Proceedings of the Annual Research Sessions, University of Peradeniya, Sri Lanka. Vol. 7. October 30, 2002

IDENTIFICATION OF RICKETTSIAL INFECTIONS IN SRI LANKA AND VALIDITY OF WEIL FELIX TEST IN DIAGNOSIS

S.A.M. KULARATNE*, J.S. EDIRISINGHA** AND I.B. GAWARAMMANA*

*Department of Medicine, **Department of Parasitology,
Faculty of Medicine, University of Peradeniya

Rickettsial infections are major causes of febrile illnesses throughout the world especially in the Asia- Pacific region. Even though, the prevalence of rickettsial infections have been noted in Sri Lanka, specific identification is not possible due to lack of specific diagnostic tests. The only test routinely available here is Weil Felix agglutination test, which is fast becoming obsolete. The aim of the study is to identify different rickettsial infections using a specific immunoflurescent technique in patients clinically diagnosed as 'typhus fever' in the Central Province of Sri Lanka, and to assess the validity of the Weil Felix test by comparing WF titers of typhus patients versus normal subjects and patients with other infections.

Specific indirect immunoflurescent antibody technique was carried out in Japan and Thailand on sera of two groups of patients. Weil- Felix titers (OX19, OX2, OXK) of 64 patients with clinically suspected rickettsial infections (Test group = Tg) were compared with age and sex matched 2 control groups from different geographical locations. Control group (Cg)1 and 2 included 54 normal volunteers and 63 patients with other infections (non-typhus) respectively. Single WF titers and titer combinations (OX19, OX2, OXK, OX19+OX2, OX19+OXK, OX2+OXK, OX2+OXK+OX19) with titers above 1/160 were compared statistically using Chi -square test.

Serodiagnosis of infections with *Orientia tsutsugamushi*, spotted fever group and *Rickettsia typhi* was made in 56 out of 118 clinically diagnosed patients. There were 12, 21 and 4 patients with antibodies against the three rickettsial species respectively. Nineteen patients had antibodies against more than one rickettsial species suggestive of past co-infection. There were 50(79%) cases in Cg2 and 38(70%) subjects in Cg1 who were positive for any titer of WF test. Out of all WF tires, positivity of OXK was significant in the test group(X^2 = 9.55, p = 0.002 and X^2 = 4.00, p = 0.04 in Cg1 and Cg 2 respectively). However, at the titer level above 1/160 there was no significant difference between Test group and Control groups.

The study has shown the presence of different types of rickettsial infections in the Central province of Sri Lanka. The usefulness of the Weil-Felix test which is the only routinely available test in Sri Lanka, in detecting different types of rickettsial infections appear non specific and insensitive.