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Anopheles mosquito transmission of brain tumor.

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Some investigators have postulated a viral cause of malignant glioma, possibly SV40 [Miller G. Brain cancer. A viral link to glioblastoma? *Science* 2009;323(5910):30-1] or cytomegalovirus (CMV). A source of other brain tumor viruses might be the anopheles mosquito, the vector of malaria. Evidence of an association of anopheles with brain tumors can be found in the relationship between malaria outbreaks in United States and reports of brain tumor incidence by state. There is a significant association between US malaria outbreaks in 2004 and the reports of brain tumor incidence 2000-2004 from 19 US states ($p < 0.001$). Because increased numbers of both malaria cases and brain tumors could be due solely to the fact that some states, such as New York, have much larger populations than other states, such as North Dakota, multiple linear regression was performed with number of brain tumors as the dependent variable, malaria and population as independent variables. The effect of malaria was significant ($p < 0.001$), and independent of the effect of population ($p < 0.001$). Perhaps anopheles transmits an obscure virus that initially causes only a mild transitory illness but much later a brain tumor. If a mosquito-transmitted brain tumor virus could be identified, development of a brain tumor vaccine might be possible.

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