

Malaria Drug Screening Study

Principal Investigator : Dennis O. Johnsen, MAJ, VC

Associate Investigators : Alexander De Paoli, MAJ, VC
Markpol Tingpalpeong, DVM
Prayot Tanticharoenyos, DVM
Robert L. Hickman, MAJ, VC

OBJECTIVE: The purpose of this study is to determine in macaque monkeys both the maximum tolerated dose and the antimalarial efficacy of drugs being developed for the treatment of malaria.

DESCRIPTION: The maximum tolerated dose of a drug is determined by carefully observing monkeys as they receive increasing doses of the test drug. These clinical observations are supplemented by laboratory tests that serve as additional indicators of toxic effect. The therapeutic effectiveness of a drug is measured by how well it eliminates or reduces parasitemia in monkeys infected with simian malaria. Various doses of the test drug are given until a maximum therapeutic range is established. All monkeys are necropsied at the conclusion of testing to determine if spontaneous diseases were present that might influence the results of the test.

PROGRESS: During the period of time beginning 1 January, 1971 and ending 31 December, 1971, 313 monkeys were purchased for use in this program. Of this total, 56 monkeys were local Macaca fascicularis (irus) and 257 were Macaca mulatta purchased in New Delhi, India. Prior to 1 January, 1971, 94 Macaca fascicularis were on hand and could not be used when the decision was made to employ rhesus monkeys in the program. Six others were used as parasite donors and 58 were lost as a result of spontaneous diseases that made them unsuitable for use in the program. As of, 31 December, 60 monkeys remained on hand for use in tests to be run during early 1972. During calendar year 1971, 24 drugs were tested for toxicity (T1 test) and 12 complete tests for therapeutic effectiveness (T2 tests) were begun. These tests included the testing of seven "known" drugs that were supplied for initial testing and standardization.