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Letter to the Editor

Sudan virus disease outbreak in Uganda

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On January 30, 2025, Uganda's Ministry of Health officially declared an outbreak of Sudan virus Disease (SVD) after confirming Sudan virus (SUDV) in a 32-year-old Male nurse from Kampala (1,2). He had presented with fever, chest pain, difficulty breathing and unexplained bleeding. Despite seeking medical care from multiple health facilities and a traditional healer, the patient died on January 29, 2025, at the National Referral Hospital. Postmortem laboratory tests confirmed the presence of SUDV, marking the first case of this disease in the current outbreak (2). By February 10, 2025, nine confirmed cases had been reported, including five health care workers and one fatality, all linked to the index of patients close contacts (1,3). As of now no cases have been reported in the United states, but the Centres for disease Control and prevention (CDC) has issued a Level 2 Travel Health Notice for Uganda, urging travellers to monitor for symptoms of SVD (2). In Uganda, 14 cases of SVD have been reported as on 5th March 2025 (1).

SVD is a severe viral haemorrhagic fever caused by the SUDV, a member of the Ortho ebolavirus genus, which also includes Ebola virus. Like Ebola virus disease, SVD has a high fatality rate and begins with non-specific symptoms like fever, abdominal pain, anorexia, and fatigue, progressing to severe manifestations like haemorrhagic bleeding, shock, multiorgan failure (1,4). Fruit bats are considered the primary reservoir for the virus while animals like primates and forest antelopes also contribute to its transmission to humans (Figure-1). Secondary transmission occurs through direct contact with infected individuals or during funeral rituals involving direct interaction with the deceased (4).

An additional challenge in the current outbreak is cryptic transmission of SUDV. Emerging evidence suggests the virus may persist in wild and domestic animal reservoirs even after human outbreaks are controlled. Genomic sequencing indicates that the strain responsible for the current outbreak is closely related to the 2012 Luwero District outbreak, suggesting long-term, unnoticed circulation of the virus. Survivors from previous outbreaks, particularly those with PCR- positive semen or breast milk, have shown prolonged viral presence for up to two years, despite not exhibiting classic symptoms. Asymptomatic or latent infections can contribute to undiagnosed cases and recurring outbreaks emphasizing the need for enhanced surveillance to identify hidden transmission pathways to prevent future outbreaks (5).

Diagnosing SVD can be challenging due to its similarity to other viral haemorrhagic fevers like Lassa fever, Marburg virus and malaria (1). The incubation period ranges from 7 to 11 days, though it can extend from 2 to 21 days (4).Initial symptoms often include fever, muscle pain and sore throat, followed by more severe symptoms like diarrhoea and spontaneous bleeding (1,4). Confirming the diagnosis required specialized testing, including reverse transcriptase polymerase chain reaction (RT-PCR), enzyme linked immunosorbent assays (ELISA) for IgG and IgM antibodies, antigen detection tests, or virus isolation (4). Specimen handling must occur in high containment facilities, with trained staff to avoid transmission (2).

Prevention remains critical in mitigating the virus's spread. The primary strategy includes strict infection control measures, especially the identify-isolate- inform protocol for healthcare providers. Clinicians must maintain vigilance by acquiring a detailed travel history particularly from those who have recently travelled to regions with known outbreaks (2). Immediate isolation of suspected cases, along with proper notification to public health authorities, is crucial in preventing further transmission.

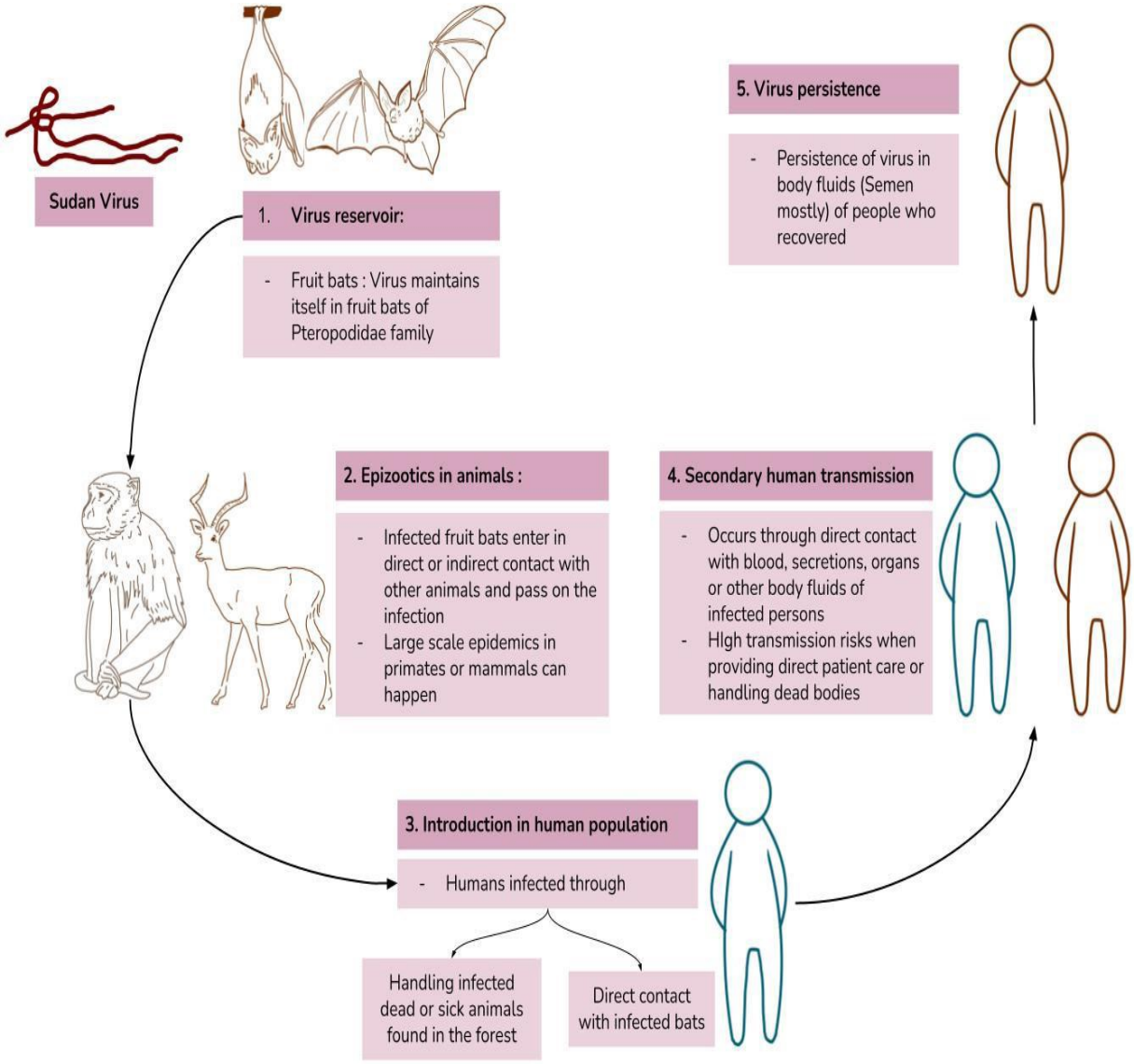

Fig1 : Transmission of Sudan Virus (Source: Authors own illustration)

Safe burial practices for patients who have died from SVD also play a key role in preventing further outbreaks (4).

Although no licensed vaccine exists for SUDV, candidate vaccines are under development and showing promise in preclinical and clinical trials (3,4). Researchers are testing vaccines, using replicating vesicular stomatitis virus vectors and non-replicating chimpanzee adenovirus vectors, with positive results in animal models (4). These candidate vaccines are currently undergoing phase I/II studies, aiming to establish their safety and efficacy in humans. During an outbreak, emergency access to these vaccines may be provided as part of global efforts to control the disease (4). The World Health Organization (WHO) has outlined a CORE protocol for evaluating the efficacy of these vaccines and therapeutics, with additional trials underway to assess monoclonal

Healthcare workers should follow standard infection control measures and use personal protective equipment (PPE) when handling SVD cases. Engaging local communities and addressing cultural behaviours is vital in reducing human to human transmission. Safe burial practices for patients who have died from SVD also play a key role in preventing further outbreaks (4).

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