



# WEEKLY EPIDEMIOLOGICAL REPORT

A publication of the Epidemiology Unit  
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## Lassa fever

### Background

A male doctor had developed an unknown fever on 20<sup>th</sup> November 2019 while working in a rural Masanga hospital in Tonkolili district, Northern province in Sierra Leone. Suspicion was made due to unprotected surgeries done before developing symptoms. Malaise, headache, followed by fever, diarrhoea, vomiting and cough had developed as symptoms. The patient was medically evacuated on 19<sup>th</sup> November to the Netherlands after not responding to treatment with anti-malarial drugs and antibiotics. The patient died on the 23<sup>rd</sup> of November. Lassa fever was confirmed after testing plasma and urine samples. The second case had supported the same surgery as the index case, was reported in the same hospital with the same symptoms and was medically evacuated to the Netherlands for isolation and treatment.

Lassa fever is endemic in African countries and has been exported to Europe as sporadic cases.

### What is Lassa fever?

Lassa fever is a zoonotic disease (human become infected from contact with infected animals). It is an acute viral disease identified in 1969. It belongs to the Arenaviridae

family and virus is a single-stranded RNA virus.

### Transmission

It occurs through urine or faeces of infected Mastomys rats. Direct transmission occurs from person to person through blood, body fluids and faeces of infected persons or contaminated medical equipment. Sexual transmission has been reported.

It was endemic in communities with poor sanitation and overcrowding where Mastomys rats were prevalent.

### Symptoms and signs of Lassa fever

The incubation period of Lassa fever is 6–21 days. General symptoms occur starting with fever, general weakness and malaise. Headache, sore throat, muscle pain, chest pain, nausea, vomiting, diarrhoea, cough and abdominal pain may follow after a few days.

Fluid leakage occurs with facial swelling in severe cases and manifests as fluid in the lung cavity, bleeding from the mouth, nose, vagina, gastro-intestinal tract and leading to low blood pressure. In the later stage of the disease shock, seizures, tremor, disorientation and coma may be seen according to the severity and lead to death within 14

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days in a fatal case. Deafness (25%) is a complication of survivors and partially will regain after 1-3 months. Lassa fever is a prominent cause in maternal and foetal deaths (80%) developed during the third trimester.

**Diagnosis**

Clinical diagnosis is difficult and differential diagnosis considers with Ebola, Malaria, Shigellosis, Typhoid fever and Yellow fever. Lab diagnosis facilitates to gain real diagnosis by analyzing blood and body fluids. It should be done under adherence to personal protective methods. Following are some tests mentioned for lab diagnosis.

- reverse transcriptase-polymerase chain reaction (RT-PCR) assay
- antibody enzyme-linked immunosorbent assay (ELISA)
- antigen detection tests
- Virus isolation by cell culture.

**Treatment and prophylaxis**

Ribavirin is the antiviral drug of choice but needs to start as early as possible. It is not recommended for post prophylaxis treatment. No vaccine is available for prevention.

**Prevention and control**

Good community hygienic methods should be practised to reduce Mastomys rat density. Crops should be protected in rat-proof containers. The environment should be kept clean with the proper disposal of garbage. Need to maintain a clean environment with keeping cats. Handling of infected people should be with care avoiding contact of blood and body fluids.

Health care workers and laboratory workers should practise in proper personal hygienic methods such as wearing masks, gloves, etc... whilst on duty.

Reporting should be encouraged to the higher health authorities when a health worker finds a suspecting case of Lassa fever to arrange prompt laboratory testing for diagnosis.

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**References**

WHO Lassa fever fact sheet: <https://www.who.int/en/news-room/fact-sheets/detail/lassa-fever>; <http://www.who.int/csr/disease/lassafever/early-diagnostic-lassa-fever/en/>

CDC. viral hemorrhagic fever. Yellow book. chapter 4  
<https://wwwnc.cdc.gov/travel/yellowbook/2020/travel-related-infectious-diseases/viral-hemorrhagic-fevers>

**Table 1 : Water Quality Surveillance  
 Number of microbiological water samples November 2019**

District	MOH areas	No: Expected *	No: Received
Colombo	15	90	3
Gampaha	15	90	NR
Kalutara	12	72	NR
Kalutara NIHS	2	12	NR
Kandy	23	138	NR
Matale	13	78	NR
Nuwara Eliya	13	78	64
Galle	20	120	NR
Matara	17	102	NR
Hambantota	12	72	26
Jaffna	12	72	NR
Kilinochchi	4	24	33
Manner	5	30	NR
Vavuniya	4	24	NR
Mullatvu	5	30	NR
Batticaloa	14	84	81
Ampara	7	42	NR
Trincomalee	11	66	74
Kurunegala	29	174	18
Puttalam	13	78	NR
Anuradhapura	19	114	27
Polonnaruwa	7	42	22
Badulla	16	96	94
Moneragala	11	66	NR
Rathnapura	18	108	NR
Kegalle	11	66	67
Kalmunai	13	78	NR

\* No of samples expected (6 / MOH area / Month)  
 NR = Return not received

Table 1: Selected notifiable diseases reported by Medical Officers of Health 07<sup>th</sup> - 13<sup>th</sup> Dec 2019 (50<sup>th</sup> Week)

RDHS Division	Dengue Fever		Dysentery		Encephalitis		Enteric Fever		Food Poisoning		Leptospirosis		Typhus Fever		Viral Hepatitis		Human Rabies		Chickenpox		Meningitis		Leishmaniasis		WRCD		
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	T*	C**	
Colombo	669	18906	1	60	0	13	0	24	2	72	6	280	0	13	0	11	0	0	0	7	448	1	53	0	6	50	100
Gampaha	488	15029	1	48	0	9	0	5	0	32	4	150	0	5	0	10	0	2	8	8	447	0	29	0	168	48	99
Kalutara	147	7754	0	74	0	7	0	23	0	69	16	639	0	8	0	6	0	2	13	679	1	107	0	3	63	99	
Kandy	324	8180	1	100	0	13	2	9	0	31	2	104	1	94	0	6	0	3	7	286	1	68	3	56	65	100	
Matale	198	2057	0	31	0	4	0	1	0	6	1	54	1	7	0	9	0	2	3	91	1	6	4	278	59	100	
NuwaraEliya	19	387	2	103	0	2	0	10	0	11	1	65	1	81	0	9	0	0	4	153	0	63	0	1	26	100	
Galle	155	6786	3	59	0	8	0	3	0	7	29	513	3	63	0	51	0	2	15	461	1	55	0	5	61	99	
Hambantota	38	1933	0	39	0	5	0	4	0	12	20	239	1	134	0	5	0	1	7	316	0	46	15	794	73	100	
Matara	69	3868	1	41	0	4	0	8	0	20	9	520	0	44	2	24	0	1	3	328	0	17	16	604	59	100	
Jaffna	648	6915	10	400	2	15	2	42	2	117	0	40	41	518	0	6	0	1	1	275	0	23	0	0	22	93	
Kilinochchi	37	317	2	115	2	4	0	16	0	13	0	22	5	36	0	1	0	0	8	19	0	8	0	15	53	100	
Mannar	11	201	0	6	0	2	0	14	0	1	0	1	0	11	0	0	0	0	0	2	0	8	0	1	55	100	
Vavuniya	89	723	0	38	0	13	0	30	0	23	0	58	0	5	0	0	0	0	0	86	0	12	0	4	61	100	
Mullaitivu	13	230	0	23	0	1	0	16	0	5	1	28	0	8	0	0	0	0	1	17	0	7	0	7	29	100	
Batticaloa	150	2145	10	250	0	2	0	14	0	43	2	54	0	1	9	9	0	1	0	274	0	32	0	0	51	100	
Ampara	14	337	1	82	0	4	0	0	2	19	0	58	0	2	0	12	0	0	2	317	0	25	0	4	59	100	
Trincmalee	254	2095	1	52	0	1	0	0	0	63	1	26	0	20	0	5	0	1	4	246	1	13	0	5	34	98	
Kurunegala	118	2844	0	78	0	23	0	6	0	31	5	320	0	30	0	24	0	4	14	619	2	104	15	815	61	100	
Puttalam	86	1984	2	36	0	5	0	1	0	19	0	56	0	17	0	3	0	0	1	134	1	52	0	10	62	100	
Anuradhapura	51	1030	2	69	0	13	0	6	0	13	11	196	1	46	0	25	0	2	6	511	2	98	8	542	43	91	
Polonnaruwa	21	499	1	32	0	3	0	3	0	6	7	97	0	4	0	17	0	2	5	309	0	26	7	313	59	100	
Badulla	92	1677	2	93	0	12	0	10	0	89	6	235	1	131	0	25	0	0	7	343	1	170	1	18	62	100	
Monaragala	0	333	0	36	0	4	0	0	0	79	0	189	0	82	0	41	0	0	0	212	0	112	0	22	60	62	
Ratnapura	74	3815	3	123	1	40	0	10	0	33	20	1144	0	48	3	39	0	4	5	427	2	165	1	177	49	100	
Kegalle	67	2528	0	39	0	19	0	2	0	28	12	314	1	62	1	98	0	0	5	491	1	58	3	65	70	100	
Kalmune	68	1170	2	115	0	2	0	1	0	64	0	34	0	3	0	4	0	0	2	260	1	28	0	0	62	100	
<b>SRI LANKA</b>	<b>3900</b>	<b>93743</b>	<b>45</b>	<b>2142</b>	<b>5</b>	<b>228</b>	<b>4</b>	<b>258</b>	<b>6</b>	<b>906</b>	<b>15</b>	<b>5436</b>	<b>56</b>	<b>1473</b>	<b>15</b>	<b>440</b>	<b>0</b>	<b>28</b>	<b>128</b>	<b>7751</b>	<b>16</b>	<b>1385</b>	<b>73</b>	<b>3913</b>	<b>55</b>	<b>97</b>	

Source: Weekly Returns of Communicable Diseases (WRCD).

\*T=Timeliness refers to returns received on or before 13<sup>th</sup> December, 2019 Total number of reporting units 353 Number of reporting units data provided for the current week: 328 C\*\*=Completeness  
A = Cases reported during the current week. B = Cumulative cases for the year.

**Table 2: Vaccine-Preventable Diseases & AFP**

07th – 13th Dec 2019 (50th Week)

Disease	No. of Cases by Province									Number of cases during current week in 2019	Number of cases during same week in 2018	Total number of cases to date in 2019	Total number of cases to date in 2018	Difference between the number of cases to date in 2019 & 2018
	W	C	S	N	E	NW	NC	U	Sab					
AFP*	00	00	00	00	00	00	00	00	00	00	03	78	63	23.8 %
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
Mumps	01	01	01	00	00	03	00	01	00	07	05	314	351	- 10.5 %
Measles	00	00	00	00	00	00	02	01	00	03	06	283	124	128.2 %
Rubella	00	00	00	00	00	00	00	00	00	00	03	00	08	0 %
CRS**	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
Tetanus	00	00	00	00	00	00	00	00	00	00	01	20	20	0 %
Neonatal Tetanus	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
Japanese Encephalitis	00	00	00	00	00	00	00	00	00	00	01	09	26	- 65.3 %
Whooping Cough	00	00	00	01	00	00	00	00	00	01	04	39	52	- 25 %
Tuberculosis	00	16	11	05	09	00	00	13	08	62	128	8099	8465	- 4.3 %

**Key to Table 1 & 2**

**Provinces:** W: Western, C: Central, S: Southern, N: North, E: East, NC: North Central, NW: North Western, U: Uva, Sab: Sabaragamuwa.  
**RDHS Divisions:** CB: Colombo, GM: Gampaha, KL: Kalutara, KD: Kandy, ML: Matale, NE: Nuwara Eliya, GL: Galle, HB: Hambantota, MT: Matara, JF: Jaffna, KN: Killinochchi, MN: Mannar, VA: Vavuniya, MU: Mullaitivu, BT: Batticaloa, AM: Ampara, TR: Trincomalee, KM: Kalmunai, KR: Kurunegala, PU: Puttalam, AP: Anuradhapura, PO: Polonnaruwa, BD: Badulla, MO: Moneragala, RP: Ratnapura, KG: Kegalle.

**Data Sources:**  
**Weekly Return of Communicable Diseases:** Diphtheria, Measles, Tetanus, Neonatal Tetanus, Whooping Cough, Chickenpox, Meningitis, Mumps., Rubella, CRS,  
**Special Surveillance:** AFP\* (Acute Flaccid Paralysis), Japanese Encephalitis  
**CRS\*\*** =Congenital Rubella Syndrome  
**NA** = Not Available

Influenza Surveillance in Sentinel Hospitals - ILI & SARI							
Month	Human				Animal		
	No Total	No Positive	Infl A	Infl B	Pooled samples	Serum Samples	Positives
December							

Source: Medical Research Institute & Veterinary Research Institute

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