



WEEKLY EPIDEMIOLOGICAL REPORT

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

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Aspergillosis Part I

This is the first of two articles

Background

An outbreak of *Aspergillus* meningitis following spinal anaesthesia for caesarean section occurred in Sri Lanka in 2005. The survival of those aggressively treated for *Aspergillus* meningitis suggests in hindsight that the availability of diagnostic tests and specific treatment, and early recognition of the outbreak could have saved the lives of victims who died. *Aspergillus* is a group of moulds, which is found everywhere world-wide. Moulds are also called filamentous fungi. Only a few of these moulds can cause illness in humans and animals. Most people are naturally immune and do not develop disease caused by *Aspergillus*. However, when disease does occur, it takes several forms. *Aspergillus fumigatus* is a fungus of the genus *Aspergillus* and is one of the most common *Aspergillus* species to cause disease in individuals with an immunodeficiency.

Epidemiology of transmission

The main route of acquiring *Aspergillus* infection is by inhalation of the fungal spores. The fungus may then travel via the bloodstream to involve multiple other deep

organs. There is no person to-person transmission of *Aspergillus*. *Aspergillus* species have emerged as an important cause of life-threatening infections in immunocompromised patients such as in individuals who have a severe reduction in immune function (e.g., after bone marrow transplant, cancer treatment, AIDS, or major burns).

Clinical manifestations

Clinical manifestations are variable, ranging from allergic to invasive disease, largely depending on the status of the host's immune system. There are many different kinds of aspergillosis, causing different symptoms ranging from respiratory symptoms like wheezing, coughing and even fever in people with asthma or cystic fibrosis, to allergic sinusitis or a "fungus ball" in the lung or other organs. Lung aspergillomas usually occur in people with other forms of lung disease, like emphysema or a history of tuberculosis. People with an aspergilloma in the lung may have no symptoms at all. Sometimes they may cough up bloody mucus. People who have invasive aspergillosis in the lung may have symptoms such as fever, chest pain, cough and shortness of breath. Other symptoms

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may develop if the infection spreads beyond the lungs. When invasive aspergillosis spreads outside of the lungs, it can affect almost any organ in the body, including the brain.

Diagnosis

Allergic bronchopulmonary aspergillosis (ABPA)

ABPA is defined by abnormalities including the following: Asthma, Eosinophilia, a positive skin test result for *Aspergillus fumigatus* Serum IgE level > 1000 IU/dl, Positive test results for Aspergillus precipitins (primarily IgG but also IgA and IgM). Minor criteria for diagnosis include positive Aspergillus radioallergosorbent assay test results and sputum culture.

Aspergilloma

Aspergilloma does not cause many characteristic laboratory abnormalities. Aspergillus precipitin antibody test results (i.e., for IgG) are usually positive.

Imaging study results are as follows:

Chest radiographs show a mass in a pre-existing cavity, usually in an upper lobe, manifested by a crescent of air partially outlining a solid mass. The patient is moved onto his or her side or from supine to prone, the mass is observed to move within the cavity. CT scans provide better definition of the mass within a cavity and may demonstrate multiple aspergillomas in areas of extensive cavitary disease. Definitive diagnosis of invasive aspergillosis or Chronic necrotizing pulmonary aspergillosis (CNPA) depends on the demonstration of the organism in tissue, as follows: Visualization of the characteristic fungi using Gomori methenamine silver stain or Calcofluor. Positive culture result from sputum, needle biopsy, or broncho -alveolar lavage (BAL) fluid (however, a negative result does not exclude pulmonary aspergillosis) Weekly monitoring of serum levels of galactomannan, a major component of the Aspergillus cell wall, can be used to screen patients who are at high risk for the development of invasive Aspergillus infection. An

elevated galactomannan level in BAL fluid may also be helpful for early diagnosis of invasive aspergillosis.

Management

Allergic bronchopulmonary aspergillosis

Oral corticosteroids (inhaled steroids are not effective). Adding oral itraconazole to steroids in patients with recurrent or chronic ABPA may be helpful. Patients who have associated allergic fungal sinusitis also benefit from surgical resection of obstructing nasal polyps and inspissated mucus; nasal washes with amphotericin or itraconazole have also been employed.

Compiled by

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Table 1: Selected notifiable diseases reported by Medical Officers of Health 28th-03rd Sep 2021 (36th 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	62	3421	0	10	0	1	0	4	0	3	0	138	0	1	0	2	0	2	0	22	0	9	0	1	45	100
Gampaha	14	1740	0	1	0	4	0	1	0	0	0	160	0	5	0	4	0	5	0	19	0	12	0	12	22	75
Kalutara	10	975	0	11	0	2	0	3	0	0	0	381	0	3	0	1	0	1	0	66	0	16	0	0	34	100
Kandy	8	538	0	18	0	1	0	2	0	2	0	100	0	30	0	1	0	0	1	33	1	15	0	21	58	100
Matale	0	151	0	12	0	4	0	0	0	0	0	64	0	5	0	1	0	0	0	12	0	5	0	177	53	100
NuwaraEliya	0	37	0	11	0	2	0	2	0	0	0	45	0	35	0	4	0	0	0	24	0	7	0	1	28	100
Galle	5	273	0	5	0	1	0	5	0	5	0	517	0	23	0	2	0	0	0	46	0	27	0	1	38	100
Hambantota	3	268	0	9	0	2	0	2	0	4	0	204	3	59	0	7	0	0	0	43	2	32	7	365	71	100
Matara	1	398	0	3	0	1	0	1	0	0	2	199	0	16	0	2	0	0	0	48	0	10	2	210	42	100
Jaffna	0	123	0	40	0	3	0	14	0	27	0	16	0	438	0	0	0	4	0	27	0	3	0	2	22	88
Kilinochchi	0	24	0	23	0	0	0	2	0	10	0	54	0	76	0	0	0	0	0	10	0	0	0	1	51	100
Mannar	0	25	1	4	0	0	0	4	0	0	0	26	0	2	0	0	0	0	0	3	0	16	0	1	38	100
Vavuniya	0	35	0	2	0	1	0	1	0	1	0	23	0	2	0	1	0	0	0	6	0	1	0	1	37	100
Mullaitivu	0	5	0	3	0	0	0	0	0	1	0	32	0	8	0	0	0	0	0	9	0	6	0	0	21	100
Batticaloa	1	2995	2	29	0	4	0	2	0	16	0	39	0	0	0	1	0	0	0	12	0	22	0	0	46	100
Ampara	0	34	0	7	0	0	0	1	0	7	0	49	0	1	0	2	0	0	0	37	0	11	0	8	60	100
Trincomalee	0	121	0	0	0	0	0	0	0	2	0	4	0	0	0	2	0	0	0	16	0	2	0	0	27	100
Kurunegala	2	871	0	18	0	4	0	0	0	3	0	237	0	25	0	3	0	2	1	42	0	77	1	280	37	100
Puttalam	0	283	0	2	0	1	0	0	0	0	0	22	0	15	0	1	0	1	0	16	0	32	0	9	40	98
Anuradhapur	1	180	0	10	0	0	0	1	0	3	0	219	0	23	0	4	0	0	0	31	0	31	0	183	25	91
Polonnaruwa	0	62	0	3	1	1	0	3	0	8	0	106	0	3	0	3	0	0	0	26	0	2	0	333	39	100
Badulla	2	191	0	9	0	0	0	1	0	0	0	270	0	39	0	31	0	0	0	33	0	14	1	17	43	100
Monaragala	0	102	0	6	0	0	0	3	0	5	0	308	1	29	0	67	0	0	0	24	0	49	0	28	51	100
Ratnapura	1	413	0	26	0	6	0	0	0	5	0	602	0	18	0	8	0	1	1	45	0	66	2	94	34	95
Kegalle	1	360	0	4	0	11	0	0	0	2	0	218	0	11	0	1	0	0	0	79	0	24	0	14	39	100
Kalmune	0	269	1	13	0	2	0	1	0	1	0	16	0	1	0	2	0	2	0	14	0	10	0	2	46	100
SRILANKA	11	13894	4	279	1	51	0	53	0	105	2	4049	4	868	0	15	0	18	3	743	3	499	13	1761	40	97

Source: Weekly Returns of Communicable Diseases (esurveillance.epid.gov.lk). T=Timeliness refers to returns received on or before 03rd Sep, 2021. Total number of reporting units 361. Number of reporting units data provided for the current week: 351. C**=Completeness

Table 2: Vaccine-Preventable Diseases & AFP

28th – 03rd Sep 2021 (36th Week)

Disease	No. of Cases by Province									Number of cases during current week in 2021	Number of cases during same week in 2020	Total number of cases to date in 2021	Total number of cases to date in 2020	Difference between the number of cases to date in 2021 & 2020
	W	C	S	N	E	NW	NC	U	Sab					
AFP*	00	01	00	00	00	01	01	01	00	04	01	43	31	38.7 %
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	03	57	127	- 55.1 %
Measles	00	00	00	00	00	00	00	00	00	00	01	11	39	- 71.7 %
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	02	03	- 33.33%
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	01	00	01	00	03	31	- 90.3 %
Whooping Cough	00	00	00	00	00	00	00	00	00	00	00	00	07	- 100%
Tuberculosis	143	04	23	00	05	05	02	02	12	196	150	3625	4341	- 16.4 %

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@slt.net.lk. **Prior approval should be obtained from the Epidemiology Unit before publishing data in this publication**

ON STATE SERVICE

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