RELATION BETWEEN THROMBOCYTOPENIA AND SPLENOMEGALY IN CANINE BABESIOSIS

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The mechanism of thrombocytopenia in canine babesiosis was studied. First, the relation between thrombocytopenia and splenomegaly in canine babesiosis was examined. Three dogs (A, B, C) were experimentally infected with *Babesia gibsoni*. Dog A was splenectomized 4 days after infection. At this time, the platelet count began to decrease in the peripheral blood, but no enlargement of the spleen was observed by ultrasonography (USG). Dog B was splenectomized 16 days after infection when the platelet count reached the lowest level and splenomegaly was observed by USG. Dog C was splenectomized 22 days after infection when the platelet count began to increase in the peripheral blood. Histological examination of the spleen from each dog was conducted by using a light microscope and an electron microscope. The red pulp of the spleen from each dog contained many erythrocytes in the cords and sinuses. Some erythrocytes were phagocytized by macrophages. Many platelets adhered to the gaps between reticular cells or in the sinus walls. Most of the platelets showed degranulation, vacuolation and pseudopod formation. There were many nucleated erythrocytes and myeloid cells in the red pulp of the spleen from dog B. Megakaryocytes were often seen in the spleens from dog B and C, but not from dog A. Some platelets were phagocytized by cordal macrophages in the spleens from dog B and dog C.

Next, the platelet aggregation response to exogenous ADP was examined after interaction of canine platelets with plasma from dogs infected with *Babesia gibsoni*. Addition of plasma from dogs with acute infection by *Babesia gibsoni* showed enhanced platelet aggregation with ADP.

These results suggested that the thrombocytopenia observed in dogs infected with *Babesia gibsoni* was mainly due to the sequestration of platelets in the spleen. The platelet activation induced by the infection by parasite may be the first step of the sequestration of platelets in the spleen.