

P0050 Zika virus serology and cross-reactive dengue antibody in Zika virus infection, Thailand 2017

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Background: Zika virus is a global public health issue. Sporadic cases of Zika virus have been reported annually in Thailand since 2010 during the rainy season. We interested in the Zika virus serology and cross-reactivity among Zika and other flaviviruses particular dengue in the region.

Materials/methods: We conducted a prospective study during Jan-Dec 2017. Subjects in the study included any Zika virus patient, and all the contacts, including villagers who aged older than 15 years from 6 provinces in Thailand. Urine, blood and patient data from subjects were collected, once on screening day (Day 0) and second time on Day 21. Specimens were tested for Zika virus using real-time PCR, and dengue and Zika serology was performed in Zika PCR positive cases.

Results: Specimens were successfully collected on both Days 0 and 21 in 400 of 464 (86.4%) enrolled subjects. Of these, 53 subjects (13.2%) were infected with Zika virus. Almost half of these subjects were asymptomatic (49.05%). The most common symptoms included maculopapular rashes (96.2%), joint pains (74.1%), myalgia (52.0%), fever (48.1%), and conjunctivitis (24%). Average age of Zika patients was 45 years (15-79 years), with more female (58.5%). Dengue IgM assay against NS1 antigen, performed on positive specimens from first and second visit were 9.76% and 16.67%, respectively. Further, dengue IgM assay against E antigen from positive specimens from the first and second visit were 9.76% and 8.33%, respectively. Interestingly, dengue IgG assay against E antigen from the positive specimens from the first and second visit were 80.45% and 91.67%, respectively. Among 50 positive PCR cases, 28 (56%) positive anti-Zika IgAM, 9 (18%) borderline anti-ZKV IgAM, 8 (16%) positive anti-Zika IgM and 45 (90%) positive anti-ZKV IgG.

Conclusions: The high rate of dengue IgG in Zika positive cases suggests secondary flavivirus infection. Further, asymptomatic rate of Zika in Thailand was lower than other countries. From this, it may be hypothesized that the lower rate of asymptomatic cases in Thailand may be because Thai people have existing antibodies against Zika virus. Performance of anti-ZKV IgAM is quite good and may be a new reliable serology test in the future.

