

O1000 An emerging public health threat: Mayaro virus in Peru

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Background: Several tropical neglected diseases remain a challenging public health issue according to WHO, including Mayaro virus (MAYV), an arbovirus as Chikungunya virus (CHIKV). These viruses usually cause human disease characterized by fever, arthritis, and skin rash. However, MAYV can produce severe complications, such as intermittent fever, neurological complications, myocarditis, and even death. Arbovirus infections emerged in the Americas and rapidly spread, affecting millions of people from 2013–2016, establishing high-risk areas for MAYV infection. MAYV is likely to be misdiagnosed as CHIKV infection due to their similarities. Promising molecular methodologies are becoming valuable tools to genetically typify viruses and provide insight into the nature of viral transmission cycles and epidemiological patterns. Most methods based on PCR, including nucleic acid sequence-based amplification assays and real-time RT-PCR, are excellent molecular diagnostic methods for Alphavirus detection. The aim of this study is to detect Mayaro virus in patients with febrile illnesses from endemic areas of Peru.

Materials/methods: A total of 436 patients with suspected febrile illnesses from endemic regions of Peru participated in this study. Clinical symptoms were assessed and blood samples were collected. RNA was extracted from serum samples followed by the detection of Mayaro virus genome by RT-PCR analysis using primers that amplify partial regions of the nsP1 gene.

Results: There were a total of 24(5.5%) cases. Among this, 37.5% (n = 9) were women and 62.5% (n = 15) were men. The populations with age groups of 5-11 years and 18-39 years were the most affected with 29.17% (n = 7) of positive patients each group. The most common symptoms reported were headache with 95.83%(n = 23) and fever with 87.5%(n = 21).

Conclusions: Mayaro virus is present in endemic areas of Peru, however it may be misdiagnosed as Dengue Virus, CHIKV or Zika Virus due to the similar clinical presentation. It is an important emerging disease in South America region and requires highly sensible and specific tests to make an accurate diagnosis. This virus should be included in national surveillance programmes in order to have an insight on its transmission, pathogenicity, virulence and local epidemiology.

