Journal of Infectious Disease and Pathology

Review Article Open Access

Lassa Fever Unraveling the Mysteries of a Neglected Disease

Olivia Elizabeth*

Department of Radiology, Viet Duc University Hospital, 40 Trang Thi St, Hang Bong Ward, Hoan Kiem District, Vietnam

Abstract

Lassa fever is an acute viral haemorrhagic illness that is endemic in West Africa, particularly in countries like Nigeria, Sierra Leone, Liberia, Guinea, and others. The disease is caused by the Lassa virus, which is a member of the Arenaviridae family. Lassa fever was first identified in 1969 when it was named after the town of Lassa in Nigeria, where it was first discovered. Transmission, Lassa virus is primarily transmitted to humans from contact with the urine or feces of infected Mastomys rats. Human-to-human transmission can occur through direct contact with the blood, urine, feces, or other bodily fluids of an infected person, as well as through contact with objects or surfaces contaminated with these fluids. Symptoms: Lassa fever can cause a wide range of symptoms, from mild to severe.

Keywords: Antibody; Arenavirus; Lassa Virus; Primate; Treatment

Introduction

Common symptoms include fever, weakness, malaise, headache, and sore throat. In severe cases, the disease can progress to bleeding, organ failure, and even death. Incubation Period: The incubation period for Lassa fever is typically 6 to 21 days after exposure to the virus.\ Diagnosis: Lassa fever is diagnosed through laboratory tests that detect the virus's genetic material or antibodies in a patient's blood. There is no specific antiviral treatment for Lassa fever, but early administration of antiviral medications like ribavirin can improve outcomes. Supportive care, including the management of complications and providing fluids and electrolytes, is essential. Preventing Lassa fever involves avoiding contact with rodents and their excretions, practicing good hygiene, and taking precautions when caring for sick individuals.

Discussion

Healthcare workers should use appropriate infection control measures to prevent nosocomial transmission. People in regions where Lassa fever is endemic, particularly in rural areas with poor sanitation and limited healthcare access, are at the highest risk of infection. Healthcare workers are also at risk due to their close contact with infected patients. Vaccine: As of my last knowledge update in September 2021, there was no commercially available vaccine for Lassa fever. However, research was ongoing in the development of vaccines. It's important to note that the information about diseases and their management can change over time, so it's a good idea to consult the latest guidelines and updates from relevant health authorities if you need information on Lassa fever in 2023 or beyond. Lassa fever is a viral hemorrhagic fever that is endemic in parts of West Africa, particularly in countries like Nigeria, Sierra Leone, Liberia, Guinea, and others. It is caused by the Lassa virus, which is transmitted to humans through contact with infected rodents, specifically the multimammate rat, which is common in the region. Lassa fever can also spread from person to person through direct contact with the bodily fluids of an infected individual. Lassa fever symptoms can range from mild to severe and may include fever, headache, weakness, muscle pain, sore throat, vomiting, diarrhea, and bleeding from various body parts. In severe cases, Lassa fever can lead to organ failure and even death, although the overall case fatality rate is lower than some other viral hemorrhagic fevers like Ebola. Preventing Lassa fever primarily involves practicing good hygiene, such as regular hand washing, and avoiding contact with rodents and their droppings. Healthcare workers should take precautions to prevent nosocomial transmission in healthcare settings. Early diagnosis is crucial for effective treatment. Laboratory tests like PCR and ELISA are used to confirm Lassa fever [1-4].

There is no specific antiviral treatment for Lassa fever, but ribavirin, an antiviral medication, has been shown to be effective when administered early in the course of the disease. One challenge in controlling Lassa fever is its nonspecific initial symptoms, which can be mistaken for other common illnesses. Limited healthcare infrastructure and resources in affected regions can hinder efforts to diagnose and treat cases promptly. Research into the Lassa virus and potential vaccines is ongoing, but progress has been relatively slow due to limited funding and the fact that it primarily affects low-resource areas. Lassa fever is considered a neglected tropical disease and a global health concern because it can lead to outbreaks that spread beyond its endemic regions. International collaboration and support are essential to address this disease effectively. Experiences from dealing with diseases like Ebola have provided valuable lessons in terms of preparedness, response, and international cooperation, which can be applied to Lassa fever control efforts. Engaging with local communities is crucial for prevention and control. Community education and awareness programs can help people understand how to protect themselves from the virus. In conclusion, Lassa fever is a serious public health concern in West Africa, and efforts to control it require a multi-faceted approach, including improved healthcare infrastructure, increased research and vaccine development, community engagement, and international collaboration. Raising awareness about the disease and its prevention measures is also essential to reduce its impact on affected populations. Lassa fever is caused by the Lassa virus, a member of the Arenaviridae family. While the exact origin and evolution of the Lassa virus are not fully understood, several theories and hypotheses have been proposed to explain its emergence and transmission. Here are some key theories and aspects related to lassa fever. The most

***Corresponding author:** Olivia Elizabeth, Department of Radiology, Viet Duc University Hospital, 40 Trang Thi St, Hang Bong Ward, Hoan Kiem District, Vietnam, E-mail: olivia.elizabeth@gmail.com

Received: 01-Aug-2023, Manuscript No. jidp-23-113285; **Editor assigned:** 03-Aug-2023, PreQC No. jidp-23-113285(PQ); **Reviewed:** 17-Aug-2023, QC No. jidp-23-113285; **Revised:** 24-Aug-2023, Manuscript No: jidp-23-113285(R); **Published:** 31-Aug-2023, DOI: 10.4172/jidp.1000202

Citation: Elizabeth O (2023) Lassa Fever Unraveling the Mysteries of a Neglected Disease. J Infect Pathol, 6: 202.

widely accepted theory is that Lassa fever is a zoonotic disease, meaning it originates in animals and is transmitted to humans. In this case, the natural reservoir of the Lassa virus is believed to be the multimammate rat (Mastomys natalensis), a common rodent in West Africa. Humans become infected when they come into contact with the urine, feces, or saliva of infected rodents or through the consumption of contaminated food. It is theorized that the Lassa virus has coevolved with its rodent host over a long period of time. The virus may have evolved mechanisms to persist in the rodent population without causing severe disease in its natural host. Occasionally, the virus spills over into the human population, where it can cause more severe disease due to differences in host immune response and other factors. The distribution of Lassa fever is closely tied to the geographic range of the multimammate rat. Regions with a high prevalence of these rodents are more likely to experience outbreaks of Lassa fever. Environmental factors such as changes in land use, agricultural practices, and urbanization can influence the dynamics of rodent populations and their proximity to human settlements. While the primary mode of transmission is zoonotic, human-to-human transmission can occur through direct contact with the blood, urine, feces, or other bodily fluids of infected individuals. Nosocomial transmission in healthcare settings is a particular concern during outbreaks. The Lassa virus exhibits genetic diversity with multiple strains circulating in different regions. This diversity may influence the severity of the disease and the effectiveness of treatments and vaccines. Research is ongoing to develop vaccines and treatments for Lassa fever [5-7].

Understanding the genetic diversity and evolutionary history of the virus is crucial for these efforts. In summary, Lassa fever is a complex disease with a zoonotic origin, likely involving coevolution between the virus and its natural rodent host. Environmental factors, genetic diversity within the virus, and human behaviors all play a role in the transmission and persistence of Lassa fever. Continued research is essential to better understand the virus and develop effective control measures, including vaccines and treatments. Certainly, let's have a discussion on Lassa fever, a viral hemorrhagic fever that primarily affects West African countries, particularly Nigeria, Sierra Leone, Liberia, Guinea, and others. Lassa fever is caused by the Lassa virus, which is transmitted to humans from rodents and can lead to severe illness and even death in some cases. Lassa fever is primarily transmitted to humans through contact with the urine or feces of infected multimammate rats, which are common in West Africa. Humans can also contract the virus through direct contact with the blood, tissues, or bodily secretions of infected individuals. This zoonotic transmission cycle is a key factor in the persistence of the disease. The symptoms of Lassa fever can vary from mild to severe. Early symptoms include fever, headache, muscle aches, and weakness. As the disease progresses, it can lead to more severe symptoms such as bleeding from the mouth, nose, and other body parts, respiratory distress, and shock. In severe cases, Lassa fever can result in organ failure and death. Diagnosing Lassa fever can be challenging due to its initial similarity to other common illnesses like malaria and typhoid fever. Laboratory tests, including PCR and ELISA, are used for confirmation. Early diagnosis is crucial for effective treatment. There is no specific antiviral treatment for Lassa fever, but the antiviral drug ribavirin has shown some effectiveness when administered early in the course of the disease. Supportive care, including fluid management and treatment of complications, is also important. Reducing contact with rodents and their excreta. Practicing good hygiene, including regular hand washing. Promoting safe food storage and preparation. Implementing infection control measures in healthcare settings to prevent nosocomial transmission. Raising public awareness about the disease and its prevention. Limited healthcare infrastructure in affected regions can hinder diagnosis and treatment. Lassa fever outbreaks can strain healthcare systems and resources [8-10].

Conclusion

Research into the virus and vaccine development has been slow due to limited funding and the relatively low number of cases compared to other diseases. Lassa fever is a global health concern because it has the potential to spread beyond its endemic regions. International collaboration, information sharing, and support are critical for controlling outbreaks and preventing its global spread. In conclusion, Lassa fever is a significant public health issue in West Africa, characterized by its zoonotic transmission, variable clinical presentation, and challenges in diagnosis and treatment. Prevention and control efforts involve a combination of public health measures, healthcare infrastructure improvement, and international cooperation to mitigate its impact on affected populations.

Acknowledgment

None

Conflict of Interest

None

References

1. Tomasz C, Beata F, Grażyna L, Waldemar R, Stanisława TW (2018) Francisella tularensis/Rickettsia spp. co-infections in patients with skin changes and lymphadenopathy. Arch Med Sci 14: 357-360.
2. Liliya MP, Magdalena PB, Pavlina OP, Mariya DF, Nikolay ED, et al. (2017) Clinical Characteristics of Ulceroglandular Tularemia in Two Bulgarian Regions, 2014-2015: a Report of Five Cases. Folia Med (Plovdiv) 59: 486-493.
3. Matz LM, Kamdar KY, Holder ME, Metcalf GA, Weissenberger GM, et al. (2018) Challenges of Francisella classification exemplified by an atypical clinical isolate. Diagn Microbiol Infect Dis 90: 241-247.
4. Africa C, Carlos D, Ana A, Fernandez LL, Maria PG, et al. (2018) Usefulness of a single-assay chemiluminescence test (Tularaemia VIRCLIA IgG + IgM monotest) for the diagnosis of human tularemia. Comparison of five serological tests. ur J Clin Microbiol Infect Dis 37: 643-649.
5. Herbert T, Peter O, Martin P, Jochen S, Axel K, et al. (2018) Francisella tularensis and other bacteria in hares and ticks in North Rhine-Westphalia (Germany). Ticks Tick Borne Dis 9: 325-329.
6. Annika P, Miklos G, Bela D, Felix K, Helmut D, et al. (2018) Seroprevalence of Francisella tularensis in Austrian Hunting Dogs. Vector Borne Zoonotic Dis 18: 117-119.
7. Hestvik G, Uhlhorn H, Jinnerot T, Akerstrom S, Sdersten F (2017) Francisella tularensis in muscle from diseased hares - a risk factor for humans?. Epidemiol Infect 145: 3449-3454.
8. Machtinger TE, Andrew YL (2017) Evaluation of four commercial natural products for repellency and toxicity against the lone star tick, Amblyomma americanum (Acari: Ixodidae). Exp Appl Acarol 73: 451-460.
9. Meriglier E, Roblot P, Landron C (2018) [Skin manifestations of tularemia]. Med Mal Infect 48: 145-147.
10. Irene LR, Jorge GF, Antonio OD (2018) Fever of unknown origin in a laboratory worker. Enferm Infecc Microbiol Clin (Engl Ed) 36: 527-528.