APARASITAEMIC PHASE OF FALCIparum Malaria
AND THE DIAGNOSIS OF Malaria

by

E.H. Frimpong & J. Kankam
+Department of Medical Microbiology, School of Medical Sciences,
University of Science and Technology, Kumasi.

*Department of Child Health, Komfo Anokye Teaching Hospital, Kumasi.

Summary

Because of the established phase of aparasitaemia in Falciparum malaria, where there is a transient disappearance of parasites from the peripheral blood, parasites may be missed during routine laboratory diagnosis, when a single blood film slide is used. Repeated peripheral blood sampling over subsequent days may show the parasites. This was done in this report to highlight this problem in laboratory diagnosis.

Key Words: Falciparum malaria, aparasitaemia, diagnosis.

Introduction

Diagnosis of Falciparum malaria in a malarious region has its problems. One cannot exclude malaria by a single negative blood film; at least three samples taken at intervals must be examined1–3,5. A positive blood film does not prove the patient is suffering from malaria because parasitaemia may be entirely asymptomatic in the indigenous population of endemic areas1–4. When slides are stained in bulk, parasites washed off one slide may occasionally find their way onto another1. The case presented here is a report to bring awareness back to the joint role played by clinical judgment and laboratory investigation in the accurate diagnosis of malaria.

Patient and Methods

The patient was Evelyn M. 45 years old, presenting at KATH (Komfo Anokye Teaching Hospital) with a febrile illness on the 14:10:88. Malaria and anaemia were the tentative diagnoses.

Patient had been discharged 5 weeks ago after being treated for a febrile convulsion attributed to malaria. Blood samples were taken and blood films made. Both thick and thin blood films were stained with Glemsa stain for the identification of malaria parasites. The blood samples were also analysed for haemoglobin.

The blood films were negative for malaria parasites. The haemoglobin level was 5.5 g/dl. A Lumbar puncture was done showing glucose content of 5 mmol/l, normal white cell count, normal protein content and no bacterial growth.

A fasting blood sugar showed glucose of 4.2 mmol/l. On the 2nd day, another blood film for malaria parasite was again negative. On the third day, the blood film gave numerous malaria parasites. The child was discharged on the 18:10:88 in satisfactory condition after treatment with chloroquine and haematinics.

Discussion

In Falciparum malaria unlike vivax or ovale malaria, erythrocyte schizogony, where the asexual parasite multiply, takes place preferably in the microcirculation of internal organs rather than in the peripheral blood1–3,5.

This has been attributed to the higher temperature preference of P. falciparum. From the microcirculation, the merozoites are flushed into the peripheral blood to infect a fresh crop of red cells with its attendant fever. The infected cells disappear from the peripheral blood again. This is the period where a negative blood film may be seen and a diagnosis based on a blood film taken at this time may be misleading. On the other hand, it should be emphasised that the presence in the blood of malaria parasites is not necessarily indicative of the disease. Persons who have resided for many

*Correspondence and requests for reprints should be sent to Dr. E.H. Frimpong.
years in malaria endemic areas may have some malaria parasites in their blood without symptoms of malaria. Patients with symp-
toms of malaria must have a high density of asexual trophozoites in a peripheral blood film for a definitive diagnosis of malaria to be made. Once limitations of clinical judgment and laboratory diagnosis of malaria are borne in mind, accurate diagnosis of malaria is possible thus limiting the indiscriminate use of anti-
malarials, especially chloroquine, with their attendant problems.

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References