

## Update

# Malaria in the ADF

THE CENTRAL MALARIA REGISTRY (CMR), maintained by the Army Malaria Institute, recorded 359 malaria infections in 2000. Lavarack Medical Centre, Townsville, reported 130 infections, 1st Health Support Battalion reported 82, Robertson Barracks Medical Centre reported 23 and 2nd Health Support Battalion reported 15. The 159 other infections were reported by many other units, including some that do not commonly treat malaria, such as the Area Health Service of Tasmania.

Forty-three infections were reported among personnel on operational service (in East Timor or Bougainville). This suggests that there was inadequate com-

pliance with daily doxycycline prophylaxis or that there were other factors resulting in lower drug concentrations, such as drug deterioration under adverse environmental conditions or reduced bioavailability.

The vast majority of vivax infections had their clinical onset after leaving the malarious area. This indicates that doxycycline prophylaxis provided good protection while personnel were in operational areas. When doxycycline prophylaxis was stopped, residual parasites released from the liver into the bloodstream were no longer suppressed by doxycycline. The primaquine eradication course had obviously not eliminated all parasites from the liver, thus accounting for the large number of vivax infections reported after return to Australia.<sup>1</sup> Because of the increasing inability of primaquine to eradicate the liver stages of vivax malaria, AMI has been involved for some time in assessing the efficacy of tafenoquine, an alternative 8-aminoquinoline drug.

### Management after leaving operational areas

Malaria may present on leave, creating problems of incorrect treatment and inadequate documentation of the illness. Malaria infections treated outside the ADF Health Service sphere of influence are commonly managed incorrectly or inefficiently. Such cases should be closely reviewed by unit health services to reduce the incidence of recurrent malaria.

Problems associated with the delayed onset of malaria were well illustrated when several members of the 2nd Battalion, Royal Australian Regiment, developed acute clinical episodes of malaria aboard US naval vessels in the central Pacific Ocean. These non-battle casualties were a direct result of previous operational service in East Timor.

### Malaria reporting

The CMR can only be as good as the information it receives, and Registry data may well underrepresent actual malaria infections in the ADF. All Health Service personnel are encouraged to notify the CMR promptly when a malaria casualty is detected. Notification is primarily via PM40 forms, as directed in HPD215. These forms can be forwarded by mail (AMI, Gallipoli Barracks, ENOGERA 4052) or facsimile (07 3332 4800).

To encourage early and complete reporting, informal notifications preceding a PM40 can now be made by telephone (Notification of Casualty, 07 3332 4801 or 0407 150384) or by email (scott.kitchener@defence.gov.au). Notifications are stored on a password-protected database and PM40 forms are retained at the AMI.

### Effective reporting and communication

The frequency of malaria infection in ADF personnel during the last year has highlighted the need for more efficient communication regarding malaria patients between all concerned parties. How best to achieve this requires more discussion, perhaps in the forum of this Journal or at Area Health Service meetings. The ultimate goals of communicating information about malaria infections and recurrences are correct clinical management and rehabilitation of patients, maintenance of unit efficiency, dissemination of knowledge to the ADF Health Service and the development of preventive measures to control malaria more effectively.

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1. Kitchener SJ, Auliff AM, Rieckmann KH. Malaria in the Australian Defence Force during and after participation in the International Force in East Timor (INTERFET). *Med J Aust* 2000; 173: 585-585.

#### Species prevalence in reported malaria infections

Species	Clinical episodes
<i>P. falciparum</i>	27
<i>P. vivax</i>	310
<i>P. ovale</i>	2
Mixed <i>P. falciparum</i> and <i>P. vivax</i>	7
Unspecified species	13
Total	359

#### Individuals with recurrent malaria

Single recurrence, <i>P. vivax</i>	30
Two recurrences, <i>P. vivax</i>	14
Three recurrences, <i>P. vivax</i>	4
<i>P. vivax</i> following <i>P. falciparum</i>	13

#### Geographic origin of infection

Area of exposure	Clinical episodes
East Timor	306
Bougainville, Papua New Guinea	18
Other areas of Papua New Guinea	14
Other Asia-Pacific countries	2
Location not reported	19
Total	359