

Rapid risk assessment – Sexual transmission of dengue in Spain

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Spanish authorities have reported the likely sexual transmission of dengue between two men. One of the men travelled to Cuba and the Dominican Republic (both countries where dengue is endemic) and returned to Spain on 4 September 2019. He developed symptoms of dengue on 5 September. In the days following his return, the man had unprotected sex with his partner, who had not travelled outside of Spain in the previous 45 days. His partner developed dengue symptoms on 15 September. According to the Spanish authorities, the comorbidities of both patients were assessed by clinicians responsible for their follow-up and were not considered relevant for the risk assessment.

Semen samples from both cases tested positive for dengue virus (DENV). Molecular investigations identified identical viral sequences between the two cases. Entomological investigations around the residence of the cases in the municipality of Madrid, Spain did not find any *Ae. albopictus* mosquitoes, a known vector for DENV.

In the absence of data supporting infection through other possible routes, it appears likely that the secondary case acquired DENV infection through sexual contact. This is the first case of dengue described in an area without the presence of vector mosquitoes that has been attributed to sexual transmission, and the first sexual transmission described between men who have sex with men (MSM). This mode of transmission is consistent with what has been observed for other flaviviruses such as Zika virus.

Despite the large numbers of imported cases, sexual transmission of DENV had not been previously reported in the EU/EEA.

Based on the current limited evidence, sexual transmission of dengue appears to be a rare route of transmission and the risk (both among MSM and heterosexuals), is considered extremely low. More research is needed to quantify the risk of sexual transmission and to identify risk factors. However, the risk of transmission by those returning from dengue-endemic areas with symptoms compatible with dengue infection, or with confirmed dengue infection, can be minimised by abstaining from sex or practicing safe sex using condoms until all symptoms are resolved.

Infectious disease clinicians should be informed that sexual transmission is a potential, but apparently rare mode of transmission for dengue and that they should: 1) consider it in patients with dengue in the absence of a

compatible travel history; and 2) advise all patients with dengue on the potential risks of sexual transmission, and that those risks can be mitigated through abstinence from sexual contact, or practicing safe sex using condoms, during the course of their disease. This particularly applies if their partner is pregnant to prevent adverse pregnancy outcomes related to dengue infection during pregnancy.