PLASMODIUM FALCIPARUM INDUCED IN THE SQUIRREL MONKEY, SAIMIRI SCIUREUS

Sir,—The susceptibility of various South American non-human primates to human plasmodia has been noted since the observation by Young, Porter and Johnson (1966) that infections with Plasmodium vivax could be attained in the night monkey (Aotus trivirgatus). One of the primates shown to be susceptible to human malarial was the squirrel monkey, Saimiri sciureus (Deane, Ferreira Neto and Silveira, 1966). They infected a splenectomized S. sciureus with P. vivax of human origin.

We have infected S. sciureus with P. falciparum. The animal, an adult male, though collected in Panama, was probably derived from a line of Colombian squirrel monkeys that escaped during transport. No naturally acquired malaria was detected, but blood-film examination did indicate infection with both Trypanosoma cruzi and unidentified microfilariae. A night monkey (A. trivirgatus), bearing the passage line of the Uganda-Palo Alto strain (Geiman and Meagher, 1967) of P. falciparum served as a donor. Approximately 10⁸ parasites, contained in 4 ml. of heparinized blood, were inoculated intraperitoneally into the intact squirrel monkey. No immunosuppressant drugs were administered. Blood films were prepared daily and stained with Giemsa.

A patent infection was first detected on the 5th day after inoculation. The parasitaemia increased to a peak of 2210 per c.mm. on the 12th day of patency, and then declined. The last parasite of the primary parasitaemia was seen on the 21st day of patency. A few gametocytes were seen on the 3rd day. After a subpatent period of 49 days, parasites reappeared for 3 consecutive days; since then the blood smears have been negative for 15 days.

The normal squirrel monkey thus appears to be a moderately susceptible host to a monkey-adapted strain of P. falciparum. We expect to make further use of S. sciureus as experimental hosts for human malaria.

We are, etc.,

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REFERENCES


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