

Cerebral Malaria Vivax or Mixed?

More and more reports are appearing in the literature of scattered cases of cerebral malaria which have been apparently caused by *P. vivax*(1,2). Is it a true cause-effect relationship or merely an incidental finding? The following cases we encountered raised this doubt in our minds.

A six-year-old girl was admitted into our intensive care unit with fever since 15 days, altered sensorium since 2 days and two episodes of seizures on the day of admission. Examination revealed a deeply comatose child with moderate pallor and a mild splenomegaly. To our surprise, her peripheral smear revealed *P. vivax*. However, a few hours later her father brought a previous private report of *P. falciparum*. This led us to search even more earnestly for *P. falciparum* and we succeeded. With his case in mind, we diagnosed 3 more similar cases of mixed infections causing cerebral malaria with the vivax species being diagnosed first and falciparum later.

Conventional microscopy is known to miss plasmodia, especially *P. falciparum*, since it requires more fields to be scanned carefully to detect the delicate ring forms of falciparum. In fact, even polymerase chain

reaction has been employed to detect such mixed infections which have been missed by microscopy(3).

The above mentioned observations would lead us to recommend a careful, repeated and vigorous search for *P. falciparum* in any patient of cerebral malaria with a peripheral smear positive for *P. vivax*. We also wonder whether *P. vivax* may be causing cerebral malaria at all.

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Comment

While reporting 4 cases of mixed plasmodial cerebral malaria, Sanklecha *et al.* have raised serious doubts about causal relationship of *P. vivax* to cerebral malaria.

In the cases reported earlier as vivax cerebral malaria, the clinical presentation and demonstration of *P. vivax* on peripheral smear fulfill the criteria for what is called a 'practical definition of cerebral malaria(1-3). However, it remains a possibility that after finding *P. vivax* on one occasion, further search for *P. falciparum* is not serious (especially now after appearance of many

reports of *P. vivax* cerebral malaria) or actually the *P. falciparum* is missed due to technical reasons.

On the other hand, cases of vivax cerebral malaria are reported from areas where falciparum infection is not known to occur. An altered host reaction is reported to cause a syndrome mimicking cerebral malaria(1). On the basis of these and other reports of vivax cerebral malaria it does not appear possible to eliminate this entity as a clinical reality at least from practical case management viewpoint. At the same time it may be recommended that in all suspected cases of cerebral malaria, a thorough search for falciparum infection should be made using standard method(2,4).

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