JAPANESE ENCEPHALITIS ACTIVITY IN ANURADHAPURA DURING THE 1988/89 NORTHEAST MONSOONAL PERIOD

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Japanese encephalitis (JE) activity during the October-January period of the Northeast monsoon in 1988/89 monitored within the Anuradhapura District by (a) the collection and testing of vector mosquitoes for JE virus carriage by an antigen detection ELISA[1], (b) the testing of sentinel pig sera by Plaque Reduction Neutralization Test and (c) the testing, by IgM-ELISA, of blood samples from human patients admitted to the Anuradhapura General Hospital.

The major vectors of JE were collected at overall densities of 728 females/trap night for Cx. tritaeniorhynchus, 318 f/tn for Cx. gelidus and 137 f/tn for Cx. fuscocephala. JE virus carriage was recorded in Cx. tritaeniorhynchus (2 positive pools) and Cx. fuscocephala (1 positive pool). Vector densities were low in October and November, peaked in December and declined thereafter. Eighty percent of 30 sentinel pigs seroconverted to JE in December. Eleven of 166 sera (6.6%) of clinically diagnosed human patients tested positive for JE by IgM-ELISA.

These data provided a sharp contrast to the results of a similar study done during the 1987/88 epedemic[2,3]. Vector densities were approximately 4-times lower overall, and 5-10 times lower at peak levels than during the epidemic. Virus activity as judged by antigen-detection ELISA was not recorded in Cx. gelidus, one of the major vectors incriminated during the 1987/88 epidemic. Sentinel pig seroconversion did not reach the 100% level of 1987/88. The number of human cases was 5-times lower and the proportion of IgM-ELISA positives 6 times lower than during the epidemic. The rise in vector densities and evidence of virus activity in mosquitoes occurred 6-8 weeks later than during the epidemic of 1987/88, probably related to the late onset of the monsoon. The overall pattern was of low vector densities, low virus activity and relatively few human infections during 1988/89, resulting in a non-epidemic season.

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References:

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