

山西省临猗县2009年流行性乙型脑炎媒介调查

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Investigation of Japanese encephalitis vectors in 2009 in Linyi county of Shanxi province, China

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摘要

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摘要 目的 了解临猗县4个乡镇蚊虫种类、密度及其自然感染流行性乙型脑炎(乙脑)病毒状况。**方法** 采用诱蚊灯捕蚊,提取蚊虫核酸进行RT-PCR,扩增乙脑病毒NS1区核酸片段,对核酸阳性样本进行序列测定。**结果** 捕获蚊虫4属6种4424只,三带喙库蚊构成比为52.0%,淡色库蚊为41.2%,中华按蚊及其他蚊种数量较少。6-8月蚊虫密度逐月增加,三带喙库蚊构成比逐月增高。对2109只三带喙库蚊分77批进行乙脑病毒核酸检测,阳性10批。对5个阳性标本进行测序,经与GenBank中序列比对和分析,均为基因I型乙脑病毒。**结论** 临猗县7、8月蚊虫密度高,三带喙库蚊构成比及其乙脑病毒携带率均较高。三带喙库蚊密度及乙脑病毒携带率可作为乙脑防控的重要预警指标。

关键词 : 流行性乙型脑炎媒介, 蚊虫密度, 带病毒率, 核酸检测

Abstract : Objective To investigate the species composition and population density of mosquitoes and the prevalence of Japanese encephalitis virus (JEV) infection in Linyi county of Shanxi province, China. **Methods** Mosquitoes were collected by light traps and used for identification of JEV. NS1 sequences of JEV were amplified using RT-PCR from mosquito nucleic acid. Samples with positive amplification of NS1 were further sequenced. **Results** A total of 4424 mosquitoes (6 species, 4 genera) were collected, of which 52.0% were *Culex tritaeniorhynchus*, 41.2% were *Cx. pipiens pallens*, and few were *Anopheles sinensis* and other species. Mosquito density gradually increased from June to August. The constituent ratio of *Cx. tritaeniorhynchus* among all mosquitoes increased month by month. A total of 2109 individuals of *Cx. tritaeniorhynchus* were pooled into 77 batches before nucleic acid detection of JEV, of which 10 batches were positive. Five of the positive samples were sequenced, and alignment with GenBank sequences indicated the presence of genotype I JEV. **Conclusion** The mosquito density is high in July and August in Linyi county, and the constituent ratio of *Cx. tritaeniorhynchus* and JEV positive rate are relatively high. The two indices could be used as important early warning indicators for prevention of Japanese encephalitis.

Key words : Japanese encephalitis vector Mosquito density Virus carrying rate Nucleic acid detection

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