

Detection of Japanese Encephalitis virus in free roamer cats in Malaysia

ABSTRACT

Introduction: Japanese Encephalitis virus (JEV) is transmitted by mosquitoes of the *Culex* species and responsible of viral encephalitis in Asia and it is endemic in Malaysia since 1998. Cats and dogs are reported to be susceptible to JEV infection but high positivity was reported in the latter species. The study is conducted to determine if local cats are susceptible to infection by circulating JEV. **Methods:** The free roaming cats in Klang Valley were chosen since they are possibly exposed to the mosquitoes throughout their life span as compared to indoor cats. About 3ml blood were withdrawn from L2 Domestic Short Hair cats through jugular venipuncture (IACUC No. UPM/IACUC/AUP-R008/2015). Blood plasma was subjected to two steps RT-PCR assay by using non-structural protein NS3 region, and sequenced. **Result:** Of 12 blood samples, five were positive for JEV with PCR product of approximately 600 bps. Phylogenetic analyses of three amplicons revealed that the local strains are clade together with 97% bootstrap value with JEV strain Nakayama (HE861351); iEV isolated from *Rousettus leschenaulti* (JF7052S5 and FJ185036) and from *Murino ouroto* (FJL85037) in which both are reported in China. **Conclusion:** Free roamer cats are susceptible to JEV infection. More cats should be screened for iEV to determine their seropositivity. Serosurvey of companion animals may accurately reflect risk of humans since these animals are normally owned by household and cats may be one of the sentinel animals for surveillance.

Keyword: Japanese Encephalitis virus; Free roamer cats; Malaysia