WEEKLY EPIDEMIOLOGICAL REPORT

A publication of the Epidemiology Unit
Ministry of Health, Nutrition & Indigenous Medicine

231, de Saram Place, Colombo 01000, Sri Lanka
Tele: + 94 11 2695112, Fax: +94 11 2696583, E mail: epidunit@sltnet.lk
Epidemiologist: +94 11 2681548, E mail: chepid@sltnet.lk
Web: http://www.epid.gov.lk

SRI LANKA 2023

WEER

Vol. 50 No. 20 13th – 19th May 2023

Marburg Virus Disease

Background

Marburg disease called Marburg hemorrhagic disease is a severe, often fatal disease in humans. The disease has the ability to cause outbreaks and is associated with a very high case fatality rate (24-90%). The disease is caused by a virus in the same family of viruses as E-bola. The clinical features of the disease are more similar to Ebola virus disease.

Transmission of the Disease

The initial host of the Marburg virus is an animal. It is found that prolonged exposure to mines or caves inhabited by *Rousettus aegyptiacus* fruit bat colonies or unprotected contact with infected bat faeces / aerosol is the most likely route of infection. Once a human is infected with the Marburg virus it can spread through human-to-human transmission via direct contact with infected blood or body fluids (saliva, urine, semen, sweat, vomit, breast milk, amniotic fluid). Secretions from a dead body of a person infected with Marburg disease can also cause transmission of disease to a person directly in contact with the body. Furthermore, objects contaminated with the secretions or body fluids of an infected person or a person who died from the Marburg virus disease can transmit the disease to a previously healthy person (bedding, clothes, needles).

The Spread of the virus has occurred in close environments and among direct contacts (nosocomial transmission).

Healthcare workers have frequently been infected while treating patients with Marburg disease. This has occurred mostly when universal precautions are not been adhered to by the health care workers. Transmission via needle stick injuries with contaminated needles is associated with more severe disease.

Clinical features

The incubation period of the disease varies from 2-21 days. Clinical features of the disease include abrupt onset of high fever, severe headache, and severe malaise. This will be followed by severe watery diarrhoea, abdominal pain, cramping, nausea, and vomiting that begins around the third day. Hemorrhagic manifestations may appear between 5-7 days from the onset of symptoms. Involvement of the central nervous system is seen in more severe diseases. In severely complicated cases, death occurs usually on the 8-9th day of symptom onset, usually caused by severe blood loss or shock.

Diagnosis and treatment

Laboratory confirmation of the Marburg virus disease (MVD) is primarily made by RT-PCR testing.

Management of MVD is mainly by supportive care that includes rehydration with oral or IV fluids, and symptomatic management. Currently, there are no vaccines available for Marburg disease.

The recent outbreak of Marburg virus disease

Contents

On the 21st of March 2023, the Ministry of Health of the United Republic of Tanzania declared an outbreak of the Marburg virus disease. A total of eight cases with two deaths were reported on the 22nd of March 2023. Two of these were healthcare workers one of whom has died. The risk of disease spread as assessed by the WHO was high at the national level, and moderate at the regional level, while the risk at the global level was assessed to be low.

The first identified case reported a travel history from Goziba island, Tanzania, and developed symptoms and died after returning to his village in Bukoba. Symptoms reported by the patients were fever, diarrhoea, vomiting, bleeding from various sites, and kidney failure.

Marburg Virus in animals

Rousettus aegyptiacus bats are considered natural hosts of the Marburg virus. However, the virus does not cause disease in fruit bats. African green monkeys imported from Uganda were the source of infection for humans during the first Marburg outbreak.

Experimental inoculation of the virus into pigs has shown that pigs are also susceptible to filo-virus infection and shed the virus. Hence, pigs are considered amplifier hosts during MVD outbreaks.

Prevention and Control

Marburg virus disease outbreak control involves a range of interventions namely case management, surveillance and contact tracing, taking universal precautions, safe and dignified burials, and social mobilization. Raising awareness of the risk factors for the disease and taking protective measures are effective ways of preventing and controlling the disease.

Some of the preventive measures include;

Wearing gloves and other appropriate protective clothing (including masks) when visiting mines and caves

During outbreak situations, all animal products (blood and meat) should be thoroughly cooked before consumption

Gloves and appropriate personal protective equipment should be worn when taking care of ill patients at home.

Regular hand washing after visiting sick relatives in the hospital, as well as after taking care of ill patients at home.

Prompt, safe, and dignified burial of the deceased

Identifying the contacts, isolating and monitoring their health for the development of symptoms.

Reducing the risk of possible sexual transmission.

Based on the results of ongoing research, WHO recommends that male survivors of Marburg virus disease practice safe sex for 12 months from the onset of symptoms or until their semen twice tests negative for Marburg virus. However, still, there has been no evidence of the Marburg virus spread through having sex or other contact with the vaginal fluid of a woman having Marburg virus disease.

Controlling the infection in healthcare settings

Healthcare workers should always practice standard precautions when caring for patients, regardless of the diagnosis status of the patient. These include basic hand hygiene, respiratory hygiene, use of personal protective equipment, safe injection practices, and safe and dignified burial practices.

Healthcare workers coming into direct contact with patients diagnosed with Marburg virus disease should take extra precautions such as avoiding contact with patients' blood, body fluids, and surfaces that can be contaminated with patient secretions such as bedding, clothing, etc.

Marburg virus persistence in patients recovering from Marburg virus disease

Marburg virus is known to persist in immune-privileged sites, such as testicles and inside of the eye in some people who have recovered from Marburg virus disease. Furthermore, in women who have been infected while being pregnant, the virus may persist in the placenta, amniotic fluid, and fetus, while in women who have been infected while breastfeeding the virus may persist in breast milk.

Relapse of the disease in someone who was once infected with the disease and recovered, in the absence of re-infection is a rare event but has been reported.

Marburg virus transmission through the semen of an infected male has been reported even after seven weeks of recovery of the patient.

There are no adequate data on the risk of sexual transmission of the disease and is still under research. However, it is recommended that all male survivors of the disease should practice safe sex until their semen has tested twice negative for the Marburg virus.

Compiled by:
Dr. Dilini Mataraarachchi
Senior Registrar in Community Medicine
Epidemiology Unit.

Table 1: Selected notifiable diseases reported by Medical Officers of Health 06th– 12th May 2023 (19th Week)

RDHS	Dengue Fever		Dysentery		Encephaliti		Enteric Fever		Food Poi-		Leptospirosis		Typhus		Viral Hep-		Human		Chickenpox		Meningitis		Leishmania-		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	362	5703	0	3	0	7	0	1	0	6	5	105	0	0	0	3	0	0	7	113	0	12	0	5	**23**	**96**
Gampaha	217	5669	0	7	0	6	0	1	0	2	22	213	1	4	1	7	0	0	8	110	1	32	0	13	**1**	**89**
Kalutara	99	1847	1	12	0	1	0	0	0	4	13	307	0	1	0	1	0	1	12	195	3	37	0	1	**4**	**98**
Kandy	196	1647	1	16	0	0	0	3	0	12	9	102	1	31	0	2	0	1	5	126	0	10	0	14	**80**	**100**
Matale	34	566	0	2	0	0	0	1	0	5	1	58	0	7	0	3	0	0	1	26	1	3	0	129	**19**	**100**
NuwaraEliya	13	75	13	55	1	1	0	0	29	38	5	36	0	26	1	2	0	0	2	49	1	5	0	0	**55**	**100**
Galle	62	860	1	17	0	9	1	3	0	12	26	417	1	24	0	0	0	0	10	150	1	10	0	1	**32**	**100**
Hambantota	35	591	1	4	0	1	0	1	0	8	2	126	0	46	0	9	0	0	6	72	1	13	16	243	**30**	**100**
Matara	31	673	3	12	0	5	0	0	1	6	15	243	0	17	0	2	1	1	7	109	1	9	3	67	**49**	**100**
Jaffna	48	1318	0	38	0	1	0	8	0	9	0	7	6	440	0	1	0	1	0	98	0	2	0	2	**59**	**93**
Kilinochchi	2	57	0	3	0	0	0	0	1	16	0	6	0	5	0	0	0	0	0	8	0	0	0	0	**16**	**99**
Mannar	3	49	0	5	0	0	0	1	0	0	0	24	0	4	0	0	0	0	0	1	0	2	0	0	**22**	**97**
Vavuniya	6	86	0	5	0	1	0	0	0	0	0	21	0	6	0	1	0	0	1	11	1	2	0	2	**0**	**99**
Mullaitivu	2	46	0	8	0	0	1	3	0	11	1	23	1	4	0	0	0	0	0	10	0	0	0	3	**21**	**98**
Batticaloa	93	1357	44	111	0	6	0	4	1	10	4	41	0	1	0	3	0	0	1	29	3	17	0	1	**47**	**100**
Ampara	0	40	0	1	0	1	0	0	0	0	0	12	0	0	0	1	0	0	0	17	0	7	0	2	**15**	**50**
Trincomalee	75	1338	0	4	0	1	0	0	0	4	4	34	1	10	0	0	0	0	0	21	4	11	0	1	**22**	**94**
Kurunegala	51	1169	0	13	0	6	0	0	0	1	8	123	0	9	0	7	0	2	7	228	3	66	11	177	**20**	**98**
Puttalam	25	2177	0	5	0	1	0	1	0	0	2	17	0	6	0	1	0	0	2	54	1	24	1	12	**14**	**96**
Anuradhapur	16	250	0	3	0	0	0	1	0	1	5	153	0	23	0	2	0	0	3	110	0	15	16	221	**19**	**98**
Polonnaruwa	18	287	0	5	0	5	0	0	0	6	3	81	0	5	0	8	0	0	1	39	1	10	3	183	**30**	**100**
Badulla	26	515	1	13	0	3	0	0	0	26	7	135	1	26	3	53	0	0	2	76	0	17	0	10	**62**	**100**
Monaragala	31	245	1	12	0	3	0	0	0	0	29	311	1	27	0	13	0	0	2	34	3	36	13	78	**24**	**100**
Ratnapura	60	858	1	16	0	9	0	1	1	9	19	473	0	14	1	9	0	1	5	73	1	80	0	77	**34**	**100**
Kegalle	97	1167	1	7	0	1	0	1	0	8	31	236	0	18	0	2	0	0	8	177	0	24	1	14	**27**	**100**
Kalmune	51	1337	1	29	0	7	0	0	0	0	4	21	0	0	0	0	0	0	7	31	0	11	0	0	**39**	**100**
SRILANKA	**165**	**29927**	**69**	**406**	**1**	**75**	**2**	**30**	**33**	**194**	**21**	**3325**	**13**	**754**	**6**	**13**	**1**	**7**	**97**	**1967**	**26**	**455**	**64**	**1256**	**33**	**97**

Source: Weekly Returns of Communicable Diseases (esurvillance.epid.gov.lk). T=Timeliness refers to returns received on or before 12th May, 2023 Total number of reporting units 358 Number of reporting units data provided for the current week: 315 **C****-Completeness

Table 2: Vaccine-Preventable Diseases & AFP

06th– 12th May 2023(19th Week)

Disease	No. of Cases by Province									Number of cases during current week in 2023	Number of cases during same week in 2022	Total number of cases to date in 2023	Total number of cases to date in 2022	Difference between the number of cases to date in 2023 & 2022
	W	C	S	N	E	NW	NC	U	Sab					
AFP*	00	00	00	00	00	00	00	00	00	00	01	29	33	- 12.1 %
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
Mumps	00	02	01	01	00	00	00	00	01	04	01	83	16	418.7 %
Measles	00	00	00	00	02	00	01	00	00	03	00	15	11	36.3 %
Rubella	00	00	00	00	00	00	00	00	00	00	00	01	00	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	01	05	- 80 %
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	02	07	- 71.4 %
Whooping Cough	00	00	00	00	00	00	00	00	00	00	00	03	01	200 %
Tuberculosis	81	24	12	01	16	25	09	03	31	202	35	3222	2564	25.6 %

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

Take prophylaxis medications for leptospirosis during the paddy cultivation and harvesting seasons.

It is provided free by the MOH office / Public Health Inspectors.

Comments and contributions for publication in the WER Sri Lanka are welcome. However, the editor reserves the right to accept or reject items for publication. All correspondence should be mailed to The Editor, WER Sri Lanka, Epidemiological Unit, P.O. Box 1567, Colombo or sent by E-mail to **chepid@sltnet.lk. Prior approval should be obtained from the Epidemiology Unit before publishing data in this publication**

ON STATE SERVICE

Dr. Samitha Ginige
Actg. CHIEF EPIDEMIOLOGIST
EPIDEMIOLOGY UNIT
231, DE SARAM PLACE
COLOMBO 10