29th ECCMID Amsterdam, Netherlands 13 – 16 April 2019

The congress of ESCMID

P0812 Sandfly fever virus in aseptic meningitis in Tunisia: a multi-centre study

Houda Chaouch[1], Wissem Hachfi[1,2], Saba Gargouri[3], Stephen Findlay Wilson[4], Ayari Rym[1], Nadia Ben Lasfer[1,2], Foued Bellazreg[1,2], Zouhour Hattab[1,2], Naila Hannachi[5,2], Stuart Dowall[4], Hela Karray-Hakim[3], Amel Letaief[1,2]

[1] Farhat Hached University Hospital, Infectious diseases department, Sousse, Tunisia, [2] University of Sousse, University of medicine Ibn Jazzar, Sousse, Tunisia, [3] Habib Bourguiba University Hospital, Faculty of Medicine, University of Sfax, Laboratory of Microbiology, Sfax, Tunisia, [4] Pubic Health of England, Porton-Down, Microbiology services, Virology and Pathogenesis Group, Salisbury, United Kingdom, [5] Farhat Hached University Hospital, Laboratory of Microbiology- Immunology, Sousse, Tunisia

Background: Toscana virus (TOSv), a sandfly fever virus (SFv), is widely distributed in the Mediterranean basin and is among the major causes of central nervous system (CNS) infections. Data about TOSv-related CNS-infections are limited in Tunisia. The aim of this study was to identify the role of TOSv and other SFv in the occurrence of aseptic meningitis in two regions of Tunisia.

Materials/methods: The study was performed in referral university hospitals of Central-East and South-East Tunisia. A total of 139 clinical samples were evaluated from patients with aseptic meningitis: 31 serum-cerebrospinal fluid (CSF) pairs from Central region and 25 serum-CSF pairs and 27 single CSFs from South-East. Samples were collected from January 2016 to November 2017.

Commercial immunofluorescence assays IFAs were employed to screening in serum the presence of SFvs IgG/IgM: TOSv, Sandfly fever Sicilian (SFSv), Sandfly Fever Naples virus (SFNv) and Sandfly Fever Cyprus Virus (SFCv). SFv-RNAs were investigated in serum-CSF pairs by adverse RT-PCR assays.

Results: Eighty two patients were enrolled (mean age: 24 years; Sex-ratio=1.2): 44 cases (53.6%) had meningitis, 36 (44%) meningoencephalitis, and 2 meningoencephalo-myelitis. All sera and CSF were negative for SFv RT-PCR. A total of 18 sera (32.1%) were anti-SFv reactive that include IgG reactivity in 19.6%, IgM in 5.3% and IgM+IgG in 7.1%. TOSv-IgM was reactive in 3 cases (5.3%), was associated to TOSv-IgG in 2 cases. Simultaneous IgG+IgM reactivity was identified in one case for SFNv and SFCv. Four patients from Central-East region, with IgG+IgM reactivity, were considered as probable SFv infections. The outcome was favorable without squeal for all patients. No SFv-IgM reactivity was showed in patients from South-East region. A past SFv-contact (exclusively IgG reactivity) was identified in 11 cases (32.2%) that include 10 from Central-East and one from South-East. In Central-East, TOSv was the most SFv past-contact (19.3%), followed by SFNv (6.2%), SFSv and SFCv in 3.2% of cases. In South-East region, only 1 sample was reactive (SFSv-IgG).

Conclusions: This study highlights the role of SFv in the occurrence of aseptic meningitis in Central Tunisia. These results should be supported by further studies in potential vectors in this region.