

Characterization of Culex Flavivirus isolated from mosquitoes collected in Myanmar

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Programme & Abstract, 46th Myanmar Health Research Congress 2018

Abstract

An entomological surveillance of arboviruses was conducted in Myanmar in 2014. A total of 8,357 *Culex* mosquito vectors were collected in the Mandalay area and virus isolation was done by using mosquito cell line. A total of eighteen strains of Culex flavivirus (CFV) were isolated from *Culex tritaeniorhynchus*, *Culex vishuni* and *Culex fusocephalus*. Like other insect-specific flaviviruses, CFV can replicate only in mosquito cells but not in mammalian cells. CFV strains isolated in Myanmar were closely related to the Wang Thong virus detected from *Culex fusocephalus* in Thailand and Culex theiliri flavivirus (CTFV) isolated from *Culex theileri* mosquitoes in Portugal and Turkey. They encode a single open reading frame with 3357 amino acid residues. They have the characteristics of flaviviruses and have 95.62% amino acid identity with CTFV. This is the first report of CFV in Myanmar with the characterized viral genome. This study illustrated that CFV was circulating among the vectors of human pathogenic arboviruses in Myanmar but the impact of CFV on other flaviviruses which are endemic in the study area still remains to be explored.