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The clinico-epidemiological characteristics of malaria in a previously high malaria endemic area of Sri Lanka

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A sustained and marked reduction in the reported malaria incidence during the past decade has made it possible for Sri Lanka to embark on malaria elimination. As part of this effort the Anti Malaria Campaign is carrying out extensive malaria surveillance measures, targeting elimination of malaria from the entire country by 2014. This study describes the clinico-epidemiology characteristics of malaria in the Anuradhapura district.

This study was carried out over a period of six months commencing from June 2008. Two hundred and fifty symptomatic patients who presented to three medical institutes and 140 asymptomatic individuals were screened by microscopy and nested PCR for this purpose. The severity of clinical symptoms suggestive of malaria was evaluated using a previously described clinical evaluation. Statistical analysis was done using Medcalc statistical software. Characteristics of the population were determined using contingency tables. Difference in proportions was compared using chi-square test. All precautions were taken to prevent contamination of PCR samples. Ninety nine individuals were diagnosed with malaria by PCR, while microscopy detected only 84 cases. The calculated parasitaemia of microscopically positive infections ranged from 80 parasites/ μ l to 12,320 parasites/ μ l. There were 84 *Plasmodium vivax* and 8 *P. falciparum* mono and 6 mixed infections. Excluding two *P. vivax* infections in patients aged 23 and 49 years all the others were symptomatic.

The presence of a higher degree of malaria infection was seen among military personnel with 82% malaria patients being from the military while only 18% were civilians. As a majority of military personnel (55 out of 99) were engaged in military operations in the Kilinochchi/ Mulaithivu jungles, the infection was probably acquired during this time.

The three most frequent symptoms experienced by the 99 individuals diagnosed with malaria were headache (90.9 %), myalgia (73.7 %) and backache (62.6 %). There was no significant difference between the overall clinical severity of clinical disease during non malarial fever (mean clinical score 14.3) and malarial fever (mean clinical score 9.6) ($p>0.5$). Considering the current malaria situation in the country, malaria is low on the differential diagnosis in a patient presenting with fever. Therefore medical practitioners should be encouraged to refer all patients for screening for malaria parasites only if they exhibit fever with the above symptoms and more especially if they are military personal who may act as a reservoir of infection.

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