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PLASMA LEVELS OF PROTEINS OF THE ALTERNATIVE COMPLEMENT PATHWAY IN INBRED MICE THAT DIFFER IN RESISTANCE TO *TRYPANOSOMA CONGOLENSE* INFECTIONS

E. B. Otesile, Marion Lee*, and H. Tabel*
Department of Veterinary Medicine. University of Ibadan, Ibadan, Nigeria

Abstract

Inbred BALB/c, *A/J,* and CS7BI I6J mice were infected with *Trypanosoma congo/ense* (Trans Mara strain). clone TC 13, and monitored for parasitemia, survival times, and plasma levels of complement components C3, CS, factor B, and factor H. Parasitemia was highest in BALB/c, intermediate in *NJ,* and lowest in CS7BV 6J mice. The mean survival times were II.S ± 0.9, 23:8 ± 2.3, and 119 ± 26 days for BALB/c, *NJ,* and CS7BV6J mice, respectively. Preinfection levels of factor H were significantly correlated with survival times ($r = 0.7722$, $P < 0.00$ I). Marked differences were observed between the plasma levels of C3, factor B, and factor H in the 3 mouse strains following infection. Complement CS levels showed the fewest changes. In the initial postinfection period, BALB/c mice had highest increases in the levels of the 4 complement proteins but also had the greatest declines toward the end of the infection. Factor H levels showed a biphasic increase in BALB/c and C57B1I6J, but not in *NJ* mice, with peaks at days 3 and 9. Complement C3 levels declined in all mice toward the terminal stage of the disease. In the late stages of infection, factor B levels markedly decreased in BALB/c but significantly increased in CS7BI I6J mice. Factor B levels measured at the terminal stages in BALB/c, *NJ,* and CS7BI I6J were correlated positively with their respective survival times ($r = 0.714$, $P < 0.01$).

The results suggest that genetic differences in the alternative complement pathway might affect the resistance to *T. congolense* infections.