

EV1115

ePoster Viewing

Virology non-HIV/non-hepatitis

**Seroepidemiology of enterovirus 71 and Coxsackie virus A16 infections in population of various age-groups, Nakhon Ratchasima province, Thailand**

J. Prasertsophon<sup>1</sup>, H. Lerdsamran<sup>1</sup>, A. Mungaomklang<sup>2</sup>, K. Nateerom<sup>1</sup>, D. Oddgun<sup>1</sup>, S. Iamsirithaworn<sup>3</sup>, R. Buathong<sup>3</sup>, P. Puthavathana<sup>1</sup>

<sup>1</sup>*Department of Microbiology Faculty of Medicine Siriraj Hospital Mahidol University, Bangkok, Thailand*

<sup>2</sup>*Debaratana Nakhon Ratchasima Hospital Ministry of Public Health, Nakhon Ratchasima, Thailand*

<sup>3</sup>*Department of Disease Control Ministry of Public Health, Nonthaburi, Thailand*

**Objective:** This seroepidemiological study was conducted by microneutralization (microNT) assay and aimed to determine the prevalence of infections by enterovirus 71 (EV71) and Coxsackievirus A16 (CA16) in people of various age-groups in Nakhon Ratchasima province, Northeast of Thailand.

**Method:** A total of 1,327 serum samples were collected from subjects of 3 age-groups comprising 494 samples from the age-group younger than 5 years, 615 samples from the age-group between 5 and <18 years, and 218 samples from the age-group  $\geq 18$  years. All were assayed for neutralizing antibody to EV71 genotype B5, an isolate obtained in 2011; while 983 samples were assayed for antibody to CA16 genotype B2, an isolate obtained in 2012. Cytopathic effect based- microneutralization assay was conducted in duplicate in Vero cell monolayer. The test sera at the initial dilution of 1: 10 were 2 folds- serially diluted to the final dilution of 1: 1280.

**Result:** The result showed that 90% of people in all age-groups studied had antibody to EV71. Higher geometric mean titers of antibody to EV71 (GMT of 266.3) were noted in children of age younger than 5; and waning of antibody level was clearly seen after age 18 (GMT of 121.5). In contrast, the infection rate of CA16 was very low. Of 983 samples studied, the infection rate of 2.4% (12 of 494) was found in the age-group <5 years, 11.8% (34 of 289) in the age-group between 5 and <18 years, and none in 200 subjects of the age-group  $\geq 18$ . The average infection rate of CA16 for all age-groups was 4.6% with the GMT of 5.4.

**Conclusion:** In Thailand, HFMD is common in children under 5 years of age and in particular during the first three years of life. Eventually, the prevalence of 87% (103 of 118) was found in children of age younger than one year in our study. Nakhon Ratchasima province is a large province that has been attacked by HFMD outbreaks many times since 2006. This seroepidemiological study demonstrated that EV71 genotype B5 is higher prevalent than CA16 in this population setting. The result of our study confirmed the results of outbreak investigation for etiologic agents of HFMD performed by the Ministry of Public Health.