

# Drug-resistant swine flu cluster on Vietnam train

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(PhysOrg.com) -- A cluster of seven people infected with a Tamiflu-resistant strain of pandemic H1N1 influenza has been identified in Vietnam by a team including Oxford researchers.

A cluster of seven people infected with a Tamiflu-resistant strain of pandemic H1N1 influenza has been identified by researchers in Vietnam and reported in the *New England Journal of Medicine*.

The cases show the ability of Tamiflu-resistant pandemic H1N1 to spread among healthy people who are not taking the antiviral drug, say the scientists from Vietnam's National Institute of Hygiene and Epidemiology and Oxford University's Clinical Research Unit in Vietnam.

All seven cases were passengers on the same 42 hour train journey in Vietnam, who were taken ill within a couple of days of completing their journeys. Six were from a group of 10 students who met and socialised with each other in the same carriage. The seventh case was a passenger in a separate carriage.

Six of the cases were admitted to hospital for isolation while the seventh was isolated at home. All were treated twice daily with the recommended 75 mg dose of Tamiflu. All of the patients made a full recovery despite the resistance.

Oseltamivir - known also by its brand name Tamiflu - is an antiviral drug

that can reduce the severity and duration of flu symptoms. Treatment usually lasts for five days and has greatest effect when started within two days of the onset of symptoms.

Globally, the number of oseltamivir-resistant H1N1 viruses reported to date, including the current pandemic virus, is small (less than 1% of viruses tested). Most cases have occurred while the patients were taking the drug.

Cases of resistance in pandemic H1N1 patients not on oseltamivir have been found before, including recent clusters in immuno-compromised patients in special care units in Wales and North Carolina. But this cluster in Vietnam occurred in healthy young adults and confirms that such resistant strains can be transmitted and have the ability to cause illness.

Although the researchers cannot rule out the possibility that other passengers on the train became infected, since the cluster occurred in July Vietnam has detected only three other cases of oseltamivir resistance. All of these were due to selection of resistant viruses during treatment rather than person-to-person transmission.

The findings offer important lessons, says Dr Peter Horby of the Oxford University Clinical Research Unit and the South East Asia Infectious Disease Clinical Research Network.

‘If we lose oseltamivir as a treatment option for severe H1N1, this could have profound consequences,’ says Dr Horby, who led the work. ‘In most cases, the disease is relatively mild and anti-virals are not required. But for some people, particularly pregnant women and people with underlying health problems, treatment is essential. We have seen the rapid spread of oseltamivir resistance before in other influenza viruses, and it is something we must try hard to prevent with this virus.’

Dr Horby and colleagues believe that measures need to be adopted to minimise the risks of drug-resistant strains of the virus emerging.

‘We recommend that anti-virals such as oseltamivir are reserved for people at high risk of serious disease and for people with severe or deteriorating illness,’ he says. ‘We need to explore and stockpile alternative anti-virals and consider the use of combination therapies, which might lower the chances of the emergence of drug resistance.’

Provided by University of Oxford

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