

P0462

Poster Session I

Emerging viruses / viral infections

WEST NILE VIRUS OUTBREAK IN LOMBARDIA REGION, NORTHERN ITALY, IN SUMMER 2013

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Objectives: a West Nile Virus (WNV) outbreak in Lombardia, a region of Northern Italy not affected in previous years, is described.

Methods: serum and CSF samples of patients with possible WNV infections were tested for the presence of specific IgM and IgG antibodies using a commercial enzyme-linked immunosorbent assay (WNV IgM Capture DxSelect and WNV IgG DxSelect by Focus Diagnostics, Cypress, California, USA). The presence of WNV specific antibodies was confirmed using a neutralization test (NT). Serum, CSF and urine samples, collected during the acute phase, were examined for the presence of WNV RNA using in parallel a specific real-time RT-PCR targeting a conserved region of WNV lineage 1 and 2 strains and a pan-Flavivirus nested RT-PCR followed by sequencing of amplicons for specific identification and typing.

Results: in the period 13 August-4 October 2013, 17 cases of WNV infection were diagnosed in Lombardia Region: 9 were confirmed cases of acute WNV neuroinvasive disease and 8 were acute WNV fever cases (7 confirmed and 1 probable). The cases of WNV were distributed in 4 different provinces: Cremona (no.9), Mantova (no.5), Brescia (no.2) and Lodi (no.1) in the south-eastern area of the Lombardia Region, in close proximity with areas of the Emilia Romagna and Veneto regions previously affected by the epidemics. The patients with WNV neuroinvasive disease were 8 (89%) males and 1 (11%) female with a median-age of 76 years (range, 54-89). All the WNV neuroinvasive disease met the clinical and laboratory criteria for confirmed cases, all patients were hospitalized and 2 of them died. The patients with WNV fever were 4 (50%) males and 4 females (50%), the median age was 58 years (range, 17-87). Seven were confirmed cases of WNV fever and 1 was probable. Among these patients, only one was hospitalized. Sequencing of gene NS5 showed that WNV strains belonged to lineage 2.

Conclusion: an outbreak of WNV was detected in region that had not been affected in previous years. Since the first reported human case in Italy in 2008, the area of the country involved in WNV human infection keeps expanding, in Northern Italy, from east to west.