BEYOND OUR BORDERS

Novel Yezo virus - Japan

A novel virus, named Yezo (YEZV), that can be transmitted by tick bites has been discovered in Japan. Yezo virus is an orthonairovirus, belonging to the Nairoviridae viruses, which are tickborne viruses that can cause fatal febrile illness in humans and other animals. There are 15 species within the genus orthonairovirus; four species are known to infect humans. These include Crimean-Congo haemorrhagic fever virus, Nairobi sheep disease virus, Dugbe virus, and Kasokero virus.

The first case of Yezo virus was recorded in 2014 in a 41-year-old male, admitted with a history of a tick bite to the abdomen and subsequent fever and leg pain. A second case was reported in 2020 with a patient who was bitten by a tick whilst hiking and developed similar symptoms as the first case. Clinical manifestations for both patients included thrombocytopenia, leukopenia, and elevation of liver enzymes. The common viruses carried by ticks in Japan were excluded in both cases. An investigation was conducted that found that a total of seven patients has been infected with Yezo since 2014, with animals and ticks the most likely reservoirs. No deaths have been linked to this novel virus at this stage.

Based on the history of a suspected tick bite, the patient was treated empirically with eight days of ceftriaxone for suspected Lyme disease or *Borrelia miyamotoi* infection, 14 days of doxycycline for suspected rickettsioses, and six days of gentamicin for suspected tularemia. The patient was discharged without any complications.

Figure 6. Current outbreaks/events that may have implications for travellers. Numbers correspond to text above. The red dot is the approximate location of the outbreak or event.

Source: Promed (www.promedmail.org), World Health Organization (www.who.int), Centres for Disease Control and Prevention (www.cdc.gov), World Organisation for Animal Health (www.oie.int), National Institute for Communicable Diseases (www.nicd.ac.za); Outbreak News Today (www.outbreaknewstoday.com); Kodama F, Yamaguchi H, Park E, Tatemoto K, Sashika M, Nakao R, et al. A novel nairovirus associated with acute febrile illness in Hokkaido, Japan. Nat Commun. 2021 Dec;12(1):5539