

O1117 Aspects of West Nile neuroinvasive disease in a city of northern Italy from its first report in 2008 to the 2018 outbreakMariachiara Di Nuzzo*¹, Nicole Barp¹, Enrico Biagi¹, Marco Libanore¹, Carlo Contini¹¹ Infectious Disease department, Sant 'Anna Hospital, Ferrara, Italy

Background: West Nile disease (WND) was first recorded in Italy in 2008, mainly in Northern areas around the Po river. Around 1% of cases present as West Nile neuro-invasive disease (WNND). Since 2008, WND is endemic in Ferrara, a small city of North-East Italy. In 2018 an autochthonous outbreak was recorded with an early start of WN virus transmission.

Materials/methods: We retrospectively and prospectively identified all WNND cases recorded in Ferrara province from 2008 to 2018 and recorded epidemiological and clinical features, diagnostics and outcome.

Results: In 2018 we recorded 15 WNND cases, 12 males, 3 females (M: F=4:1). From 2008 to 2017 period 33 WNND cases were recorded, 27 males, 6 females (M:F= 4.5:1). Mean age in 2018 was 78.5 years, in the 2008-2017 period was 66.3 years ($p < 0.05$). Incidence rate was 39.8 cases/1 million people compared to 4.5 cases/1 million people registered in the 2008-2017 period. In 2018, 3/15 cases occurred in persons living in the urban centre, whereas 4/33 from 2008 to 2017 ($p > 0.05$). Of the 15 cases registered in 2018, 73.3% presented history of hypertension, 60% cardiovascular disease, 20% immunosuppression, 20% dementia, 66.5% presented more than one comorbidities. Similarly to the 2008-2017 period (32/33 cases), the most common clinical presentation was encephalitis (13 cases). 100% presented fever, 33.3% transient muscular weakness 26.7% speech impairment (aphasia/dysarthria). 10/15 patients died. No association between comorbidities and outcome (survival/death) was found ($p > 0.05$). Fatality rate was 66.7% in 2018, while 39.4% from 2008 to 2017 ($p > 0.05$). In cerebrospinal fluid (CSF), IgM testing was positive in 12 cases, whereas WNV-RNA PCR, in 6 cases ($p < 0.05$).

Conclusions: In 2018, in Ferrara, a WNND outbreak was registered. Epidemiological and clinical features were not statistically different from those in the 2008-2017 period, apart from mean age ($p < 0.05$). The 2018 outbreak fatality rate was higher compared to previous years, but not statistically significant. WNND cases were mainly >74 year-old males, with cardiovascular diseases, presenting with encephalitis. Comorbidities did not associated with outcome ($p > 0.05$). CSF IgM testing was more sensitive than WNV-RNA PCR.

