Dipstick test for malaria

In holoendemic rural areas of sub-Saharan Africa more than three quarters of children have continual *Plasmodium falciparum* parasitaemia. The demonstration of the parasite in blood is therefore unhelpful in the diagnosis of the cause of a febrile illness. An easy and rapid method of detecting parasitaemia would, however, be useful in urban areas and in other parts of the world.

In a study reported in the *Lancet* (Christine Beadle and colleagues, 1994; 343: 564–8) a new dipstick test was compared with conventional blood films in adults and children in Kenya and in experimentally infected volunteers in America. The dipstick contains monoclonal antibodies against a water soluble antigen, *P falciparum* histidine-rich protein 2 (PfHRP-2). Polyclonal antibodies to the same antigen conjugated to liposomes containing a pink dye are used as the ‘antigen detector reagent’. A single test can be done in 20 minutes and a batch of 10 tests takes 30 minutes. Sensitivity of the test depended on the degree of parasitaemia; it was 96·5 to 100% with 60 or more *P falciparum* asexual parasites per μl blood, 70–80% with between 11 and 60 parasites, and only 11–67% with 10 or fewer. Most patients with symptomatic falciparum malaria have more than 60 parasites per μl blood. Specificity of the dipstick test was 95% in American volunteers and 88% in Kenyans in a holoendemic area. The test was negative six days after starting treatment.

The authors provide no information about cost but suggest that the simplicity of the test could make it a useful tool.

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