Thesis Title Scrub Typhus Infection and Related Factors Among Patients at Malarial Clinics in 3 Thai-Myanmar Border Provinces.

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ABSTRACT

Scrub typhus is an rickettsial infectious disease. In Thailand the epidemiologic data of which are only "the tip of an iceberg" because of difficulties it from other febrile illness. Especially, in malarial clinics where the patients come to seek attention, clinical signs and symptoms may not be distinguishable from malaria. It has also been reported that both of diseases may be found in same ecological area.

In this study we attempted to determine antibody titers to scrub typhus infection, assayed the strains of *Rickettsia tsutsugamushi* and analyzed the factors related to scrub typhus infection and the level of Immunoglobulin G (IgG) antibody to scrub typhus infection.

Two hundred patients visiting malarial clinics in Ratchaburi, Petchaburi and Kanchanaburi, along the Thai- Myanmar border, during July to November 1994, were interviewed for related factors. Their blood specimens were collected with consent for measuring antibody titers to scrub typhus infection by Immunofluorescent Antibody Assay (IFA).

The results showed that the recent infection rate was 8.50 % (17 cases) and the prevalence rate was 59.50 % (119 cases). Co-infection of scrub typhus and malaria was found in 2 % (4 cases).

In analyzing factors related to recent scrub typhus infection, it was found that most factors including age, sex, income, occupation, used of repellent to prevent mite and/ or insect bite, clothing while working, history of clearing grass, shurbs or forests, work environmemt area and break time area while working were insignificantly related by using Chi-Square test. But controlling mites and/or insects in work area and working time were significantly, non use of insecticide and work in the period after 6.00 pm. were more susceptable. (p-value <0.01)

By using t-test and oneway ANOVA in analyzing factors related to prevalence scrub typhus infection group, it was found that geometric mean titer of IgG was not significantly affected by the above factors, except for monthly income (higher titer in those with income of ≤ 3000 baht per month), work environment area (higher titer in those working in sparse forests than plain area), and location (higher titer in Petchaburi than Kanchanaburi).

The IgG (≥1:50)and IgM (≥1:50) antibody response to strains of scrub typhus infection showed that co-infection of the Karp, Gilliam and Kato strains was most common and found 68.10 % and 35.80% respectively. The geometric mean titer to prevalence scrub typhus infection was highest in the Karp strain.

Concerning previous knowledge about scrub typhus, 46% knew that the disease was arthropod-borne. The mite was known by names as "Heb-lom", "Mang-dang" and "Khee".

With this evidence of scrub typhus infection among patients visiting malarial clinics, it indicates that this disease should be always kept in mind. Surveillance, including preventing, control, treatment and follow-ups should be implemented in such groups of patients.