

DISTRIBUTION, CO-INFECTION AND CLINICAL SIGNIFICANCE OF ARBOVIRUSES IN SOUTHERN THAILAND

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Arboviruses, such as chikungunya, dengue and Zika, are transmitted by the same vector, namely *Aedes* mosquito. There was progressively increasing geographic distribution of this insect vector during the past several decades especially in tropical regions. In general, these viral infections are self-limiting, but in a number of patients the diseases can be life-threatening. There still is a lack of specific treatments and safe effective vaccines. Data on the prevalence and pathophysiological manifestations of co-infection of these three viruses are of importance but lacking. Thus, this study investigated the distribution and co-infection of these three arboviruses during the epidemic season of southern Thailand. Blood serum samples were collected by venipuncture from 242 subjects suspected of arbovirus infection from clinical investigation. RT-PCR was performed to confirm the type(s) of virus and serotyping was conducted in cases with dengue. RT-PCR conformed 88% positivity of arbovirus infection, but no case of co-infection. Among the 157 dengue cases, 64% were Type 2, 24% Type 2, 8% Type 1, and 4% Type 4. One patient with dengue shock syndrome was infected with dengue Type 2 and 0.44% had been classified as secondary infection under their clinical based. A larger cohort of subjects will be needed to identify co-infection of the three arboviruses in circulation in the country and their potential impact in these circumstances.

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