

Hospital Survey of Malaria in Trad Province, Southeast Thailand

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OBJECTIVE: To conduct a comprehensive outpatient and inpatient survey of the clinical picture of falciparum and vivax malaria in a highly endemic area and to relate these findings to the results of therapy.

BACKGROUND: Certain parts of Trad Province are highly endemic for malaria and this disease accounts for 50% of all admissions to the Trad Hospital. SEATO studies were initially performed at the Hospital by Colwell and his team in 1970. The Rieckmann in-vitro test showed that the falciparum malaria was highly resistant to chloroquine. Extensive experience was also gained with the combination of quinine and tetracycline in the treatment of falciparum malaria. These studies terminated in 1971. In January 1973 an outpatient clinic was established at the Trad Hospital and maintained for an 18 month period.

DESCRIPTION: The SEATO outpatient clinic at Trad Hospital was open daily from 11 January 1973 to 21 July 1974. The patients were self-referred or referred by the Hospital staff. The subjects varied from healthy people requesting a blood checkup to patients in deep coma admitted to the ward and then examined. On each patient the following details were recorded: the SEATO OPD number, date, time, age, sex, name, asexual count, gametocyte count, history of malaria and the fact whether the patient had been born locally (local) or migrated from another part of Thailand (migrant). On patients with a positive malaria slide, a clinical history was taken, the temperature recorded and examination performed for splenomegaly. Selected patients positive for malaria were admitted to the ward and treated with one of the therapeutic regimens being evaluated. Further data was systematically collected. The data was entered on punch card transcripts and computer analysis will be performed. Complete data on an individual patient comprises the following: age, sex, parasite count in clinic, temperature in clinic, presence or absence of splenomegaly (in clinic or ward), migrant or local status, prior history, initial parasite count in hospital, maximum parasite count in hospital, parasite clearance time (in hours), initial temperature in hospital, temperature clearance time (in hours), lowest hematocrit, weight, serum bilirubin, serum creatinine, type of therapy and therapeutic result.

PROGRESS: During the study, 11,241 patients were screened for malaria in the clinic by means of a blood film. Falciparum malaria was diagnosed in 4,824 people and vivax malaria in 929 (Table 1). In 1973 the first peak for falciparum malaria (Figure 1) occurred in April (344 cases) and a second peak in November (359 cases). The incidence of vivax malaria showed an irregular fluctuation. The prevalence of malaria was much greater in 1974 and falciparum malaria peaked again in April (511 cases). Vivax malaria peaked in May 1974 (122 cases). About 950 patients with falciparum malaria were admitted to the ward and studied by the SEATO Lab.

Details of the therapeutic regimens used and results obtained are detailed elsewhere in this report. Computer analysis of all the data has not yet been completed. Preliminary analysis of the data has clearly shown that the average severity of the disease (as shown by the parasite count) was greater in the

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patients who had migrated from other parts of Thailand, in comparison with those born locally. Also the average level of parasitemia was lower in women and in old people. The largest group of patients with falciparum malaria had a parasite count between 10,000 and 100,000 per cu.mm. There was a positive correlation between the parasite count, the degree of anemia and the degree of jaundice. Clinically the average severity of the disease is worse during the seasonal peaks of incidence. It will be interesting to see whether the computer analysis supports this impression.

SUMMARY: Between January 1973 and July 1974, the SEATO laboratory maintained a malaria outpatient clinic in a highly endemic area of Southeast Thailand. The peak of malaria incidence was higher in 1974 than 1973. This confirms that malaria is still a serious problem in that area. Four thousand eight hundred patients were diagnosed in the clinic as having falciparum malaria and about 950 of these patients were admitted for therapeutic studies. A computer analysis of the outpatient and inpatient data is being prepared.

Table 1. SEATO Clinical Trad Hospital 1973-1974
Number of Patients with Falciparum and Vivax Malaria

Month	Patients Screened	Falciparum Malaria	Vivax Malaria
1973			
January*	167	75	11
February	318	102	14
March	618	278	44
April	743	344	38
May	642	252	43
June	585	221	46
July	537	225	37
August	603	208	51
September	436	103	31
October	292	71	13
November	590	359	41
December	483	268	25
Total	6014	2506	394
1974			
January	404	187	34
February	487	239	43
March	800	378	80
April	1071	511	112
May	1111	481	122
June	950	385	102
July**	404	137	42
1973-1974 Total-11241	11241	4824	929

* 11-31 January 1973

** 1-21 July 1974

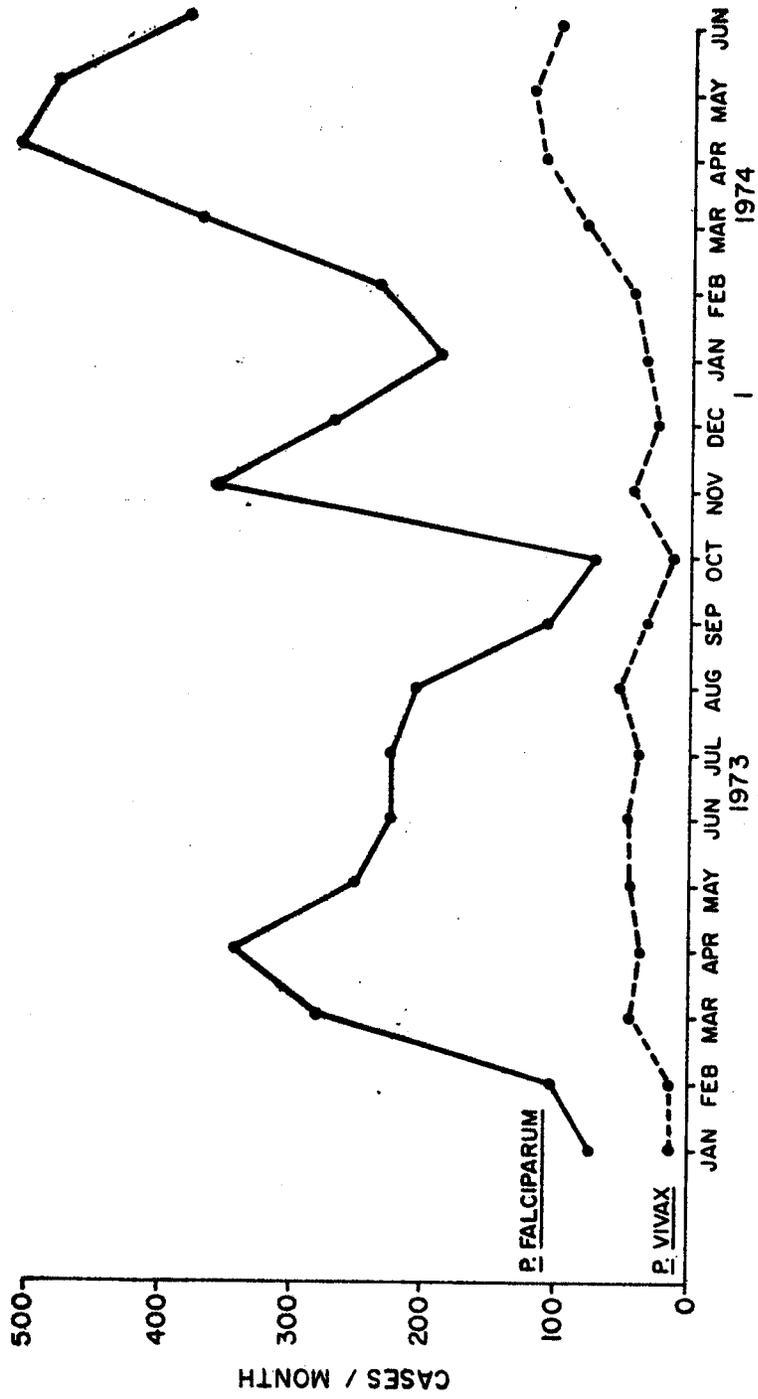


Figure 1. SEATO Malaria Clinic, Trad Hospital, 1973-1974. Number of patients with falciparum and vivax malaria.