

## ABSTRACTS

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### 18.007 Occurrence of Tick Bites and Serological Evidence of Exposure to Rickettsioses Among Sri Lankan Military Personnel

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**Background:** In Sri Lanka, rickettsial diseases were documented among military personnel during the Second World War when British troops were dramatically infected by *Orientia tsutsugamushi* (OT). Now, however, *Rickettsia conorii* (RC) and OT are reemerging in Sri Lanka but their prevalence among military personnel in active services in the Northern (NP) and Eastern (EP) provinces is not known.

**Objectives:** To study the frequency of tick bites and the sero-prevalence of rickettsial diseases among military personnel in active field services in Sri Lanka.

**Methods:** 57 army personnel admitted with war injuries to Colombo North Teaching Hospital, Ragama, were interviewed using an interviewer administered questionnaire to determine socio-demographic data and the frequency of tick bites. A 3 ml venous blood sample was taken with informed written consent and tested for common rickettsial species using Immuno Fluorescent Antibody (IFA) test for IgG against RC and OT antigens.

**Results:** The mean (SD) age and period of active service of the population were 25.8 (5.5) years and 6.7 (5) years respectively. Participants were from 20/25 districts in Sri Lanka. All had served in NP; 13 had also served in EP. Although all were in military uniform most of the day, they did frequently slept on scrub land. 35/57 (61.4%) had never used insect repellents while the rest used them infrequently. None were on doxycycline prophylaxis. 48/57 (84%) had experienced tick bites during field service. 50/57 (88%) had serological evidence of exposure to rickettsioses A-IgG titer > 1:64: 33/50 (66%) to RC, 1/50 (2%) to OT and 14/50 (28%) had mixed titers for both (in all, titers were higher for RC). However, 24/57 (42%) had a history of febrile illness during their service period 1 had malaria; the rest were undiagnosed.

**Conclusions:** A higher proportion of this study population showed evidence of exposure to *R. conorii* (transmitted by hard ticks) than to *O. tsutsugamushi* (transmitted by mites), suggesting a change in the pattern of rickettsial disease when compared to the 1940s. The high frequency with which the tick bites were reported in the study population also suggests that exposure to Rickettsial disease is a neglected but preventable occupational hazard among military personnel engaged in active field services in Sri Lanka.

### 18.008 Chikungunya and Dengue Fevers: Differentiating Clinical and Laboratory Factors

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**Background:** Chikungunya fever has recently emerged in tropical Singapore although endemic for dengue fever since 1960s, autochthonous dengue transmission was only reported since January 2008. Clinical presentation of chikungunya mimic that of dengue. Hence, it is important to identify clinical and laboratory characteristics that can differentiate dengue from mosquito-borne infections.

**Methods:** We conducted a matched case-control study to identify clinical and laboratory factors associated with chikungunya fever. We included 30 confirmed with chikungunya infection on reverse transcription-polymerase chain reaction (RT-PCR) during the August 2008 outbreak, matched 1:1 at the national infectious disease referral centre in Singapore with 30 controls matched for age, gender and ethnic group, selected from a cohort of PCR-confirmed dengue fever patients hospitalized during the 2004 dengue outbreak.

At presentation to hospital, chikungunya patients were more likely to have a rash than dengue patients (OR 3.71, 95%CI 1.61-8.56). Chikungunya patients had an odds of 6.2 times (95% CI 2.60-14.61)

and 4.5 times (95%CI 1.52-13.30) respectively, of presenting with vomiting and abdominal pain than chikungunya patients. A unit increase in leukocyte and platelet count (x10<sup>9</sup>/L) respectively, had an odds of 1.53 times (95%CI 1.25-1.88) and 1.04 times (95%CI 1.02-1.07) of being infected with chikungunya than dengue. During hospitalisation, chikungunya patients had an odds of developing myalgia/arthritis 10 times (95% CI 3.05-32.77) that of dengue patients, and a unit increase in nadir leukocyte and platelet counts of 1.82 times (95% CI 1.33-2.47) and 1.05 times (95% CI 1.02-1.08) respectively. Nadir platelet and leukocyte counts (x10<sup>9</sup>/L) were significantly higher in chikungunya patients (platelet median 168, range 102-376; leukocyte median 34, range 1.0-13.0) than in dengue patients (platelet median 30, range 7-206; leukocyte median 2.5, range 1.0-5.0).

**Conclusion:** Simple clinical and laboratory factors like rash, vomiting, abdominal pain, myalgia/arthritis, leukocyte and platelet counts can differentiate chikungunya fever from dengue.

### 18.009 Factors Associated with Increased Serum Alanine Aminotransferase Level During French Guiana Epidemics of Dengue 2005-2006

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Dengue fever is a public health problem worldwide. Mild elevation of aminotransferases is a common feature of dengue virus infection and severe acute liver injury has been described. The aim of this study was to assess relationships between antipyretic drugs and chronic alcohol use, with the increase in serum alanine aminotransferase (ALAT) level in patients hospitalized with dengue fever during the 2005-2006 dengue epidemics in French Guiana.

In this retrospective study, only patients with available ALAT level and biologically confirmed dengue diagnosis were included. Clinical, biological data were collected from charts and anamnestic informations by a direct patient's interview.

In the 162 included patients (99 (62%) adults, and 63 (38%) children), 2 analysis were performed comparing: (i) 64 (65%) adults with ALAT > 2N and 35 (35%) controls and (ii) 24 (39%) children with ALAT > 2N and 38 (61%) controls. In each univariate analysis same factors were found to be associated to ALAT elevation: (i) acetaminophen exposure and length of intake in adults, and (ii) acetaminophen overdose during the hospitalization in children. Another analysis found that alcohol consumption was significantly more frequent in adults with ALAT > 10N. 5 patients had ALAT > 50N and PR < 50%. Acetaminophen and alcohol consumption should be searched and taken into account when a patient with dengue fever is hospitalized.

### 18.010 Epidemiological and Phylogenetical Studies on Crimean-Congo Hemorrhagic Fever (CCHF) in Iran

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**Background:** CCHF is a viral zoonotic disease, which causes several hemorrhages in humans with mortality up to 50%. The virus is transmitted through the bite of Ixodid ticks or by contact with blood or livestock or Nosocomially.

**Methods:** From June 2000 till 3 Nov 2008, sera were collected from Iranian probable patients for CCHF and tested