Thiazole derivatives of sulphanilamide in monkey malaria

Certain sulphonamides like sulphanilamide, sulphapyridine and sulphathiazole have been shown to possess a curative property against experimental malarial infections in monkeys (See Dikshit, B. B. and Ganapathi, K., J. Mal. Inst. Ind., 1940, 3, 525). The author has tried two new thiazole derivatives of sulphanilamide (i) 2-N-thiazole and (ii) N'-methyl-sulphathiazole in several infections, bacterial and protozoal, including malarial infection in monkeys. The present note is concerned only about the malarial infection. The drugs were prepared by Ganapathi, K., Shirsat, M. V. and Deliwalla, C. V., Proc. Ind. Acad. Sci., 1941, 14A, 630 in the Chemotherapy Department of the Haffkine Institute and supplied by that department.

Rhesus monkeys infected with Plasmodium knowlesi were used for the purpose. When the infection had reached a moderate degree (about 10 parasites per 10,000 R.B.Cs) the drugs were administered orally by a stomach tube. The dose administered was 1 g twice a day for 3 consecutive days. It was found that after administration of these drugs the parasites disappeared completely from the peripheral blood in 4 days. It was further observed that there was no relapse in the monkeys treated with these drugs while controls similarly treated with atabrine showed a relapse. The question of a radical cure was therefore investigated in the case of animals treated with 2-N'-sulphanilamido-5-ethylthiazole. It was found that the blood of animals treated with this drug was not infective to normal animals 20 days after the disappearance of the parasites from the peripheral blood and the animals so treated were as susceptible to fresh infection as normal animals. It was therefore concluded that 2-N'-sulphanilamido-5-ethylthiazole produces a radical cure in Rhesus monkeys infected with P. knowlesi. Cure of knowlesi infection in monkeys does not necessarily mean that the drug will be effective in human malaria also and investigations on this point along with the pharmacological investigations are being undertaken.

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