



ACDP/83/P8

Advisory Committee on Dangerous Pathogens

ENHANCED SURVEILLANCE FOR UK-ACQUIRED WEST NILE VIRUS 2002-2005

Background

West Nile Virus (WNV) is a viral infection of birds and mosquitoes. Humans and horses can be infected but are not important in maintaining transmission cycles. Humans are usually asymptomatic or experience flu-like symptoms however, less than 1% of cases develop serious neurological disease which may be fatal. Over the past decade there have been several outbreaks in mainland Europe and WNV has spread rapidly across the United States since its introduction in 1999. This has significantly raised the profile of WNV as a potential public health threat. The Department of Health WNV steering group was formed in 2001. The UK DH's contingency plan includes enhanced surveillance for birds, mosquitoes and humans.

Enhanced Surveillance

WNV enhanced surveillance for human cases in the UK is coordinated by HPA Cfl. Since 2002 surveillance has taken place every year between 1st June and 31st October. Every year awareness of the possibility of WNV is raised through Chief Medical Officer letter, email alert and press release. Regional Epidemiologists are requested to contact clinicians in their regions and ensure that other relevant people, including neurologists and microbiologists are aware of this surveillance.

A case is defined as an adult (particularly those aged 50 years and over) with symptoms of encephalitis, meningo-encephalitis, aseptic meningitis or acute flaccid paralysis, who presents with no travel history outside the UK. Surveillance forms are sent to Cfl and the appropriate samples (serum and/or CSF) to HPA Porton. Since 2004, in addition to surveillance forms, we have also received copies of all laboratory request forms for WNV testing from HPA Porton.

Results

During the four year period a total of 74 cases were entered on the database. Thirty-six surveillance forms (only seven of which fulfilled the case definition) were received and an additional 38 cases (all fulfilling the case definition) were selected from the laboratory request forms (2004-2005 only). All 74 cases were negative for WNV. These results concur with the 2002 retrospective study of 123 CSF samples from patients aged over 50 years with encephalitis or meningitis of unknown aetiology in the UK which were also negative for WNV.

Between January 2004 and December 2005, 495 patients tested for WNV. All were negative for WNV, except for three non-UK patients in the Republic of Ireland, one who had returned from New York USA (2005) and two who had returned from the Algarve Portugal (2004).

Therefore around 20 cases per year (less than 10% of the total number of patients tested for WNV in the UK) fulfill the case definition for enhanced surveillance. Analysis of HES data for 2003 shows that UK-acquired viral encephalitis in the over 50 age group is rare with only 104 cases (an incidence of 0.17 per 100,000) suggesting we capture a good proportion of cases that would fulfill the case definition.

Conclusion

Enhanced surveillance over the last four years has found no human cases of UK-acquired WNV.

Reasons to stop enhanced surveillance	Reasons to continue enhanced surveillance
Only small numbers of enhanced surveillance forms are sent in and the majority do not conform to the case definition.	The enhanced surveillance raises awareness of this disease every year. This may alert clinicians to consider this diagnosis in patients with otherwise unexplained neurological symptoms.
For human cases it may be more efficient to monitor the laboratory request forms.	The enhanced surveillance may prompt increased testing for WNV in the summer months.
There is virtually no recognised transmission of human arboviral infection in the UK	Some species of mosquitoes implicated in the transmission of WNV are resident in the UK and potentially the virus may be introduced into the UK on an annual basis through migrating birds.
Surveillance for human cases together with equine, bird and mosquito studies suggests the current risk of WNV in the UK is low.	
If WNV were to appear in the UK we are most likely to detect the disease in horses first as they are more susceptible and would be investigated promptly (Defra's STEED plan).	

Options:

1. Continue as before
2. Stop enhanced surveillance but monitor lab request forms and raise awareness (eg: article in CDR)
3. Stop WNV surveillance as WNV unlikely (a case would be investigated through the usual channels)