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HEMATOLOGICAL CHANGES WITH PREDNISOLONE ADMINISTRATION TO ANEMIC DOGS INFECTED WITH *BABESIA GIBSONI*

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To elucidate the mechanism of anemia in canine babesiosis, hematological changes, caused by suppression of macrophage function which has been considered to play an important role in the pathogenesis of anemia, were investigated. A dose of 2 mg/kg of prednisolone was administered subcutaneously once a day for 3 to 7 days to dogs with severe anemia caused by infection with *Babesia gibsoni*. Increases in hematocrit values and simultaneous decreases in reticulocyte counts were observed during the period of the administration. The erythrophagocytic activity of the macrophages obtained from peripheral blood of the infected dogs showed an increase after administration, and it increased in association with progressive parasitemia. Erythrophagocytic activity of the macrophages, however, began to decrease before parasitemia reached a maximum. Phagocytosis fell to the original level corresponding with the fall of parasitemia. Thus, no significant suppression of erythrophagocytic activity was observed in macrophages throughout the course of prednisolone treatment. However, phagocytic activity was evidently reduced when the macrophages were incubated in the presence of prednisolone at the concentration of 10 and 0.1 μM. These results demonstrate that successive administration of prednisolone transiently prevented progressive anemia caused by *B. gibsoni* infection in dogs. The mechanism of this event appears to involve some unknown factors which would be implicated in pathogenesis of the chronic anemia. The simultaneous fall in reticulocyte counts observed in the present study should be noted since it suggests the possibility that an acceleration of reticulocyte maturation occurred in the peripheral blood of the infected dogs in response to prednisolone treatment.