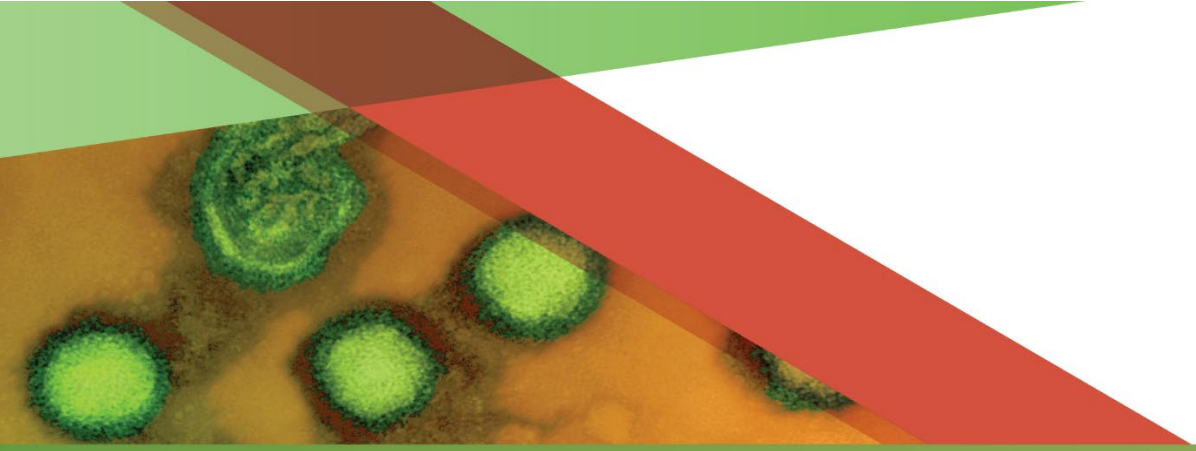

SURVEILLANCE REPORT

Rift Valley fever

Annual Epidemiological Report for 2021

Key facts

For 2021, among the European Union/European Economic Area (EU/EEA) countries there was one probable case of Rift Valley fever, reported by France.

Rift Valley fever (RVF) is an acute viral disease that affects domestic animals such as cattle, buffalo, sheep, goats, and camels. The disease is caused by the RVF virus (RVFV), generally found in regions of eastern and southern Africa, and in most of sub-Saharan Africa, Saudi Arabia and Yemen.

Humans may become infected through direct or indirect contact with the blood or organs of infected animals. Direct and indirect contact (via contaminated objects) can occur in various situations, including during the slaughter or butchering of animals, or when in contact with blood, abortion products or any other infected biological material from an animal or human during viraemia. Mosquito vectors, mainly Aedes and Culex *spp.*, can also transmit the virus among animals and to humans. Although limited evidence suggestive of vertical transmission among humans (mother to child transmission) has been documented, horizontal transmission from human to human has not been observed [1-3]. Among humans, occupational groups such as herders, farmers, slaughterhouse workers, and veterinarians face an increased risk of infection in endemic areas due to regular interactions with animals and animal-derived materials. While most human cases are relatively mild, a small percentage of patients develop a severe form of the disease. The uncomplicated cases are characterised by acute influenza-like illness followed by full recovery. In some patients, the illness can progress to a severe form with haemorrhagic manifestations and hepatitis; possible complications include retinitis (inflammation of the retina) and encephalitis (inflammation of the brain). RVF results in severe illness in animals, marked by fever, weakness, pregnancy loss (abortions). The incidence of severe illness and mortality is particularly high among young animals. Vaccination of animals at risk is an important way of preventing infection in humans.

Methods

This report is based on data for 2021 retrieved from The European Surveillance System (TESSy) on 25 October 2022. TESSy is a system for the collection, analysis and dissemination of data on communicable diseases.

For a detailed description of methods used to produce this report, refer to the 'Methods' chapter [4].

An overview of the national surveillance systems is available online [5].

A subset of the data used for this report is available through ECDC's online 'Surveillance atlas of infectious diseases' [6].

For 2021, 21 EU/EEA countries reported case-based data on RVF. Austria, Bulgaria, Cyprus, Denmark, Finland, Iceland, Liechtenstein, the Netherlands and Portugal did not report data. In addition, as the United Kingdom (UK) left the EU on 31 January 2020, the country was not included in the data call and consequently did not provide data.

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Thirteen countries used the EU case definition for viral haemorrhagic fevers, three (Czechia, Germany and Italy) used an alternative case definition, and five (Belgium, France, Ireland, Poland and Romania) did not specify the case definition used.

Among those countries that reported on the relevant details, reporting was compulsory, comprehensive and passive in 19. Ireland and Poland did not report on these details.

Epidemiology

Among the EU/EEA countries, there was one case reported for 2021. The case was reported by France and classified as a probable case. The person was infected in Burkina Faso.

Between 2017 and 2020, there were no cases reported by EU/EEA countries. Three imported cases were reported by France in 2016 and prior to this, imported cases were reported in 2012 (two cases) by the UK and France, in 2013 (one case) by the UK and in 2015 (one case) by France. No autochthonous transmission of RVF virus has ever been reported within the EU/EEA.

Discussion

Between November 2018 and July 2019, an outbreak of RVF occurred in Mayotte, an overseas department of France [7-9]. Although historically, RVF is endemic in sub-Saharan Africa and certain zones of the Arabic Peninsula, there has been evidence of spread to regions which were considered free of RVF. Serological evidence of RVFV infection in humans has been detected in countries close to the EU, such as Tunisia and Türkiye [10,11]. The identification of serologically-positive individuals in these non-endemic countries can be seen as a potential indicator of the risk of RVF spreading beyond the regions where it is typically endemic.

According to the European Food Safety Authority (EFSA), although the movement of infected animals and vectors remains a plausible pathway for introduction of the virus to the EU, the overall risk of RVF being introduced through the animal pathway is very low for all EU Member States. Similarly, the risk of introduction through the vector pathway is also very low for the majority of EU Member States [12]. Various mosquito species, particularly *Aedes* and *Culex* spp., have the potential to transmit RVFV, and the actual species involved can vary depending on the region. *Culex pipiens*, a widely distributed mosquito species in Europe, has shown a high level of vector competence for the transmission of RVFV [13].

Public health implications

Continuous monitoring and surveillance of RVF is important given its potential to spread and the impact it can have on human and animal health and on trade.

No commercial vaccine for humans is available for use in the EU/EEA. Vaccines for animals are available commercially but not authorised for regular use in the EU [12]. As the initial epidemiological cycle of RVF involves domestic ruminants, and humans mostly become infected after contact with viraemic animals at places such as slaughterhouses and farms, vaccination of ruminants is the favoured method for preventing human disease in endemic areas [14]. Recommended control measures in endo-epizootic regions include bans on the slaughtering and butchering of ruminants during epizootics, vector control measures, the use of insect repellents and bed nets during outbreaks, information campaigns for people at risk (farmers, veterinarians, slaughterhouse employees and butchers) and the appropriate disposal of dead animals [16].

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