WEEKLY EPIDEMIOLOGICAL REPORT

A publication of the Epidemiology Unit
Ministry of Health
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 2024

WER

Vol. 51 No. 24 **08th – 14th June 2024**

Human Rabies – Part III

This is the third article of three in a series on "Human Rabies"

What should be done in the event of a suspected or probable human rabies case:

Human rabies is a notifiable disease in Sri Lanka, all suspected cases of rabies should be immediately notified to the MOH office of the residence of the patient through H-544 notification form.

Clinical Case Definition A subject presenting with an acute neurological syndrome (encephalitis) dominated by forms of hyperactivity (furious rabies) or paralytic signs (paralytic rabies), progressing towards coma and death, usually by cardiac or respiratory failure, typically within 7–10 days after the first sign. Signs and symptoms of rabies include any of the following: hydrophobia, aerophobia, photophobia, paresthesia or localized pain, dysphagia, localized weakness, nausea or vomiting.
A suspected case of Human Rabies: A case that is compatible with a clinical case definition.
A probable case of Human Rabies: Suspected case plus a reliable history of contact with a suspected, probable, or confirmed rabid animal.
A confirmed case of Human Rabies: A suspected or probable case that is laboratory-confirmed (usually post-mortem).

Treating Physician

- **Obtain a detailed history**

⇒ Obtain a detailed clinical history of exposure to a potentially rabid animal. The exposure could be in the form of a scratch, bite, licking of skin abrasions, or contamination of mucous membranes by saliva of a potential rabid animal (The exposure could be traced back to months or years).

⇒ If there's such a history, the details of the animal involved, including its vaccination status, and habitat/ownership should be obtained.

⇒ Also obtain a history of any pre or post-exposure prophylaxis received by the patient.

Diagnosis

If an ante mortem diagnosis is desired, the following tests are available in Sri Lanka.
a) RFFIT - Detection of specific rabies antibodies by tissue culture technique (specimens to be sent - serum/CSF) - This test can only be performed for a patient who has not received pre or post-exposure prophylaxis during their life.
b) Real-time RT-PCR (specimens to be sent – pooled saliva samples/CSF)

Sample collection procedure for RT-PCR

- It is crucial to wear proper personal protective equipment prior to sample collection. Saliva samples should be collected to a container with Viral Transport Medium (VTM) which could be obtained from the hospital's Infection Control Nurse (ICN). Extract saliva from the oral cavity using a syringe or dropper and transfer it into the VTM container. Store the container in the refrigerator (2-8°C). Repeat this process 3 to 4 times at one-hour intervals to obtain pooled saliva. After collection, transport the sample on ice along with a comprehensive patient history. If VTM is unavailable, saliva can be sent in normal saline.

- In cases where aspiration is not feasible, thoroughly swab the oral mucosa multiple times at one-hour intervals and place the swabs in a VTM container on ice for transportation.
- For cerebrospinal fluid (CSF) samples, collect them into sterile, dry containers without preservatives or VTM, and transport them on ice.

Management

- Given the poor prognosis, routine management of patients with rabies should be palliative. The patient should preferably be managed in a darker environment.

- Complications of the disease should be anticipated, and appropriate steps for their prevention or treatment should be taken. Neurological symptoms and medical complications may be alleviated by the use of sedatives, narcotic analgesics, antiepileptic medications, and neuromuscular blockers.

- Barrier nursing techniques should always be used to prevent exposures of health care workers or family members during the management of a patient with rabies. However, transmission of the rabies virus to a healthcare worker has not been documented to date.

Contents **Page**

- In the event of the death of a patient clinically diagnosed with or suspected of having rabies

- All patients dying following an animal bite, clinically diagnosed, or suspected rabies should be subjected to a mandatory judicial postmortem examination.

- Ordering of a postmortem examination should be ensured by the treating physician in consultation with the inquirer into sudden deaths.

- The whole brain without any preservatives should be sent to the Medical Research Institute (MRI) with a clinical history of the patient. The specimen should be transported in a leak-proof container packed in ice.

- MOH of the area of residence of the patient should be informed about the death. A special field investigation should be conducted by the MOH him/herself and duly filled special investigation form sent to the epidemiology unit.

Community-level preventive activities

When a case of laboratory-confirmed or suspected rabid animal or a human rabies case is reported to the MOH:

- A field investigation should be conducted immediately with the support of the field health staff to trace any persons or other animals exposed to the animal in question.

- All exposed persons should be referred for post-exposure prophylaxis and followed up to ensure adherence to the full course of ARV.

- Perform a ring vaccination session within a one-kilometre radius of the rabid animal's habitat.

- The incubation period in dogs could vary from two weeks to four months depending on many factors including the site of the bite and severity of the bite. Advice should be sought immediately from a qualified veterinary surgeon regarding animals that are bitten by a rabid animal.

- In the event of the death of a suspected rabid animal:

  - The head should be decapitated and sent for laboratory testing (MRI, TH Karapitiya, Veterinary Faculty, Peradeniya). Seek support from the Divisional Veterinary Surgeon. The area PHI may support/coordinate this process.

- Reporting of multiple attacks/aggressive behaviour by a dog:

  - If a dog is considered a significant threat to public safety, it could be eliminated using the authority vested on the local government authority/police. Such incidents should be reported to these institutions and the MOH office.

The way forward

Sri Lanka aims to achieve zero dog-mediated human deaths by 2030, keeping in line with global and regional targets. World Health Organization identifies 3 main strategies for prevention and control of rabies. Dog immunization, Community awareness and post-exposure prophylaxis. Creating community awareness on responsible pet ownership including dog immunization, birth control and movement restriction, understanding dog behaviour, dog bite prevention, appropriate initial wound management and seeking medical care following exposure to a potentially rabid animal are crucial for the prevention of human rabies.

Mass dog vaccination (MDV) programmes should be properly planned by the MOH in consultation with the district rabies prevention team to ensure logistics, timely public awareness about the campaign, targeting maximum immunization coverage (at least 70%) and to be conducted at least once a year.

However, it is challenging to maintain a 70% dog immunization coverage that is required for transmission interruption throughout the year with an annual MDV programme. This is due to the addition of new pups to the dog population (female dogs have two litters per year) and the death of immune dogs. Therefore, we propose a strategy based on the MOH office where two dog vaccinators maybe deployed through outreach field vaccination centres and auto plungers (similar to the current practice) using a three-wheeler. In addition, a fixed immunization centre could be functioned at the MOH office at least once a week where people could bring in their pets for vaccination. We believe a 70% coverage that is sustainable throughout the year could be achieved through this new strategy.

Dog sterilization

Surgical sterilization of female dogs is practised as a dog population control measure in Sri Lanka. However, due to a lack of resources, this method may not be used as a main strategy for rabies prevention. Therefore, female dog sterilization should be conducted strategically, targeting settings with high stray / community dog population density such as marketplaces, schools, hospitals etc. for maximum effect.

Proper garbage disposal

Improper garbage disposal is associated with increased dog population. It is the responsibility of the local authorities to provide adequate facilities for proper garbage disposal and enact legislation on garbage disposal. Community awareness should be created on proper garbage disposal practices.

When a case of laboratory-confirmed or suspected rabid animal is reported to the MOH:

- A field investigation should be conducted immediately with the support of the field health staff to trace any persons or other animals exposed to the animal in question.
- All exposed persons should be referred for post-exposure prophylaxis and followed up to ensure adherence to the full course of ARV.
- Perform a ring vaccination session within a one-kilometre radius of the rabid animal's habitat.
- The incubation period in dogs could vary from two weeks to four months depending on many factors including the site of the bite and severity of the bite. Advice should be sought immediately from a qualified veterinary surgeon regarding animals that are bitten by a rabid animal.

- The same activities should be followed in the case of human rabies death.

In the event of the death of a suspected rabid animal:

The head should be decapitated and sent for laboratory testing (MRI, TH Karapitiya, Veterinary Faculty, Peradeniya). Seek support from the Divisional Veterinary Surgeon. The area PHI may support/ coordinate this process.

Reporting of multiple attacks/aggressive behaviour by a dog:

If a dog is considered a significant threat to public safety, it could be eliminated using the authority vested on the local government authority/police. Such incidents should be reported to these institutions and the MOH office.

Compiled by:

Dr. Danushi Wijekoon
Consultant Community Physician (Act.)
Epidemiology Unit
Ministry of Health

Dr. Athula Liyanpathirana
Consultant Epidemiologist
Epidemiology Unit
Ministry of Health

References:

1. National guidelines on rabies post-exposure prophylaxis : (http://www.mri.gov.lk/units/rabies-vaccine-qc/protocol-on-anti-rabies-therapy/)

2. World Health Organization. WHO position paper on rabies vaccines. Wkly Epidemiol Rec. 2018;201–19(https://iris.who.int/bitstream/handle/10665/272372/WER9316-201-219.pdf?sequence=1)

Table 1: Selected notifiable diseases reported by Medical Officers of Health 01st – 07th May 2024 (23rd Week)

RDHS	Dengue Fever		Dysentery		Encephalitis		En. Fever		F. Poisoning		Leptospirosis		Typhus F.		Viral Hep.		H. Rabiies		Chickenpox		Meningitis		Leishmania-		Tuberculosis		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	A	B	T*	C**
Colombo	158	5192	0	9	0	5	0	39	0	6	5	211	0	8	0	7	0	0	9	233	0	15	0	0	39	956	100	100
Gampaha	77	2278	1	14	2	8	0	8	0	66	25	326	0	3	0	2	0	0	11	168	5	60	0	10	19	532	92	98
Kalutara	41	1505	0	16	0	1	0	26	1	16	11	315	0	5	0	8	0	0	20	331	1	33	1	1	13	236	100	100
Kandy	69	2177	1	17	1	2	0	6	18	37	10	133	2	18	0	7	0	1	2	255	0	11	2	22	0	263	100	100
Matale	8	384	1	3	0	0	0	2	0	17	6	58	0	1	0	4	0	0	4	69	0	6	8	127	2	63	100	100
Nuwara Eliya	5	200	8	63	0	4	0	7	2	187	2	101	1	28	0	3	0	0	5	124	2	9	0	0	10	137	92	100
Galle	9	1170	0	24	0	10	0	7	2	46	3	371	0	55	0	6	0	1	8	335	0	39	0	3	12	198	100	98
Hambantota	16	548	1	23	0	2	0	3	0	36	3	293	1	21	0	3	0	0	15	160	2	19	8	255	10	61	100	100
Matara	16	467	0	4	0	3	0	2	1	6	15	190	0	10	0	2	0	0	6	186	0	47	4	57	5	63	100	100
Jaffna	22	5034	2	38	0	2	1	4	1	24	1	13	7	372	0	3	0	1	3	135	0	7	0	0	5	143	100	93
Kilinochchi	0	269	1	7	0	0	0	2	0	2	0	15	0	7	0	0	0	0	0	5	0	4	0	0	0	13	100	100
Mannar	2	188	0	3	0	0	0	1	0	0	1	18	0	7	0	1	0	0	0	4	0	3	0	1	1	32	100	100
Vavuniya	4	136	1	4	0	1	0	1	5	14	0	59	1	3	0	4	0	0	3	24	2	9	0	7	0	16	100	100
Mullaitivu	0	182	0	4	0	0	0	0	8	12	2	57	0	11	0	0	0	0	0	2	0	0	0	6	0	16	100	100
Batticaloa	15	1138	1	73	0	9	0	5	0	16	2	41	1	2	1	11	0	0	2	64	0	25	0	1	5	66	100	100
Ampara	3	159	1	18	0	2	0	0	0	12	2	132	0	1	0	5	0	0	0	62	0	26	0	8	4	80	100	100
Trincomalee	10	503	0	11	0	0	0	2	0	2	2	115	0	10	0	0	0	0	1	33	0	9	1	9	6	42	100	100
Kurunegala	37	1455	3	23	0	18	2	3	0	343	13	318	0	16	0	2	0	2	14	239	7	143	16	298	19	243	100	100
Puttalam	7	683	1	2	0	1	0	3	0	0	1	139	0	5	0	1	0	1	2	77	2	30	2	18	0	83	100	100
Anuradhapura	14	516	0	9	1	3	0	1	7	17	10	251	0	25	0	7	0	1	11	141	1	23	28	428	7	135	96	100
Polonnaruwa	2	216	0	13	0	0	0	1	0	2	13	164	0	1	1	4	0	0	1	78	1	19	19	258	0	52	100	100
Badulla	6	534	4	15	0	4	1	3	0	24	13	289	1	17	2	12	0	0	15	176	4	17	0	14	3	99	100	100
Monaragala	20	460	1	8	0	2	0	2	1	76	8	492	1	19	0	15	0	1	2	63	1	54	3	118	11	47	100	100
Ratnapura	60	1461	0	53	0	3	0	6	1	9	42	871	0	13	0	16	0	2	5	163	1	68	3	90	5	147	100	100
Kegalle	31	1246	0	9	0	6	0	6	0	8	21	323	1	15	0	6	0	1	17	434	1	38	0	16	15	150	100	100
Kalmunai	8	548	1	14	0	0	0	0	0	5	0	46	1	2	0	2	0	0	5	124	0	9	0	0	2	65	100	100
SRILANKA	**640**	**28649**	**28**	**477**	**4**	**86**	**4**	**140**	**47**	**983**	**211**	**5341**	**17**	**675**	**4**	**131**	**0**	**11**	**161**	**3685**	**30**	**723**	**95**	**1747**	**193**	**3938**	**99**	**99**

Source: Weekly Returns of Communicable Diseases (esurvillance.epid.gov.lk). T=Timeliness refers to returns received on or before 07th June, 2024 Total number of reporting units 358 Number of reporting units data provided for the current week: 346 **C****-Completeness

A = Cases reported during the current week. B = Cumulative cases for the year.

Table 2: Vaccine-Preventable Diseases & AFP

01st – 07th June 2024 (23rd Week)

Disease	No. of Cases by Province									Number of cases during current week in 2024	Number of cases during same week in 2023	Total number of cases to date in 2024	Total number of cases to date in 2023	Difference between the number of cases to date in 2024 & 2023
	W	C	S	N	E	NW	NC	U	Sab					
AFP*	00	00	00	00	00	00	00	00	00	00	02	34	43	-20.9 %
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
Mumps	01	00	01	00	01	00	01	00	01	05	02	133	95	40 %
Measles	00	00	00	00	00	00	00	00	00	00	03	211	04	5175 %
Rubella	00	00	00	00	00	00	00	00	00	00	00	02	01	100 %
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	02	02	05	-60 %
Neonatal Tetanus	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
Japanese Enceph-alitis	00	00	00	00	00	00	00	00	00	00	00	01	02	-50 %
Whooping Cough	03	00	00	00	01	00	00	00	01	05	00	16	04	300 %

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