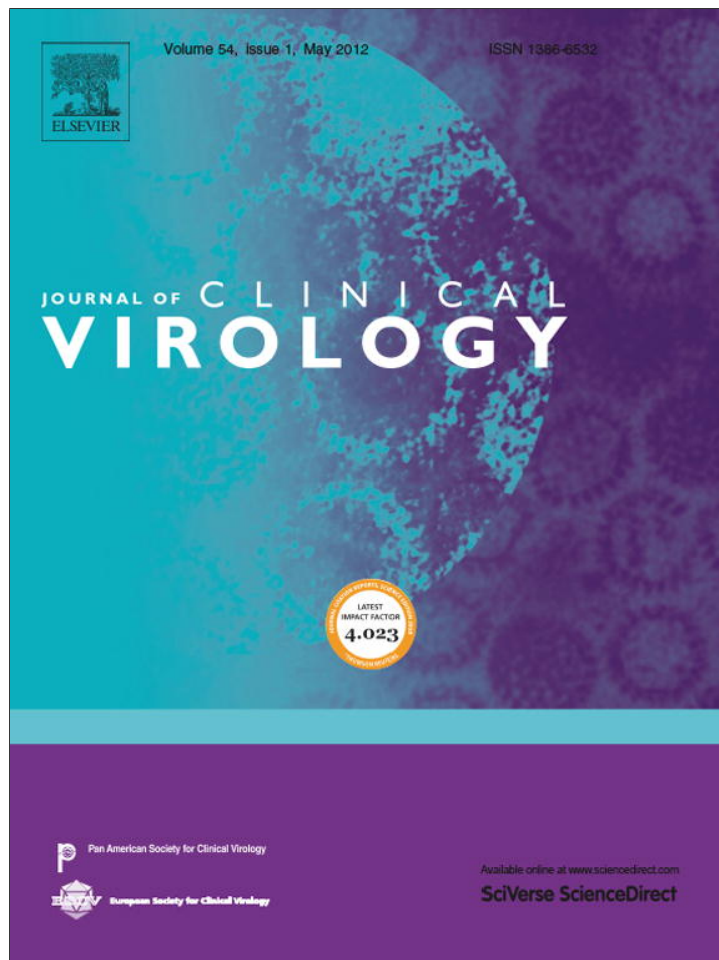


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Letter to the Editor

First case of human infection with a Bunyamwera serogroup virus in Argentina**Keywords:**

Bunyamwera serogroup virus
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To the Editor

Orthobunyaviridae is the largest genus of the *Bunyaviridae* family, with a total of 48 species isolated all around the world.¹ Several orthobunyavirus have been associated with human and animal diseases.² Bunyamwera virus (BUNV), CbaAr426 strain, previously classified as Cache Valley Virus, was isolated for the first time in Argentina from *Aedes albifasciatus* of Cordoba province between 1964 and 1965.³ Specific antibodies against BUNV (CbaAr426) have been detected in humans, domestic animals and wildlife.^{4–6} Besides, serological studies performed in Cordoba city showed a seroprevalence of 12.5% in patients with meningoencephalitis between 2005 and 2006, significantly higher than values reported in 2005 for the general population (5.72%) (unpublished data). However, since our study was performed with single samples, IgG were the only antibodies detected; in addition, the patient's symptoms could not be associated with BUNV (CbaAr426) infection.

This paper describes the first case of human infection with a Bunyamwera serogroup virus in Argentina. In 2009 (January–May), an outbreak of Dengue virus (DENV) occurred in Cordoba city (31°24'00"S latitude, 64°11'00"W longitude). In the Arbovirus Laboratory, acute- and convalescent-phase serum samples from 16 patients with symptoms suggestive of Dengue and other related flaviviruses (St. Louis encephalitis virus – SLEV – and West Nile Virus – WNV) were analyzed; all of them yielded negative results when tested with plaque reduction neutralization test (PRNT).⁷ The viral strain used was CbaAr426. Only a 30-year-old female who complained of fever, myalgia, arthralgia, retroocular pain and skin rash showed seroconversion to CbaAr426. The symptoms lasted 7–10 days. Routine laboratory tests yielded unremarkable results. She lived in Southern Cordoba city, close to rain drainages with a high-density population of mosquitoes; the most abundant species was *Aedes albifasciatus*, possible vector of BUNV (CbaAr426).^{3,8} The patient had no history of travel during the previous year. The first sample was taken 7 days after disease onset, resulting negative to CbaAr426 by PRNT. The second sample, obtained 17 days later, was positive with a 1/160 titer. One year later, a third sample tested positive, with a 1/40 titer (IgM detection could not be performed

because our laboratory lacks specific techniques for IgM detection). RT-PCR generic to Bunyavirus and isolation from blood samples were attempted in Vero cell cultures, yielding negative results. This could be attributed to the fact that the first sample was taken too late after disease onset, probably in addition to a poor sampling and sample conservation.

All samples were tested for Kairi virus (serologically crossed with BUNV) by PRNT, with negative results.

This is the first evidence of a possible association with Bunyamwera serogroup virus (CbaAr426 strain or a closely related strain) with febrile syndrome in Córdoba city. Further studies are needed to confirm the association of Bunyamwera serogroup virus with human febrile diseases in temperate areas of Argentina.

Finally, since other arboviruses (DENV, SLEV, WNV) that produce symptoms similar to Bunyamwera serogroup virus circulate in Córdoba, this finding demonstrates the need and importance of a differential diagnosis for a correct identification of the etiologic agents of febrile diseases.

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Competing interests

None declared.

Ethical approval

Bioethics Committee, Facultad de Ciencias Médicas, Universidad Nacional de Córdoba (No. 06-2004-29491) and Municipalidad de la Ciudad de Córdoba (No.000-001), Argentina.

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Abbreviations: BUNV, Bunyamwera virus; DENV, Dengue virus; SLEV, St. Louis encephalitis virus; WNV, West Nile virus; PRNT, plaque reduction neutralization test.

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