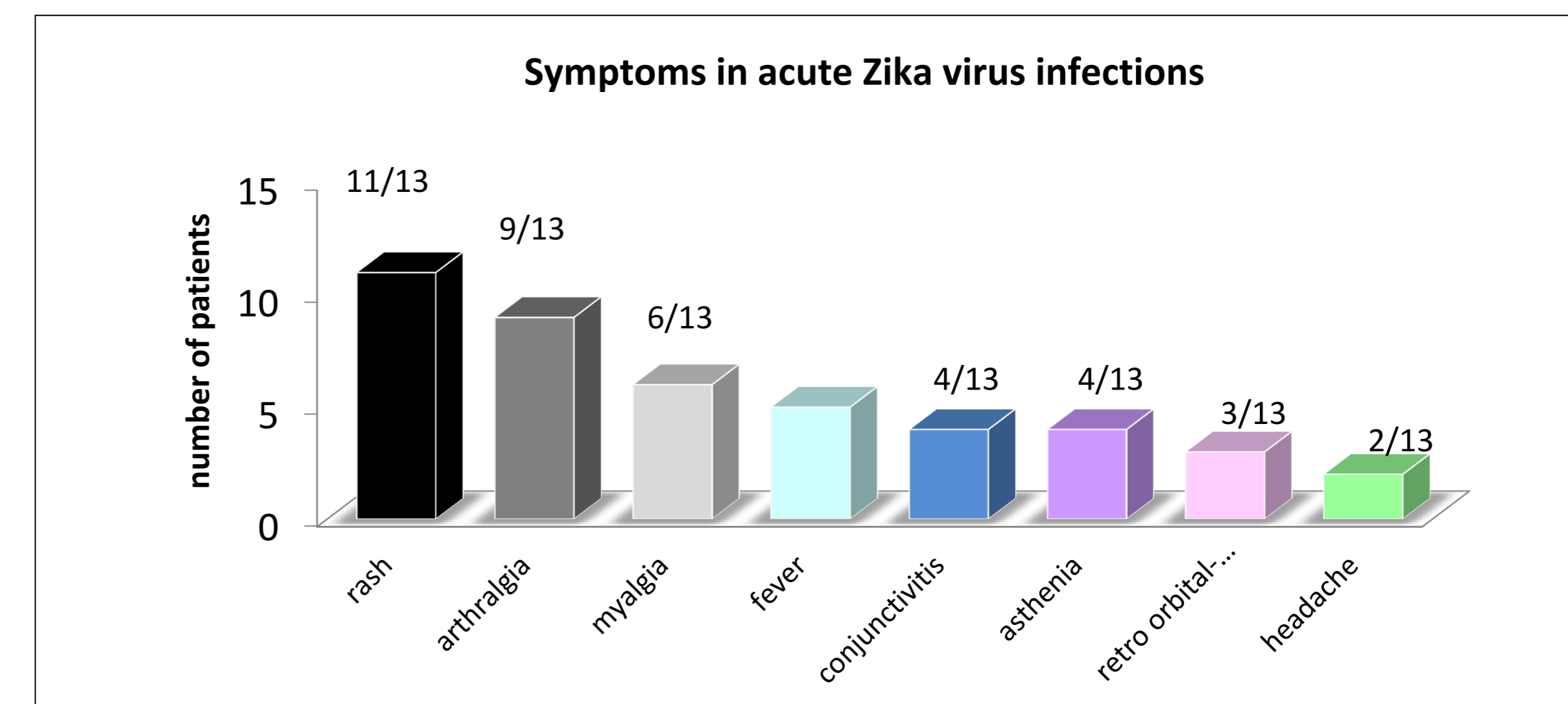
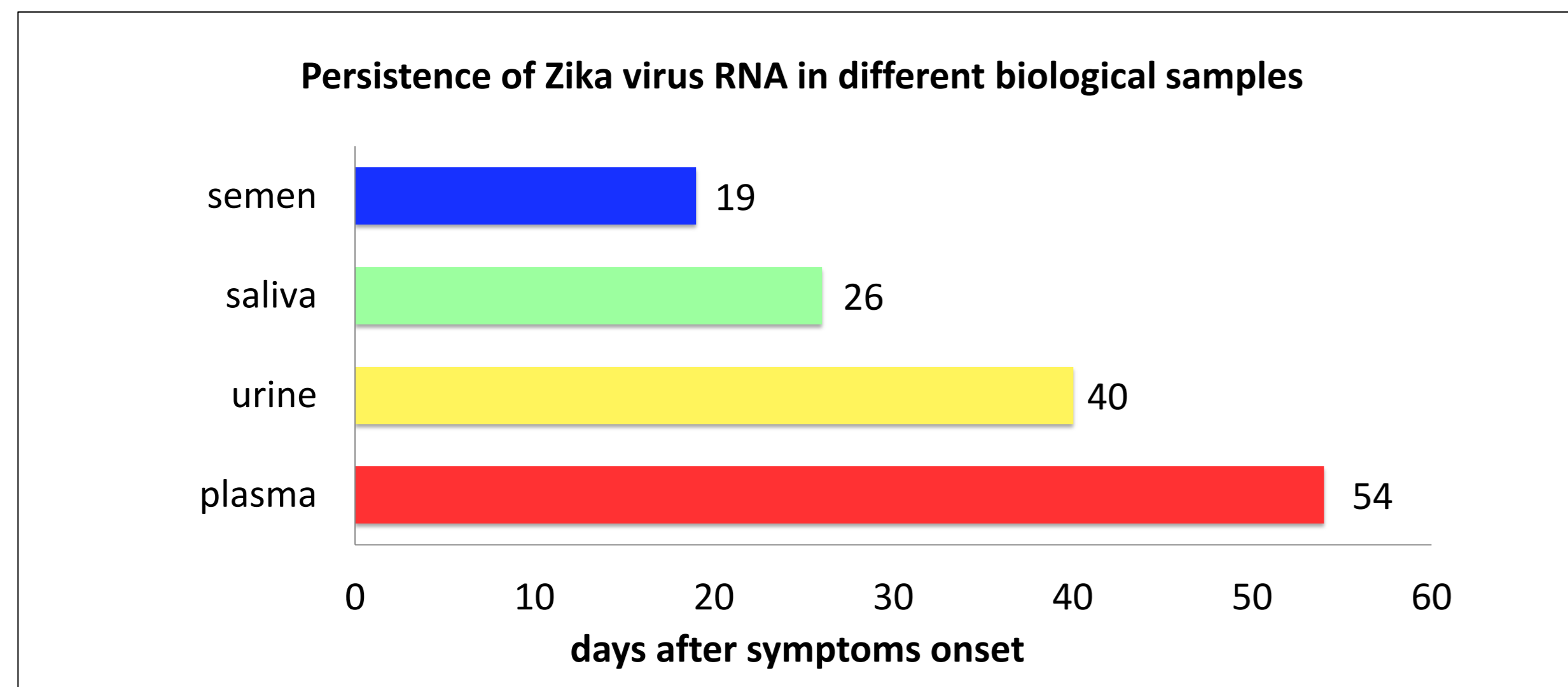


P0890

Introduction: Zika virus (ZIKV) is a mosquito-borne virus belonging to the *Flaviviridae* family (genus *Flavivirus*). It is endemic in Africa and Southeast Asia (1), nevertheless, before 2007 only a few human cases were reported. In 2007, a ZIKV outbreak occurred in the Micronesian Yap Islands (2). Subsequently, in 2013-2014 a large ZIKV outbreak was reported in French Polynesia (3). In March 2015, the first local transmission of ZIKV in the Americas was detected in Bahia, Brazil (4). Since then, local transmission has been documented in about 47 countries in the Americas (5). ZIKV infections in human are frequently asymptomatic or are characterized by maculopapular rash, fever, myalgia/arthralgia, headache, retro-orbital pain and conjunctivitis (1). ZIKV infection appears to be associated with fetal malformations, as shown by the striking increase of microcephalia in endemic regions (6). *Aedes* spp. mosquitoes are the vector of ZIKV infection in humans (1). Non-vector-borne transmission of Zika virus has also been documented, sexual transmission (7) and trans-placental virus transmission during pregnancy (6).

Methods: serum samples of patients with potential ZIKV infections were tested for the presence of specific IgM and IgG antibodies (Anti-Zika virus ELISA (IgM) and Anti-Zika virus ELISA (IgG) by Euroimmun, Lübeck, Germany). Furthermore, the presence of specific ZIKV antibodies was confirmed by plaque reduction neutralization test (PRNT). Serum, saliva, urine and semen samples, collected during the acute phase, were examined for the presence of ZIKV RNA with two methods: a real-time reverse transcriptase-polymerase chain reaction (RT-PCR) targeting a conserved region of ZIKV and a pan-Flavivirus heminested RT-PCR targeting a conserved region of the NS5 gene followed by sequencing of amplicons.

Results: in the period 18 February-24 November 2016, 18 confirmed cases of ZIKV infection were diagnosed in Lombardy Region (10 million inhabitants) in Northern Italy. Among patients with ZIKV infection, 10 (55%) were males and 8 (45%) females, with a median age of 38 years (range 18– 63). Seventeen had an history of recent travel, 12 arrived from Caribbean islands, 3 from Brazil, 1 from El Salvador and 1 from Venezuela, while 1 patient, the wife of a symptomatic patient returning from the Dominican Republic, had not travelled. Thus, a sexual transmission was documented. During the symptomatic phase of the infection, between 1-8 days (median 5 days) from the symptoms onset, were collected and analyzed for each patients serum/plasma, saliva, urine and semen in males. Zika virus-RNA was detected in 13/13 (100%) urine samples of 13 patients, in 9/11 (82%) saliva samples, in 5/13 (38%) plasma samples and in 4/7 semen samples. In the symptomatic phase of the infection, Zika virus specific IgM were detected in 7/13 (54%) patients while 1/13 (7%) specific IgG were detected.



Conclusions: Zika virus infection show a prolonged persistence in peripheral blood with the potential of autochthonous spread to competent mosquitoes. In addition, the presence of virus in semen is an additional factor for autochthonous infections. Thus, sexual partners of travelers must be included in surveillance protocols.

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