Abstract

Physicians participated in our flu surveillance system from February to June, 2002 obtained throat swabs from children presenting with flu-like illness. A total of 11 specimens were collected with tubes containing collection media and antibiotics on working days and sent directly to our laboratory by express mail. Each specimen was inoculated onto Madin-Darby canine kidney (MDCK) cells tissue culture for virus growth, performed hemagglutination tests, and examined their cytopathic effect (CPE). The positive samples showed CPE were re-inoculated into 10-day old embryonated eggs. For establishing a rapid molecular diagnosis for possible novel intra-species transmission flu A virus in Taiwan, we employed reverse transcriptase -polymerase chain reaction (RT-PCR) methods for detecting and subtyping influenza A viruses. Up to now, our RT-PCR system at NTU is capable to detect not only positive control of human H1, H3 but also avian H1, H5, and H6. Thirteen of total 25 samples tested by RT-PCR with avian H1 primer set showed positive results, including 3 in 8 throat swab (37.5%), 5 in 10 MDCK (50%), and 5 in 7 embryonated eggs fluid (71.4%). In summary, direct detection of flu A virus by RT-PCR may decrease the sensitivity of detection. In addition, MDCK cells provide the most convenience in amplifying virus. Future studies should try to inoculate chicken eggs for those samples without CPE from MDCK cells because the low passage of chicken eggs can provide virus stocks for vaccine preparation.

Keywords：Influenza surveillance；surveillance system；Influenza virus；inter-species transmission；pandemic potantial