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INFORMATION

Hokkaido University granted the degree of the Doctor of Veterinary Medicine to the following 41 graduates of the Faculty of Veterinary Medicine on 25 March, 1994.

The authors' summaries of their theses are as follows:

OXIDATIVE DAMAGE TO ERYTHROCYTES OF DOGS INFECTED WITH *BABESIA GIBSONI*

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Oxidative damage to erythrocytes caused by the *Babesia gibsoni* infection was studied. The results were as follows: 1. In dogs infected with *B. gibsoni*, the concentration of methemoglobin showed an increase along with the elevation of the parasitemia. 2. When *B. gibsoni* was cultured together with erythrocytes, marked increases of methemoglobin and malondialdehyde concentrations of erythrocytes in the cultures were observed together with high multiplication of the parasites (the parasitemia averaged 27 percent), but not at low multiplication of the parasites (the parasitemia was 0.1 percent) in the culture. 3. When erythrocytes from dogs inoculated with *B. gibsoni* were incubated with acetylphenylhydrazine, the methemoglobin formation in erythrocytes was much higher at day 3 than at days 10–30 after the inoculation. In these dogs the parasitemia was 0.1 percent at day 3, and reached the peak levels (10–27 percent) at days 10–30. In addition, the decrease of reduced glutathione concentration in those erythrocytes treated with acetylphenylhydrazine at day 3 was more prominent than that at day 10–30 after inoculation.

These results demonstrate that erythrocytes of dogs infected with *B. gibsoni* are sensitive to oxidative stress even at the early stage of the infection where almost no parasitized erythrocytes are seen in the peripheral blood of the infected dogs, and suggest that the multiplication of the parasites accelerates the oxidative damage to erythrocytes in infected animals.