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

Vol. 42 No. 35 **22nd – 28th August 2015**

WEER SRI LANKA - 2015

Aspergillosis

Background

An outbreak of Aspergillus meningitis following spinal anesthesia 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 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.

Contents *Page*

1. *Leading Article – Aspergillosis* 1
2. *Summary of selected notifiable diseases reported - (15th – 21st August 2015)* 3
3. *Surveillance of vaccine preventable diseases & AFP - (15th – 21st August 2015)* 4

As 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.

Aspergilloma

Treatment is considered when patients become symptomatic, usually with hemoptysis Oral itraconazole may provide partial or complete resolution of aspergillomas in 60% of patients. Intracavitary treatment, using CT-guided, percutaneously placed catheters to instill amphotericin alone or in combination with other drugs (e.g. acetylcysteine, aminocaproic acid) has been successful in small numbers of patients.

Surgical resection is curative and may be considered for massive hemoptysis if pulmonary function is adequate.

Preventive therapy and rapid institution of therapy for suspected cases may be lifesaving.

Prophylactic antifungal therapy and the use of laminar airflow (LAF) or high-efficiency particulate air (HEPA) filtration of patient rooms can be effective.

Voriconazole is the drug of choice. Posaconazole, amphotericin B, or amphotericin B lipid formulations – May be considered as empiric therapy in critically ill patients with possible mucormycosis. If possible, the level of immunosuppression should be decreased

Chronic necrotizing pulmonary aspergillosis

Antifungal therapy is with voriconazole or with itraconazole (if expense is an issue), caspofungin, or amphotericin B or amphotericin lipid formulation.

Prevention

Various measures can be followed to minimize or eliminate fungal growth indoors. Once a microbial problem has been identified it should be remedied as soon as possible.

- Reduce the moisture level availability.
- Improve ventilation.
- Vapour barriers and good insulation of surface building can minimize fungi growth.
- Clean up water spills promptly.
- Porous materials (e.g. paper, cardboard, gyprock) that are water damaged or contaminated with fungi should be disposed of where possible.

Preventive Measures in Healthcare settings

Routine / Standard Precautions is sufficient for patients who are suspected or confirmed to have aspergillosis. The key preventive strategies are focused on environmental measures during construction such as:

- Moving patients deemed at high risk of aspergillosis to an alternative area
- Postponement of immunosuppressive treatment and commencement of an antifungal prophylaxis if transfer is not possible
- Installation of robust, dust-proof barriers between patient and construction areas
- Seal ventilation ducts within the construction zone and vent air from the construction zone to outside of the building
- Designate an entrance for building site workers to access the work area that is as far as possible from patient care areas.

Environmental control measures

Spores are very resistant and can survive in soil and decaying matter for a long time.

Hospital-grade cleaning and disinfecting agents with fungicidal claims are sufficient for environmental cleaning in the context of Aspergillus. All horizontal and frequently touched surfaces should be cleaned daily and when soiled by wiping with a damp cloth to avoid dispersal of dust. The healthcare organization's terminal cleaning protocol for cleaning of the patient's room following discharge, or transfer should be followed. Patient care areas closest to the construction zone may need to increase the frequency of cleaning to prevent dust accumulation. All patient care equipment should be cleaned and disinfected as per Routine / Standard Practices before reuse with another patient or a single use device should be used and discarded in a waste receptacle after use.

Sources

1.Aspergillus Fact Sheet, Available at http://www.infectionpreventionresource.com/files%5CAspergillus%20Fact%20Sheet%205.19.Rev1.pdf

2. An outbreak of Aspergillus meningitis following spinal anaesthesia for caesarean section in Sri Lanka: a post-tsunami effect.?, available at http://cmj.sljol.info/articles/abstract/10.4038/cmj.v51i4.1142/

Compiled by Dr.H.H.W.S.B Herath of the Epidemiology Unit

Table 1: Selected notifiable diseases reported by Medical Officers of Health 15th – 21st Augu 2015 (34th 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	143	6159	1	134	0	8	1	70	2	100	3	197	0	8	0	25	0	3	4	326	0	27	0	0	**81**	**19**
Gampaha	39	2692	0	63	1	6	0	24	0	25	1	254	0	8	2	102	0	0	11	176	1	18	0	2	**87**	**13**
Kalutara	18	977	0	71	0	4	2	31	0	72	3	216	0	3	2	23	0	2	3	210	0	36	0	0	**85**	**15**
Kandy	6	802	2	85	0	6	1	26	1	33	1	81	1	48	0	107	0	0	1	160	0	12	0	11	**78**	**22**
Matale	2	338	0	35	1	1	1	8	0	5	1	48	0	8	0	25	0	0	0	19	2	12	0	13	**85**	**15**
NuwaraEliya	1	116	0	252	0	3	0	15	0	7	1	27	0	47	0	43	0	0	4	97	0	40	0	1	**92**	**8**
Galle	19	512	5	59	0	3	1	7	0	19	4	163	0	50	0	7	0	0	5	190	1	36	0	2	**75**	**25**
Hambantota	4	214	1	24	0	1	0	8	0	24	0	69	1	38	0	26	0	0	2	87	1	11	2	209	**75**	**25**
Matara	5	272	1	50	0	6	0	4	0	44	4	113	1	25	1	25	0	0	1	177	0	16	0	83	**100**	**0**
Jaffna	5	1223	17	583	0	9	0	157	1	63	0	14	1	538	0	10	0	2	1	164	0	14	0	0	**100**	**0**
Kilinochchi	0	51	1	65	0	0	0	10	0	31	0	1	0	21	0	0	0	1	0	15	0	0	0	0	**50**	**50**
Mannar	0	77	0	9	0	1	0	5	0	3	0	8	0	20	0	0	0	0	0	7	0	0	0	1	**60**	**40**
Vavuniya	1	91	0	16	0	6	0	56	0	7	0	17	0	13	0	1	0	2	0	36	0	11	1	5	**75**	**25**
Mullaitivu	0	108	0	23	0	2	0	11	0	1	0	5	0	9	0	3	0	1	0	5	0	3	0	5	**60**	**40**
Batticaloa	1	1315	3	225	0	6	1	25	0	139	0	11	0	2	0	10	0	1	1	42	0	16	0	0	**43**	**57**
Ampara	1	40	0	34	0	1	0	1	0	10	1	11	1	2	1	4	0	0	2	165	0	5	0	3	**57**	**43**
Trincomalee	3	511	2	44	0	0	0	29	0	35	0	14	1	19	0	7	0	1	1	70	0	6	0	2	**58**	**42**
Kurunegala	11	937	1	125	0	2	1	6	0	13	2	199	3	27	1	33	0	6	9	312	2	29	2	88	**93**	**7**
Puttalam	2	538	0	37	0	4	0	7	3	9	0	25	0	18	0	1	0	0	0	37	0	23	0	2	**62**	**38**
Anuradhapura	3	300	2	57	0	1	0	3	0	55	1	179	0	19	0	12	0	1	4	134	0	24	6	232	**58**	**42**
Polonnaruwa	0	134	0	29	0	3	0	7	0	3	0	50	0	1	0	4	0	0	0	93	0	18	1	62	**43**	**57**
Badulla	3	415	5	148	0	6	1	9	0	12	0	52	0	83	4	147	0	2	0	151	1	61	0	6	**82**	**18**
Monaragala	1	148	1	85	1	4	0	14	1	4	0	134	5	61	3	88	0	1	1	75	1	18	1	25	**100**	**0**
Ratnapura	8	732	5	220	0	12	0	37	0	8	4	237	0	49	5	164	0	1	4	95	2	44	0	15	**78**	**22**
Kegalle	10	411	0	52	0	8	1	57	0	9	1	221	0	35	1	70	0	0	2	159	3	40	0	0	**73**	**27**
Kalmunei	0	438	0	92	0	1	0	1	0	43	0	7	0	0	0	1	0	0	2	89	0	9	0	0	**62**	**38**
SRILANKA	**286**	**19551**	**47**	**2617**	**3**	**104**	**10**	**628**	**8**	**774**	**27**	**2353**	**14**	**1152**	**20**	**938**	**0**	**24**	**58**	**3091**	**14**	**529**	**13**	**767**	**77**	**23**

Source: Weekly Returns of Communicable Diseases (WRCD).

*T=Timeliness refers to returns received on or before 21st August , 2015 Total number of reporting units 337 Number of reporting units data provided for the current week: 261 C**-Completeness

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

Table 2: Vaccine-Preventable Diseases & AFP

15th – 21st Aug 2015 (34th Week)

Disease	No. of Cases by Province									Number of cases during current week in 2015	Number of cases during same week in 2014	Total number of cases to date in 2015	Total number of cases to date in 2014	Difference between the number of cases to date in 2014 & 2015
	W	C	S	N	E	NW	NC	U	Sab					
AFP*	00	00	00	00	00	00	00	01	00	01	02	49	58	-15.5%
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	00	0%
Mumps	01	00	01	00	00	01	00	01	00	04	11	255	491	-48.0%
Measles	28	02	04	00	02	04	06	05	13	64	35	1927	2490	-22.6%
Rubella	00	00	00	00	00	00	00	00	00	00	00	07	14	-50%
CRS**	00	00	00	00	00	00	00	00	00	00	00	00	04	-100%
Tetanus	00	00	00	00	01	00	00	00	00	01	00	14	10	+40%
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	07	21	-66.6%
Whooping Cough	00	00	00	00	00	00	01	00	00	01	04	59	38	+55.2%
Tuberculosis	23	41	23	10	15	01	07	00	01	121	207	6550	6345	+3.2%

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

AFP and all clinically confirmed Vaccine Preventable Diseases except Tuberculosis and Mumps should be investigated by the MOH

Dengue Prevention and Control Health Messages

Look for plants such as bamboo, bohemia, rampe and banana in your surroundings and maintain them

PRINTING OF THIS PUBLICATION IS FUNDED BY THE WORLD HEALTH ORGANIZATION (WHO).

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. P. PALIHAWADANA
CHIEF EPIDEMIOLOGIST
EPIDEMIOLOGY UNIT
231, DE SARAM PLACE
COLOMBO 10