



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@slt.net.lk
Epidemiologist: +94 11 2681548, E mail: chepid@slt.net.lk
Web: http://www.epid.gov.lk

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Lymphatic Filariasis

It is one of the globally neglected tropical diseases and it is caused by a nematode (roundworm), *Wuchereria bancrofti* that belongs to the family filarioididea. It is transmitted by *Culex* mosquitoes infected by the larva of this parasite. After a mosquito bite, these larvae are deposited into the skin and then migrate into lymph vessels. The adult worm of *W. Bancrofti* lives in the human lymph system. Both children and adults can be affected and once infected the disease may manifest later in life.

and subtropical areas. Long-term mosquito bites are needed to get the infection, therefore short arrival to these areas is not a risk. Filariasis is very common in Africa, Asia, part of the Caribbean islands, and the Pacific islands. In the USA it disappeared early in the 20th century. Over 120 million people are affected by this, especially from above mentioned geographical areas.

Clinical manifestation

A wide variety of clinical manifestations can be seen in filariasis. They may differ according to the endemic area. Some people may not show any symptoms once infected.

Acute Filariasis

On and off attacks of adenolymphangitis associated with fever and malaise can be seen in acute attacks. And also pain, red patches, and lymphangitis of affected body parts will be noticed. It is more common in legs. But arm, breasts in females, and scrotum in males also can be affected.

Chronic Filariasis

The main manifestations of chronic filariasis are hydrocele, lymphedema/ elephantiasis, and chyluria. Legs are more affected than arms. But lymphedema can occur in breasts in females and scrotum/ penis in males.

Occult Filariasis

It occurs due to the hypersensitivity reaction triggered by the microfilariae antigen. Symptoms are dry cough and wheezing. Tropical pulmonary eosinophilia is one form of occult filariasis. It is characterized by eosinophilic pulmonary infiltration, peripheral hyper eosinophilia, elevated IgE

Epidemiology and risk factors

There are 3 filarial species, *Wuchereria bancrofti*, *Brugia Malay* and *Brugia Timori*.

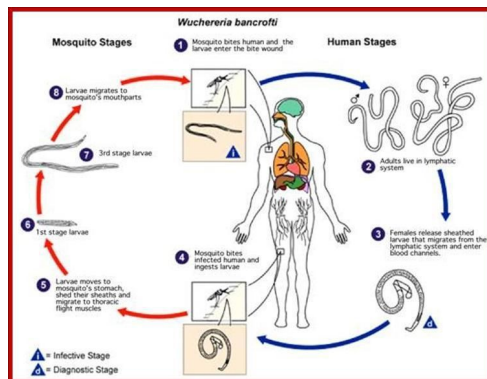


Figure 1 Life cycle of *W. Bancrofti* (Center for disease control and prevention 2010.)

This disease is very common in tropical

Contents	Page
1. Lymphatic Filariasis	1
2. Summary of selected notifiable diseases reported (26 th – 04 th Mar 2022)	3
3. Surveillance of vaccine preventable diseases & AFP (26 th – 04 th Mar 2022)	4

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level, wheezing, splenomegaly, and hemoptysis. This condition is common in endemic areas. Both children and adults can experience it.

Diagnosis

Diagnosis is made based on clinical background and high eosinophil count. It takes one year for microfilariae to appear in the peripheral blood after the infection. Following are the investigations that help to diagnose filariasis.

- Microscopic examination of blood smear taken at night time – Microfilariae cause lymphatic obstruction circulates in the blood at night time, usually after 8 pm. So we need to collect the blood at night and make a thick smear. Then it is stained with Giemsa and Erosin.
- Serological investigations – People with active filariasis may have elevated levels of filariasis IgG4 in the blood.
- Eosinophil count – Usually high in these patients.
- PCR assays.

People with elephantiasis may not show positive smear tests for filariasis. Because they are amicrofilaric. Therefore no specific test to detect the parasite in them. Diagnosis is often made clinically.

Treatment

Diethylcarbamazine (DEC) is the drug of choice for people who are positive for the microfilariae test and who have occult filariasis.

Established Elephantiasis cannot be cured. So we have to manage them with intention of acute attack prevention and stopping the progression. If they present with acute attacks intravenous antibiotics may be needed. Some simple measures prevent the progression of the disease and acute attacks.

- Elevation of affected limbs
- Hygiene – wash the affected parts at least once a day with soap. Limbs should be examined daily for any wounds or crack points.
- Use of antiseptics
- Antifungals
- Exercising of affected parts
- For hydroceles- need to keep genital areas clean. Hydrocelectomy is the treatment of choice for these patients.
- Antibiotics – a course of doxycycline could prevent the progression of lymphedema.

Prevention and Control

- Avoid mosquito bites – Mosquito nets, mosquito repellents, long sleeve wearing, and cover windows and doors with net-like materials.
- Vector control – stagnant and pollutant water sources are the breeding sites for vector mosquitoes of filariasis. So the destruction of these sites, repairing of blocked drains, and introduction larvicides to these sources are some actions we can take place to prevent the breeding of mosquitoes.
- Mass treatment with anti-microfilaria drugs – An-

nual mass campaigns to administrate medicine to the entire community. It helps to reduce the blood microfilariae level, hence diminishing the transmission of the parasite.

In 1997 the 50th world health assembly determined to eliminate filariasis as a public health problem. Then as a response WHO pledge a strategy to interrupt the transmission in endemic countries and prevent and manage LF-associated disabilities.

Filariasis situation in Sri Lanka

In Sri Lanka, filariasis was a historic disease. Anti filariasis campaign of the Ministry of Health is the organization that is responsible for filariasis control in the country. It was formed on 24th October 1947. After 1989 provincial-level anti-filariasis campaigns were established. There are 8 districts where filariasis is endemic. They are Puttalam, Kurunegala, Gampaha, Colombo, Kalutara, Galle, Matara, and Hambanthota. *W.Bancrofti* is the main type of pathogen transmitted in Sri Lanka. Seven Regional Filariasis control units have been established in endemic areas to reduce the disease burden.

Sri Lanka has been validated by WHO as having eliminated LF as a Public health problem. Filariasis control activities aimed to

- Control of parasite
 - Control of vector
 - Management of lymphedema cases
- The staff of anti-filariasis campaign and regional campaigns conduct,
- Parasitological surveys – Do home visits or gatherings of people in one place at night and collect blood samples.
 - Treat microfilariae-positive patients
 - Entomological surveys and vector control activities
 - Rehabilitation of lymphedema patients

The current microfilariae rate in Sri Lanka is 0.03%.

It was achieved through mass drug administration which was implemented as a main strategic point in Filariasis elimination. Mass drug administration was conducted for five consecutive years and by 2016, 80% of the population residing in endemic areas was covered. Then, in 2008 Trans Assessment Surveys were launched following the MDA among grade 1, and 2 children in endemic districts.

WHO declared in April 2011 that Sri Lanka is one of the first countries in the South-East Asia Region qualified to initiate the verification process by the World Health Organization for certification of elimination of Lymphatic Filariasis. (Grasped from Filariasis campaign website)

References

- http://www.filariasiscampaign.health.gov.lk/subpgs/hom_lymphatic.html
- <https://www.cdc.gov/parasites/lymphaticfilariasis/>
- https://www.who.int/health-topics/lymphatic-filariasis#tab=tab_1

Compiled by Dr.V.U. Jayasinghe
MBBS PG Diploma in Tuberculosis and Chest medicine

Table 1: Selected notifiable diseases reported by Medical Officers of Health 26th - 04th Mar 2022 (09th 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	60	1854	0	2	0	0	0	0	0	3	2	18	0	0	0	0	0	0	0	0	4	0	0	0	1	3	100
Gampaha	42	1628	0	1	0	0	0	0	0	0	3	15	0	0	0	0	0	0	0	0	4	0	2	0	0	1	72
Kalutara	59	549	0	4	0	0	1	0	5	2	52	0	1	0	1	0	1	0	1	11	1	8	0	0	0.0	1	
Kandy	28	437	0	3	0	0	0	0	0	0	18	0	4	0	4	0	0	0	0	7	0	1	0	1	1	96	
Matale	6	103	0	0	0	0	0	0	0	0	12	0	2	0	1	0	0	0	0	5	1	1	6	79	8	100	
NuwareEliya	5	41	0	5	0	0	0	0	0	1	10	0	2	0	0	0	0	0	0	1	0	0	0	0	6	100	
Galle	55	530	0	0	0	0	0	0	0	7	89	0	3	0	0	0	0	0	1	11	1	6	0	0	1	100	
Hambantota	9	171	0	21	0	0	0	0	0	3	31	0	5	0	1	0	0	0	3	5	0	1	14	85	7	100	
Matara	20	187	0	1	0	0	0	0	0	2	29	1	3	0	0	0	0	0	2	5	0	2	7	62	7	100	
Jaftna	51	678	0	6	0	1	5	28	0	8	11	23	240	0	2	0	0	0	5	25	0	3	0	0	33	88	
Kilinochchi	3	35	0	2	0	0	0	0	0	6	0	1	0	3	0	0	0	0	0	1	0	0	0	1	25	100	
Mannar	3	138	0	1	0	0	0	0	0	0	1	8	1	0	1	0	0	0	0	0	0	11	0	0	22	82	
Vavuniya	2	35	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	2	0	0	0	0	0	3	86	
Mullaitivu	2	19	0	0	0	0	2	0	0	1	8	0	2	0	0	0	0	0	0	3	0	0	0	0	15	100	
Batticaloa	15	206	1	16	0	3	0	0	0	3	1	10	0	0	0	0	0	0	1	5	2	11	1	1	21	100	
Ampara	3	39	1	4	0	0	0	0	0	0	2	21	0	1	0	1	0	0	0	10	1	4	1	5	6	100	
Trincomalee	26	243	2	6	0	0	0	1	0	0	0	3	0	0	0	4	0	0	0	0	0	2	0	0	22	92	
Kurunegala	21	870	0	2	0	1	0	0	0	0	23	0	10	0	0	0	0	0	2	13	1	8	13	91	2	100	
Puttalam	36	693	0	0	0	0	0	0	0	1	7	0	2	0	0	0	0	0	0	0	0	9	1	2	12	92	
Anuradhapur	1	96	1	5	0	0	0	0	0	2	0	50	2	6	0	1	0	1	1	8	0	5	4	90	2	90	
Polonnaruwa	2	33	1	2	0	0	0	0	0	1	34	0	0	0	0	0	0	0	0	1	0	1	14	64	0	88	
Badulla	4	307	0	4	0	0	0	0	0	1	2	47	0	8	1	19	0	0	1	5	0	1	0	5	1	100	
Monaragala	8	67	0	1	0	0	1	3	1	2	5	77	0	5	3	11	0	0	1	10	1	8	1	21	4	100	
Ratnapura	38	432	1	11	0	3	0	1	0	15	7	160	0	4	0	4	0	0	0	12	0	5	3	41	2	95	
Kegalle	16	288	0	2	0	0	0	1	0	3	3	85	1	4	1	1	0	0	4	14	1	6	1	6	0	100	
Kalmune	27	123	1	16	0	0	0	0	0	3	0	3	0	0	0	0	0	0	1	4	1	3	0	0	19	100	
SRI LANKA	54	9802	8	115	0	9	6	37	1	52	44	823	28	306	5	51	0	2	23	166	10	98	66	555	7	95	

Source: Weekly Returns of Communicable Diseases (esurveillance.epid.gov.lk). T=Timeliness refers to returns received on or before 04th Mar, 2022 Total number of reporting units 361 Number of reporting units data provided for the current week: 343 C**=Completeness

Table 2: Vaccine-Preventable Diseases & AFP

26th – 04th Mar 2022 (09th Week)

Disease	No. of Cases by Province									Number of cases during current week in 2022	Number of cases during same week in 2021	Total number of cases to date in 2022	Total number of cases to date in 2021	Difference between the number of cases to date in 2022 & 2021
	W	C	S	N	E	NW	NC	U	Sab					
AFP*	01	01	00	00	01	00	00	00	00	03	01	14	13	7.6 %
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
Mumps	00	00	00	00	00	00	00	00	00	00	01	06	17	- 64.7 %
Measles	00	00	00	01	00	00	00	00	00	01	00	07	03	133.3 %
Rubella	00	00	00	00	00	00	00	00	00	00	00	00	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	00	01	01	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	00	01	00	0 %
Whooping Cough	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
Tuberculosis	148	03	51	00	00	07	02	06	21	238	79	1275	1037	22.9 %

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

Covid-19 Prevention & Control

For everyone's health & safety, maintain physical distance, often wash hands, wear a face mask and stay home.

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