

2008年至2009年臺灣蝙蝠麗沙病毒監測報告

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摘要

蝙蝠在是地球上種類第二多之哺乳動物，其分佈幾乎遍及全球。因農業生產型態改變增加蝙蝠與人類接觸機會或蝙蝠遷徙習性，一些重要病原可能藉由其傳播，如亨德拉病毒 (Hendra virus) 感染症、立百病及SARS等，研究顯示前述新浮現疾病可能與蝙蝠所帶病原有關，為防止重要人畜共通傳染病入侵及啟動早期預警，亟需建立蝙蝠重要人畜共通傳染病監測與診斷技術。麗沙病毒屬至少包含11種基因型，其中狂犬病病毒屬第一基因型，蝙蝠除可感染及傳播狂犬病病毒外亦會傳播麗沙病毒屬其他基因型，若經由蝙蝠感染人類及溫血動物，其引起之臨床症狀及致死率與狂犬病相似。當今美、澳、英、德等已將蝙蝠麗沙病毒列為監測重點，於東南亞國家某些蝙蝠血清中亦檢測出麗沙病毒抗體，其抗體陽性率依序為菲律賓2.7% (22/821)、泰國4.1% (16/394)、中國2.2% (15/685)，故建立國內蝙蝠麗沙病毒監測體系為刻不容緩之事。為建立臺灣蝙蝠人畜共通傳染病監測資料及強化現有狂犬病監測體系，本所自2008年起執行蝙蝠麗沙病毒監測計畫，至今已完成187例蝙蝠腦組織麗沙病毒抗原及狂犬病病毒核酸檢測，結果均呈陰性。2009年與美國疾病管制局合作檢測60例蝙蝠腦組織及血清，結果Australian bat lyssavirus抗體，及麗沙病毒核酸均呈陰性，此係臺灣第一份蝙蝠血清及腦組織麗沙病毒監測報告，亦是突顯臺灣為狂犬病及麗沙病毒非疫區極為珍貴的科學佐證數據。

Lyssavirus surveillance in bats in Taiwan from 2008 to 2009

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Abstract

The bats are the second largest order within mammal and widely distributed in the world. With the high intensity of agriculture activities which cause more chance of contact between bats and human, and the character of migration of bats, some important pathogens could be transmit by bats. Recent studies have indicated that the source of most notably zoonosis such as Hendra virus infection, Nipah virus infection, Severe Acute Respiratory Syndrome (SARS) may be associated with the pathogen carried by bats. It is urgent to establish the surveillance and diagnostic techniques for bat associated zoonosis to prevent the invasion of important zoonosis and start the early alarming system. At present, more than 11 genotypes are recognized within the Lyssavirus genus and rabies virus is listed in genotype 1 of the genus. Rabies virus and other lyssaviruses could be transmitted through bats onto human and warm-blooded animals and cause disease with clinical signs and fatality similar to that of rabies. In USA, Australia, UK, Germany, where bats have already been as a target when conducting surveillance on important zoonosis. Recent studies have showed that antibody against lyssaviruses was detected from some bat species in east southern countries. Serology studies revealed the seroconversion rates in Philippine, Thailand and China are 2.7 % (22/281), 4.1% (16/394), 2.2 % (15/685), respectively. It is urgent to establish the surveillance system for bat lyssavirus in Taiwan based on the above survey results in neighbor countries. Aiming to set up the survey data for bat associated zoonotic pathogens and to strengthen the rabies surveillance system; the Animal Health Research Institute (AHRI) has conducted the bat lyssaviruses survey project since 2008. Till now, we have already examined brains of 187 bats by direct fluorescent antibody test (dFA) and reverse transcription-polymerase chain reaction (RT-PCR) to check the presence of lyssaviral antigen and rabies viral RNA. And no sample showed positive result. In 2009, we cooperated with CDC in USA to examine brains and sera of 60 bats. None of brain samples showed evidence of lyssavirus antigen and RNA and none of serum samples neutralized Australian bat lyssavirus. This is the first report describing the surveillance of lyssaviral antigen and antibody in bats in Taiwan and also the cherish result can serve as an epidemiologic surveillance data for rabies- free status of Taiwan.