5 - Diagnosis

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5. Diagnosis

Suspected malaria is a medical emergency.

Consider malaria in every ill patient who has returned from the tropics in the previous year, especially in the previous three months.

Fever on return from the tropics should be considered to be malaria until proven otherwise.

Malaria cannot be diagnosed with certainty by clinical criteria alone. Suspected cases should be investigated by obtaining a blood film diagnosis as a matter of urgency. There is no need to wait for fever spikes before taking blood; this only delays diagnosis and the fever pattern seldom conforms to text book periodicity, especially in the case of *Plasmodium falciparum*.

5.1 Blood tests and how to request them in the UK

An EDTA-anticoagulated venous blood sample should be taken.

The sample should be received in the laboratory within one hour of being taken as falciparum malaria may increase in severity over a few hours and the morphology of malaria parasites in EDTA deteriorates over time, rendering accurate laboratory diagnosis more difficult.

Finger-prick samples smeared directly onto microscope slides at the bedside are sub-optimal for modern diagnosis as the laboratory then has no additional material to make and stain further smears, undertake rapid diagnostic tests (RDTs) or refer for PCR testing.

All laboratories making a diagnosis of malaria should send blood films and a portion of the blood sample on which the diagnosis was made to the HPA Malaria Reference Laboratory (MRL) for confirmation (The MRL webpages are available at http:// www.malaria-reference.co.uk

5.2 Rapid Diagnostic Tests (RDTs)

ACMP does not recommend travellers use Rapid Diagnostic Tests (RDTs) for self diagnosis.

RDTs, sometimes known as “dipsticks”, permit the detection of malaria parasites in human blood without microscopy. Used correctly, they can confirm the clinical diagnosis of malaria in places remote from medical attention[53] however there is evidence of travellers being unable to use them correctly and thus failing to detect parasites[54].

RDTs do have a place in the medical kit carried by a doctor or nurse accompanying an expedition to remote malarious regions, provided care is taken to transport and store them correctly and thus prevent deterioration in their performance in the field.

5.3 Blood film negative malaria

One negative blood film does not exclude a diagnosis of malaria. Where malaria is suspected blood films should be examined every 12 to 24 hours for 3 days whilst other diagnoses are also considered. If all three films are negative and malaria is still considered a possible diagnosis, expert advice should be sought from a specialist in tropical or infectious diseases. It is particularly important to seek such advice early in the care of pregnant patients with suspected malaria, as the main parasite biomass may be sequestered in the placenta such that peripheral blood films are negative despite the patient having malaria (see chapter 9 for expert advice listing).

5.4 Resources for treatment advice

The treatment of malaria is outside the scope of this document and will be addressed in ACMP malaria treatment guidelines. Expert advice on malaria treatment may be obtained from:

The Hospital for Tropical Diseases
http://www.thehtd.org/

The Liverpool School of
Tropical Medicine
http://www.liv.ac.uk/lstm/

Your local infectious diseases unit

See also the British Infection
Society (BIS) website
http://www.britishinfectionsociety.org/
for a malaria treatment algorithm

5.4 Notification

Malaria is a statutorily notifiable disease. The clinician caring for the patient must complete a notification form.

The Malaria Reference Laboratory (MRL) reporting form (MRL website www.malaria-reference.co.uk) should also be completed and should be sent to the MRL separately or along with referred specimens.