr. L. Kriaučeliūnas Small animal clinic, were 3 – 6 months of age. Because of that we researched puppies exactly of this age. Treatment of parvovirus enteritis usually lasts about 5 days, that is why we performed morphological and biochemical blood tests at the 1 st, 3 rd, 5 th, 7 th and 10 th days. Blood samples were taken from 5 dogs, which were ill with parvovirus enteritis. We compared blood morphological and biochemical parameters of ill dogs with parameters of 5 healthy dogs of the same age. Leucopenia is typical for the beginning of parvovirus enteritis, that is why we determined the amount of leucocytes in the blood with “QBC® VET AUTOREADER” device. Amounts of blood erythrocytes, hemoglobin and hematocrit were determined with the same device. Using “Reflotron Manual” analyzer we used to determine amounts of blood alanine aminotransferase (ALT), aspartate aminotransferase (AST), total bilirubin (TB) and glucose (GLU), and using automatic analyzer “Hitachi 705” – amounts of alkaline phosphatase (AP) and albumins. We used express method “Dia-Med Vet Parvo Kit” (Finland) for determining parvovirus antigen in faeces. Radiography and histological research were made. Using computer program “Graph Prism™. Version 2.0” we did statistical calculation of all data.

During physical examination it was found out that in the initial stage of the disease body temperature rises, breathing and heart work become more frequent. From the third day of treatment these parameters start to come back to physiological rates limits. We did morphological blood test and we determined that in the beginning of the disease hemoglobin and hematocrit parameters are high, leucopenia and lymphopenia are typical. With favourable course of the disease there is a development of leucocytosis, amounts of lymphocytes and monocytes start to rise, parameters of hemoglobin and hematocrit reach physiological rates limits. In the beginning of the disease blood ALT, AST, AP, TB amounts rise, and GLU and albumins amounts drop. During animal recovery all the mentioned parameters go to physiological rates limits. Blood ALT, AST, TB, AP amounts increase, and blood albumins amount decrease show that during parvovirus enteritis a liver function disorder is present.

Keywords: dogs, parvovirus enteritis, blood morphological and biochemical parameters.