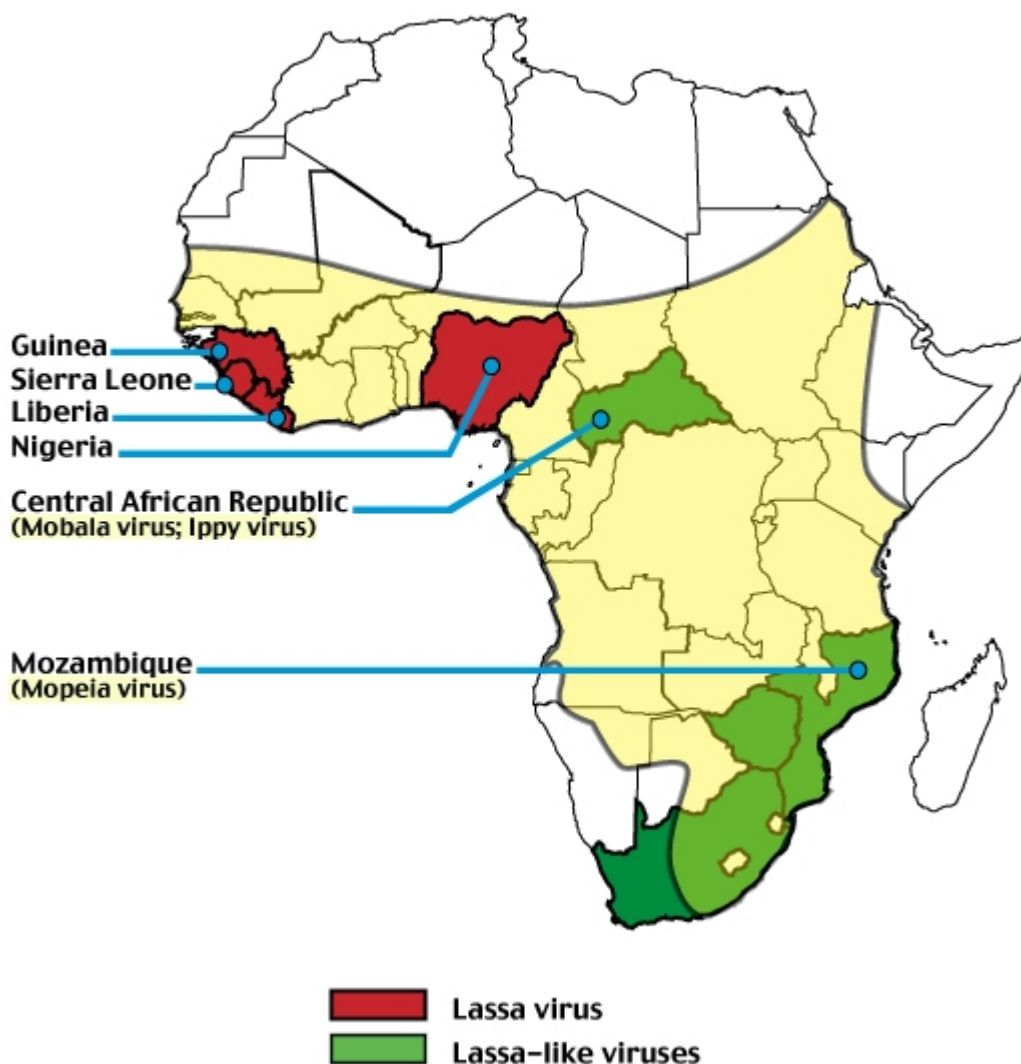


Summary

- Arenaviruses: Zoonotic viruses transmitted via rodents mainly, but for some also via secondary person-to-person transmission and nosocomial infection
- Clinically atypical febrile, haemorrhagic, neurological or pulmonary syndrome.
- Ribavirin is used in Lassa fever

General

Map Arenaviruses in Africa (Lassa Fever).



Map arenaviruses - Africa (in yellow: distribution of *Mastomys* mice)

The name of arenaviruses refers to their granular appearance under an electron microscope (L. arena = sand). This structure is created by the inclusion of electron dense host cell ribosomes in the viral envelope. They are RNA viruses, of which the genome consists of a short and a long RNA fragment. Some viruses from this group are pathogenic for humans. Our knowledge concerning these viruses is clearly incomplete. Most arenaviruses have a rodent reservoir. The rodent hosts are chronically infected with the virus, without causing them an obvious illness. Human infection occurs when a person comes into contact with excretions or other materials contaminated with excretions of the infected rodent via ingestion, via direct contact through broken skin/mucosa or via aerosol transmission. Tacaribe virus was isolated from fruit-eating bats.

Known pathogenic arenaviruses:

1. Lymphocytic choriomeningitis virus
2. Lassa virus (with substrains Josiah, Nigeria, LP, AV)
3. Junin virus
4. Machupo virus
5. Lujo virus

Non-pathogenic arenaviruses and viruses with unknown pathogenicity:

1. Old World: Mopeia, Mobala, Ippy, Acar
2. New World : Tacaribe, Tamiami, Parana, Amapari, Flexal, Pichende, Latino, Oliveros

Incubation time

Nosocomial transmission and transmission via infected body fluids are known for Lassa fever, Ebola and Marburg virus as well as other non-arboviral haemorrhagic fevers. The Bunya-, Filo- and Flaviviruses are cytolytic. They destroy cells particularly endothelial cells. The incubation time is usually less than one week.

Arenaviruses are not cytolytic. They act indirectly by forming antigen-antibody complexes and activating complement. The incubation time tends to be longer than in the other groups.

New Arenaviruses

It is very likely that new viruses will be discovered in the future. An example is Lujo virus, a new member of the family Arenaviridae. This haemorrhagic fever virus was discovered in 2008, when it was responsible for an outbreak in South Africa (the index patient came from Zambia, 5 cases in total). Human disease is characterized by nosocomial transmission and a very high case fatality rate of 80 percent.