

Lassa Fever: Background and Clinical Presentation

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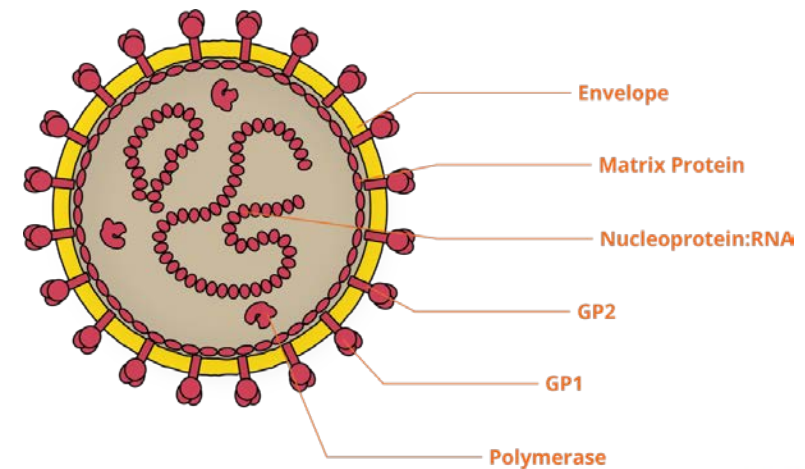
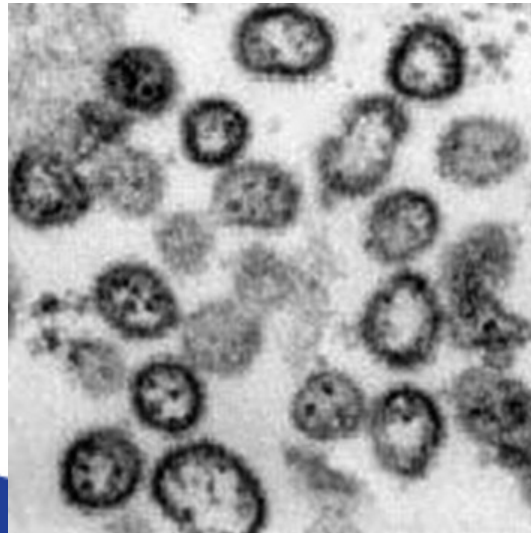
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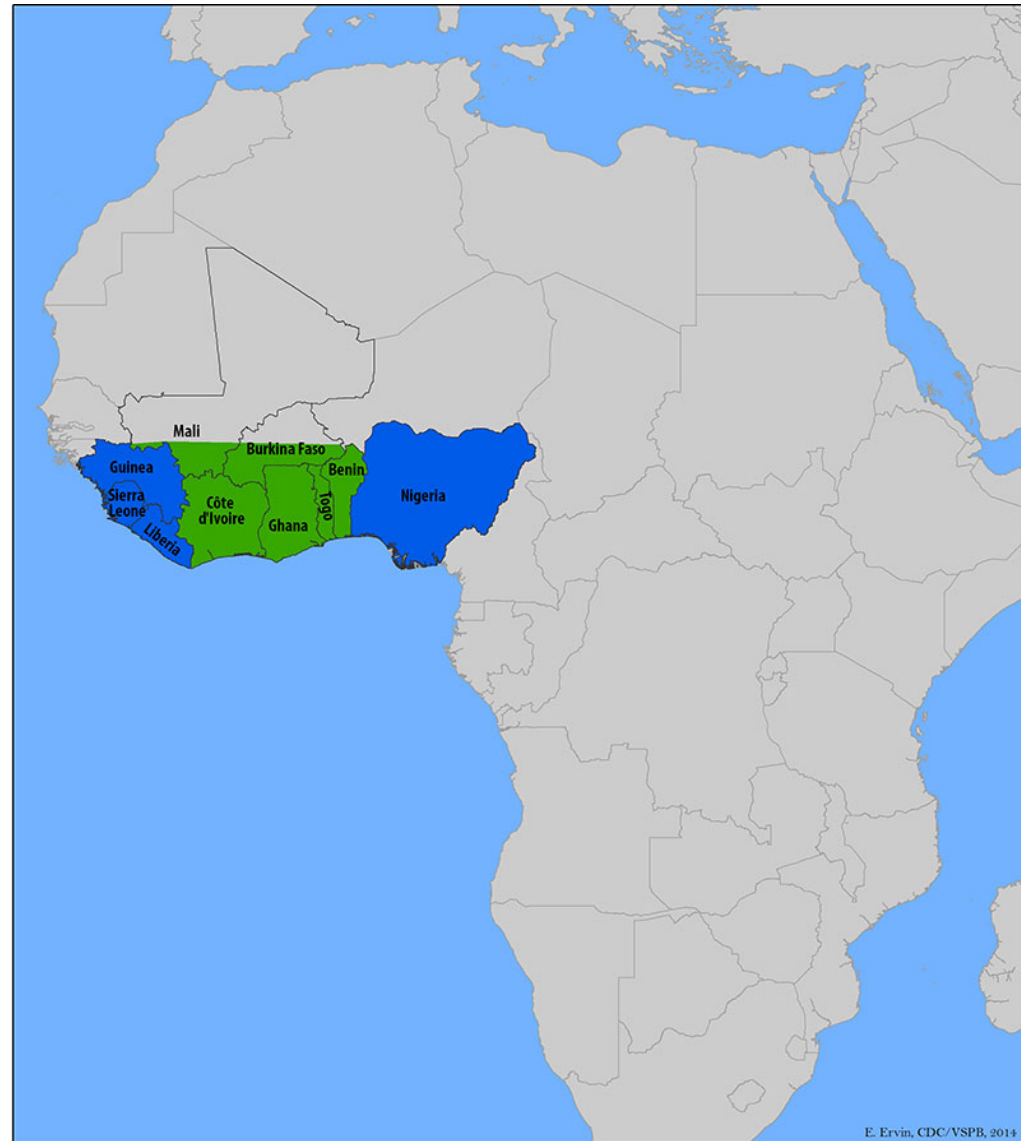


Lassa Fever Virus

- Arenavirus
 - Infect rodents
 - Other arenaviridae – LCMV (lymphocytic choriomeningitis virus), Junin (Argentine), Machupo (Bolivian), Guanarito (Venezuelan) and Sabia (Brazilian)
 - Single-stranded RNA viruses






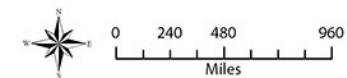
Epidemiology



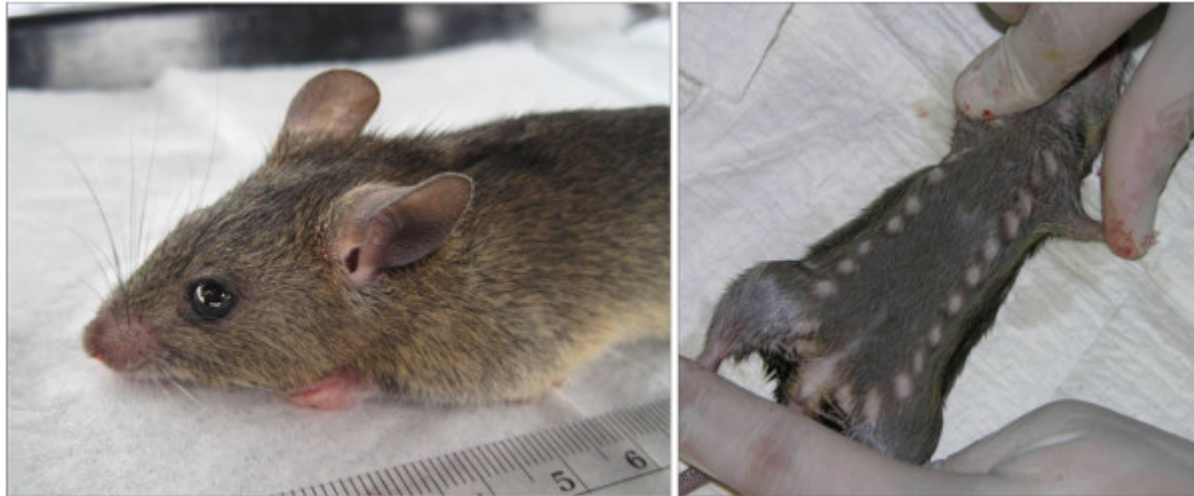
E. Ervin, CDC/VSPB, 2014

LASSA FEVER DISTRIBUTION MAP

-  Countries reporting endemic disease and substantial outbreaks of Lassa Fever
-  Countries reporting few cases, periodic isolation of virus, or serologic evidence of Lassa virus infection
-  Lassa Fever status unknown



Animal Reservoir



Mastomys natalensis
Multimammate
rat/mouse

Lassa Virus Transmission and Mortality

Multimammate Mice
Native to West Africa



Faeces and Urine

Lassa
Virus



Human > Human
Transmission Rare



Contaminated Food



80% Mild/Asymptomatic
30% Deafness (Often Permanent)
20% Severe Disease
1% Case Mortality

Clinical Signs and Symptoms



Implications of Lassa Fever for Infection Control and Prevention



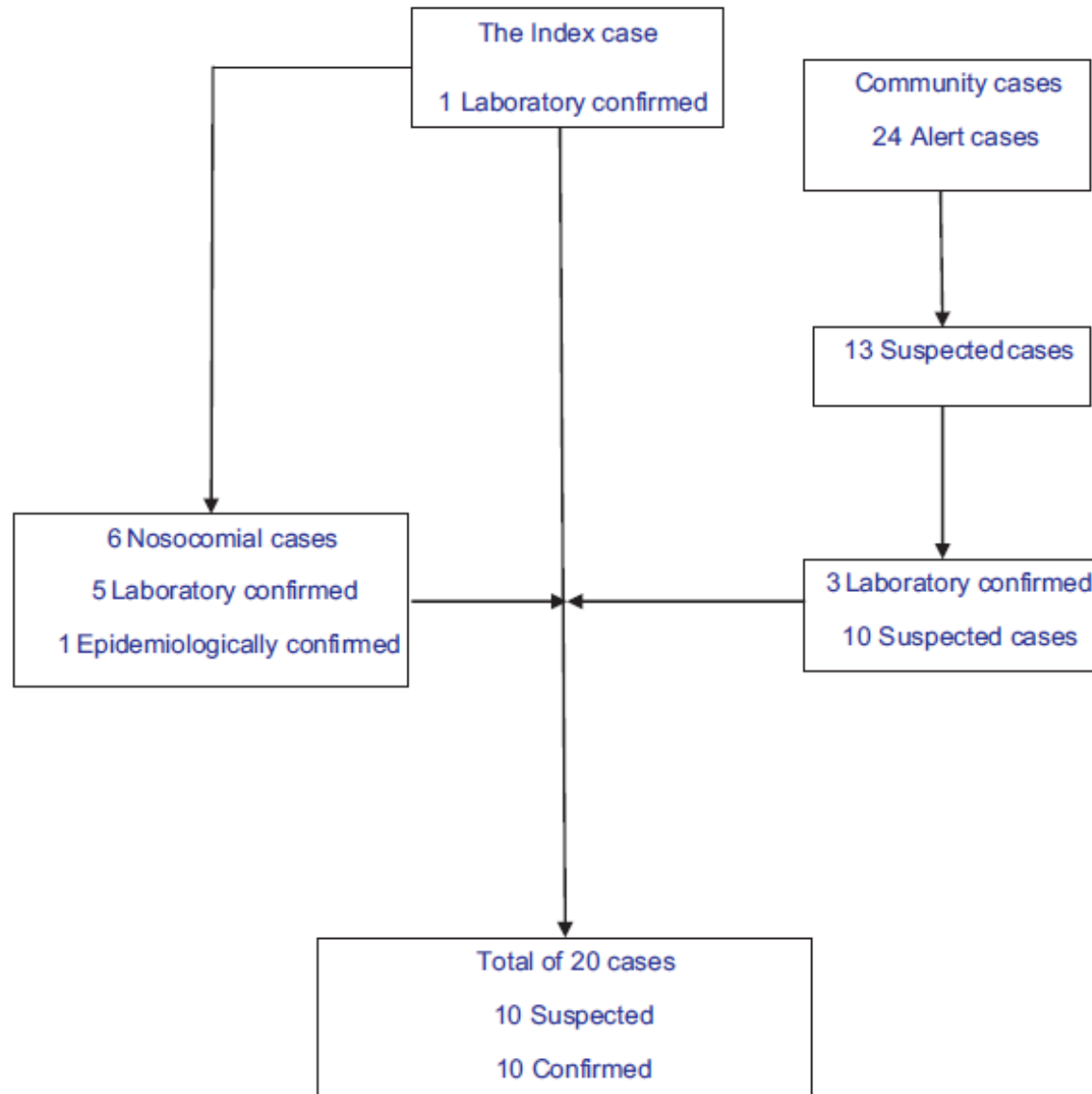


Figure 1. Flow chart for alert, suspected, and confirmed Lassa fever cases seen during the outbreak, southeast Nigeria, 2012.

Ajayi et al.
*International Journal
of Infectious Diseases,*
2013

Table 2
Demographic and clinical characteristics of Lassa fever cases, southeast Nigeria, 2012

Variable	Frequency (N=20)	Percentage (%)
Gender		
Male	14	70
Female	6	30
Age group, years		
10–19	2	10
20–29	2	10
30–39	12	60
≥40	4	20
Residence		
Urban	15	75
Rural	5	25
Occupation		
Health care worker	10	50
Student	3	15
Cleric	2	10
Laborer	2	10
Youth corps	1	5
Other (farmer, artisan, etc.)	2	10
Case type		
Confirmed	10	50
Suspected	10	50
Source of infection		
Exposure to confirmed case	6	30
Unknown	14	70

Table 3
Clinical presentation of Lassa fever cases, southeast Nigeria, 2012

Clinical presentation	Frequency (N=20)	Percentage (%)
Fever	20	100
Sore throat	14	70
Abdominal pain	17	85
Headache	7	35
Vomiting	10	50
Bloody vomiting	3	15
Bloody stool	3	15
Body pains	5	25
Body weakness	5	25
Prolonged menstruation	2	10
Spontaneous abortion	2	10

Mortality and Healthcare Precautions

Table 5
Prognosis and treatment outcome of Lassa fever cases, southeast Nigeria, 2012

Treatment given	Clinical outcome		Fisher's exact <i>p</i> -value
	Survived <i>n</i> (%)	Died <i>n</i> (%)	
Suspected cases only (<i>N</i> = 10)			0.2
Ribavirin	8 (80)	1 (10)	
No ribavirin	0 (0)	1 (10)	
Total	8 (80)	2 (20)	
Confirmed cases only (<i>N</i> =10)			0.03
Ribavirin	6 (60)	1 (10)	
No ribavirin	0 (0)	3 (30)	
Total	6 (60)	4 (40)	
All cases (<i>N</i> = 20)			0.003
Ribavirin	14 (70)	2 (10)	
No ribavirin	0 (0)	4 (20)	
Total	14 (70)	6 (30)	

- Isolation Precautions
- Current CDC guidance suggests using "VHF Isolation Precautions", i.e. Ebola precautions
- Barrier nursing
 - Gloves, gown, face mask, eye protection, sterilization of equipment going into patient room

Identify, Isolate, Inform

- Identify
 - Fever and compatible syndrome in person recently returned from West Africa
- Isolate
 - If suspect patient (PUI) in a public area, move them to a private room and close the door. Post signage indicating high-level isolation. Do not move patient through the hospital unless absolutely necessary. Employ VHF precautions.
- Inform
 - Notify local experts and administration. Begin process of arranging transfer to local Assessment or Treatment Center