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Immune complexes and nephropathies associated with Plasmodium inui infection in Rhesus monkey

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Abstract: The pathogenesis of renal diseases associated with Plasmodium malariae infections is still not fully understood. The present work is concerned with the infection caused by P. inui in the rhesus monkey Macaca mulatta as a potential model for human quartan malaria, which the monkey parasite resembles in morphology and schizogonic behavior. Various aspects of the disease were studied. Changes in the levels of serum complement components C3 and C4 indicate activation of complement through the clas sical pathway. A few days after infection, IgG antibody titers increased, coinciding with low levels of parasitemia, which suggests that some of these antibodies are protective. Immunofluorescence testing of kidney tissue showed a predominance of 1gM antibodies over IgG, C3, C4, albumin, and fibrinogen, which was detected in a number of the infected monkeys. These findings were consistent with those seen in humans with P. malariae infectionand indicatethatthe P. inui/rhesusmonkey model is likelyto be appropriate for the study of different aspects of quartan malaria.