

Infection with *Plasmodium berghei* alters benzodiazepine receptor in rat brain

Kokwaro, G; Edwards, G; Roberts, P; Ward, S; Winstanley, P; Watkins, W

<http://hinari-gw.who.int/whalecomwww.ncbi.nlm.nih.gov/whalecom0/pubmed/9291643>

<http://erepository.uonbi.ac.ke:8080/xmlui/handle/123456789/31336>

Date: 1997

Abstract:

The purpose of this study was to assess the effect of malaria infection on benzodiazepine binding in rat brain. Young male Wistar rats were infected with the rodent parasite *Plasmodium berghei*, while age-matched control rats (n = 5) received normal saline intraperitoneally. Parasitemia was determined in blood of infected animals. Animals were killed after two weeks, and synaptosomal brain membrane homogenate was prepared from cerebral cortex. Membrane homogenate was incubated in duplicate with 3H-flunitrazepam (0.2-10 nM in buffer, pH 7.4) and binding parameters determined. The number of receptors (B_{max}) was decreased marginally but significantly (P = 0.047) in malaria-infected (MI) rats (MI rats: 1.12 +/- 0.1 pmol.mg⁻¹ protein; control rats: 1.42 +/- 0.08 pmol.mg⁻¹ protein) while binding affinity (K_d) was not altered (MI rats: 1.18 +/- 0.3 nM; control rats: 1.02 +/- 0.15 nM). These results suggest that malaria may be associated with decreased benzodiazepine activity