

WEST NILE RISK ASSESSMENT BUCHAREST, ROMANIA

EVENT

On 22.09.2008, the National Reference Laboratory reported the detection of West Nile virus antibodies (IgM) in a serum sample and a cerebrospinal fluid (CSF) sample of an 19 years old male, temporary resident of Bucharest, hospitalized in the Infectious Diseases Institute "Matei Bals" in Bucharest.

HISTORY

The onset of illness was on 07.09.2008 with headache and nasal obstruction.

On 11.09.2008 the patient was hospitalized in The National Institute of Infectious Diseases in Bucharest, presenting the following symptoms: fever , severe headache, diplopy, nasal obstruction and neck stiffness.

The serum and CSF samples were taken in the second day of hospitalization, on 12.09.2008 and the diagnosis of viral meningitis was suspected.

Both samples of serum and CSF were positive for IgM West Nile antibodies. According to the EU case definition, the case was confirmed.

Other results: clear CSF, 120 cells/mmc, 68% lymphocytes.

On 24.09.2008 the second serum sample has been taken.

EPIDEMIOLOGICAL INVESTIGATION

The patient is a temporary resident of Bucharest from April 2008 and he hasn't left the town since then. He lives near a lake and he was employed as an unqualified worker (boatman) by a firm that deals with freights.

He affirm multiple mosquito bites within the West Nile infection incubation period (between 3 and 15 days), both at his place of living (a barrack) and also at his place of work, in the same area. He didn't use any preventive measures against mosquito bites.

MEASURES TAKEN BY THE PUBLIC HEALTH AUTHORITY OF BUCHAREST

- Epidemiologists announced the National Institute of Haematology about the case and didn't find out any evidence about the patient as being a blood donor.
- Health promotion activities were done.
- Public Health Authority of Bucharest requested informations from the Sanitary Veterinarian Direction of Bucharest who was also informed about the case .
- Because of the low temperatures and no activity in mosquito population, no mosquito samples from the patient's place of living and work have been taken.
- Control activities against larvae have been done on 27, 28 and 30 of September, 2008, including for the lake water. The activities will be

repeated against adult mosquitoes as soon as temperatures will rise again.

RISK ASSESSMENT

Bucharest is considered at risk in terms of vector breeding site, due to temperature and the presence of many lakes in its area. The town also experienced an outbreak of meningo-encephalitis with West Nile virus in 1996. At that time a 1-4 % rate of infection was documented in its population and a rate of 1/140-320 for clinical infections and subclinical ones, respectively. Bucharest is included in the sentinel surveillance of West-Nile infection.

There is no evidence of the existence of West Nile infected mosquitoes in this town.

Information provided by the veterinary authority:

- Bird and animal mortality rates for this area were not higher compared to data from previous years. No serological surveillance in birds and animals took place this year.

No serological studies were performed for the assessment of West Nile antibodies in human population.

Despite many control activities against mosquitoes which have taken place in Bucharest in the last years, including this one, they haven't been done either in the rural areas situated in the neighbourhood of Bucharest.

That's why cases continue to appear: in the last 10 years, 14 cases of acute meningitis with West-Nile virus were confirmed : 4 in 1997, 7 in 2001, 1 in 2003 and 2 in 2004.

This season seventeen probable cases were reported , but serological and CSF samples were positive for West Nile antibodies only for this case.

CONCLUSIONS: Because almost one month passed from the onset of the illness and the temperature went down dramatically in Bucharest in the last three weeks , we consider that the risk of human infection after exposure at mosquitoes bites is low.

The risk could be greater , especially in the lakes area which surround the town, when the temperatures will rise again.

For this reason, educational activities are needed , presenting the basic protection measures (wearing long sleeves shirts and long pants) or chemical protection measures (using repellents) against mosquitoes bites.

Note: This risk assessment was performed by the epidemiologists of The Regional Institute of Public Health in Bucharest , based on the informations provided by The Public Health Authority of Bucharest.

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