

## EXPLAINED

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Keeping homes free of rodents can drastically reduce the possibility of coming in contact with the virus | Photo Credit: Getty Images/iStockphoto

**The story so far:** One death out of the three confirmed cases of the viral Lassa fever in the United Kingdom has sparked concerns about the spread of the disease, even as the world continues to grapple with the Covid-19 pandemic. The U.K. Health Security Agency confirmed the death on February 11. The two initial cases were detected within the same family of East England that had travelled to West Africa.

The disease was discovered in 1969 in Nigeria's Lassa town. Two missionary nurses died after contracting the virus, although similar symptoms had been described since the 1950s.

The World Health Organisation defines Lassa fever as an animal-borne acute viral haemorrhagic fever caused by multimammate rats. Cases of the disease are mostly reported from Benin, Ghana, Guinea, Liberia, Mali, Sierra Leone, Togo and Nigeria in West Africa and the disease is largely endemic to the region. Thousands of cases of Lassa fever are reported from West Africa each year, with an annual casualty count averaging 5,000.

Eight cases of Lassa fever have been reported in the U.K. since 1980. The last two cases until now were reported in 2009.

In the U.S., only six cases of Lassa fever have been reported so far, and all of them were associated with travel to countries where the disease is endemic.

The primary cause of Lassa fever is exposure to the infected multimammate rats. Lassa virus spreads through faeces and urine of these rats. Exposure of food and household items to the virus is also considered a leading cause for the spread of the disease. The *Mastomys* rats are known for living in human settlements, thus increasing chances of exposure to the virus through food. The rodents also serve as a source of food themselves. The virus can also infect humans if air contaminated by the excretion of infected rats is inhaled.

Human-to-human transmission of the virus is also possible, although it is not known to spread through casual contact like hugging, shaking hands or sitting near an infected person. Chances of human transmission increase in healthcare settings in the absence of adequate control measures.

Symptoms of Lassa fever can take up to three weeks to show, although most cases exhibit mild symptoms and go undiagnosed. Exposure to Lassa virus can cause fever, fatigue, and headache. In severe cases, symptoms like haemorrhaging, facial swelling, low blood pressure, chest and back pain etc may also develop. Shocks, seizures, and coma have also been reported as symptoms of Lassa fever.

Deafness is a prominent symptom associated with Lassa fever. Around 25% of recovered patients exhibit deafness of varied levels, and hearing is partially restored in half the cases.

Clinical diagnosis of Lassa fever is challenging because of the similarity in symptoms with other diseases like Ebola, malaria, and typhoid fever. The most common method used to detect Lassa fever is enzyme-linked immunosorbent serologic assays (ELISA). Reverse transcription-

polymerase chain reaction (RT-PCR), the most efficient test used to diagnose Covid-19, can also be used to detect infection by Lassa virus.

Antiviral drug ribavirin is often used to treat Lassa fever although the usage is not a licensed treatment. Other procedures used are supportive care including hydration, oxygenation, and treatment of specific complications arising due to the disease. Preventive vaccines are currently under research and development.

In India, the International Health Division under the Ministry of Health and Family Welfare lists Lassa fever as a disease of international significance. The country has not reported any cases of the disease so far.

Lassa fever has exhibited a low case-fatality rate so far, killing 1% of the infected patients. The disease is particularly severe in late pregnancy and results in maternal death and/or loss of the foetus in over 80% of the cases. However, most reported cases of the disease are mild.

The best way to prevent contracting Lassa virus is to keep foods safe from rats in areas where the disease is prevalent. Setting up mouse traps, keeping homes free of rodents, and not consuming them as a food source can drastically reduce the possibility of coming in contact with the virus.

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