



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

Vol. 42 No. 38

12th – 18th September 2015

Mumps (Part I)

This is the first in a series of two article on Mumps

Introduction

Mumps virus causes an acute, self-limited, viral syndrome. Prior to the widespread use of an effective vaccine, mumps primarily occurred in young children attending primary grade school; mumps was also a leading cause of viral meningitis and the most common cause of unilateral acquired sensorineural deafness in children.

Virology

The illness is caused by the RNA virus, Rubulavirus. Rubulavirus is within the genus Paramyxovirus and is a member of the family Paramyxoviridae. This virus contains a single-stranded, negative-sense RNA surrounded by a glycoprotein envelope.

Epidemiology

Mumps epidemics have occurred worldwide in school-age children, generally serving as the vector for horizontal spread to household family members. Prior to the introduction of vaccination in the United States, the peak incidence of mumps was typically in the late winter to early spring, although sporadic outbreaks have occurred throughout the year.

In Sri Lanka, except available statistics on hospital morbidity, hardly any data is available on mumps outpatient care seeking pattern and community level disease burden. Henceforth, the next best option to make an estimate of the mumps disease burden in Sri Lanka is to apply annual incidence rates reported from other countries to Sri Lankan population estimates and derive the best estimates for Sri Lanka. The reported annual incidence rates varied from 0.1 %

to 1%. By application of least case scenario incidence rate of 0.1% to Sri Lankan estimated of 20 million, it derives 20,000 mumps cases per year. With an estimated average duration of disability of 14 days per mumps case, will derive 280,000 days of disability

Clinical Features

Mumps infection is frequently accompanied by a nonspecific prodrome consisting of low-grade fever, malaise, headache, myalgia and anorexia. These symptoms are generally followed within 48 hours by the development of parotitis, a classic feature of mumps infection. Symptomatic infection in adults is usually more severe than in children.

Parotitis -Parotid swelling is present in 95 percent of symptomatic cases of mumps. Parotitis is due to direct infection of ductal epithelium and local inflammation. Local parotid tenderness and occasionally earache precedes the onset of parotid swelling. Enlargement of the contralateral parotid gland occurs in 90 percent of patients, but may be delayed by several days . On physical examination, parotid swelling may obscure the angle of the mandible and the orifice of Stensen's duct is erythematous and enlarged Parotid swelling can last up to 10 days. Increased serum amylase supports the clinical diagnosis.

Inapparent infection-In contrast to these classic manifestations, asymptomatic infection occurs in 15 to 20 percent of cases, and only nonspecific or predominantly respiratory symptoms are seen in up to 50 percent of cases in whom the diagnosis of mumps is not usually made. Inapparent or subclinical infections are more frequent in adults,

Contents

Page

- | | |
|---|---|
| 1. <i>Leading Article – Mumps-I</i> | 1 |
| 2. <i>Summary of selected notifiable diseases reported - (05th – 11th September 2015)</i> | 3 |
| 3. <i>Surveillance of vaccine preventable diseases & AFP - (05th – 11th September 2015)</i> | 4 |

WEEKLY SRI LANKA - 2015

while parotitis is most common in children between the ages of two and nine years.

Complications

The more serious complications of mumps, such as meningitis, encephalitis and orchitis, may occur in the absence of parotitis, which can delay accurate diagnosis of the clinical syndrome.

Orchitis -Epididymo-orchitis, the most common complication of mumps infection in the adult male, may develop in up to 38% of infected postpubertal males. Symptoms are characterized by the abrupt onset of fever from 39° to 41°C and severe testicular pain, accompanied by swelling and erythema of the scrotum.

While testicular atrophy has been documented in as many as 30 %- 50 % of patients following mumps orchitis and impaired fertility in approximately 13%. The risk of sterility is higher in men who have bilateral orchitis.

Oophoritis-Oophoritis occurs in approximately 7 percent of post-pubertal girls.

Aseptic meningitis-Aseptic meningitis is the most frequent extrasalivary complication of mumps virus infection . Asymptomatic CSF pleocytosis was documented in more than 50 % of patients with clinical mumps. Cases of mumps aseptic meningitis occur three times more often in males than in females .

The CSF profile may have 10 to 2000 white blood cells (WBC/microl).The predominating cells are usually lymphocytes, but an early polymorphonuclear predominance can occasionally be seen. The CSF total protein is generally normal or mildly elevated. CSF glucose levels can be mildly depressed, but values below 30 to 40 mg/dL (1.7 to 2.2 mmol/L) have been reported .

Mumps aseptic meningitis generally has a benign course with full neurologic recovery and no permanent deficits.

Other neurologic complications-Encephalitis, deafness, Guillain-Barré syndrome, transverse myelitis and facial palsy are other, less frequent, neurologic complications of mumps .

Encephalitis-In the pre-vaccine era, the incidence of mumps encephalitis was estimated to be approximately 1 in 6000 cases. Patients with mumps encephalitis typically present with fever, altered level of consciousness, seizures, paresis and/or paralysis. As many as one-third of patients present without parotitis; as a result, the absence of parotitis does not exclude the diagnosis of mumps. The CSF profile is similar to that seen with mumps aseptic meningitis which, as noted above, can occasionally mimic those with bacterial meningitis rather than viral infection .

Most patients with mumps encephalitis make a complete recovery. Cerebellitis and cerebellar ataxia are usually self-limited.

Deafness-In the pre-vaccine era, mumps infection was a prominent cause of sensorineural hearing loss in children . The onset of deafness was often abrupt but occasionally exhibited a more gradual clinical course; bilateral involvement has been reported. Permanent deafness attributable to mumps infection has been documented .

Some patients with sensorineural hearing loss during mumps infection have concurrently developed prominent vestibular symptoms. Labyrinthitis and endolymphatic hydrops (Meniere syndrome) also developed subsequently in a patient with prior acute deafness due to mumps infection .

Less frequent complications -Other end organ syndromes occasionally linked to mumps infection include thyroiditis , myocardial involvement, pancreatitis, interstitial nephritis and arthritis

Arthritis-Mumps-associated arthropathy is a relatively infrequent complication but affects males more often than females; monoarticular large joint (knee, hip) involvement has been reported in addition to a polyarticular syndrome .

Pancreatitis-Acute pancreatitis has occasionally been reported in both children and adults with mumps infection. The clinical course is typically benign, with the majority of cases resolving with conservative management; rarely, pseudocyst formation requiring surgical drainage has occurred .

Myocardial involvement-Electrocardiographic changes including depressed ST segments can be seen transiently in up to 15 percent of patients with mumps . Although rarely encountered, cases of rapidly progressive and fulminant fatal myocarditis with dilated cardiomyopathy attributed to acute infection with mumps have been reported. Most of these myocarditis patients with fatal outcomes developed refractory arrhythmias and congestive heart failure. Coronary artery involvement has also been documented in a case of mumps myocarditis .

Mumps in pregnancy-Mumps in pregnancy has not been associated with congenital malformations, although the risk of miscarriage with mumps infection is increased during the first trimester.

Sources

1. Neurological complications of mumps, available at <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2025851/>
2. Mumps Fact Sheet. : Epidemiology Unit, Ministry Of Health, available at <http://epid.gov.lk/web/attachments/article/146/Fact%20Sheet%20WH%20-%20Mumps%20-%202012.pdf>

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

Table 1: Selected notifiable diseases reported by Medical Officers of Health 05th - 11th Sep 2015 (37th 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	97	6582	0	139	0	9	2	76	4	108	3	210	0	9	0	30	0	3	11	358	0	30	0	0	88	13
Gampaha	58	2885	1	67	0	6	0	26	2	27	4	276	0	9	2	110	0	0	8	200	2	21	0	2	93	7
Kalutara	10	1045	0	74	0	4	1	34	1	73	6	230	0	3	1	28	0	2	4	223	1	38	0	0	77	23
Kandy	16	845	7	95	0	6	0	27	0	38	5	90	3	53	1	108	0	0	2	174	1	15	0	11	91	9
Matale	2	343	0	35	0	1	0	8	0	5	0	50	0	8	0	26	0	0	1	22	0	19	0	15	62	38
NuwaraEliya	2	120	2	265	0	3	0	18	0	7	1	31	2	52	1	44	0	0	0	100	1	44	0	1	92	8
Galle	20	578	2	62	0	3	0	7	1	21	2	171	2	61	0	7	0	0	4	207	2	42	0	2	70	30
Hambantota	4	232	1	25	0	1	0	8	0	24	1	72	0	40	2	29	0	0	2	92	0	11	2	221	100	0
Matara	2	284	0	51	0	6	0	4	0	44	7	132	4	31	1	29	0	0	3	188	0	16	2	97	100	0
Jaffna	16	1266	24	646	0	9	1	159	2	67	0	14	1	541	1	11	0	2	4	168	0	15	0	0	100	0
Kilinochchi	0	54	0	67	0	0	0	13	0	31	0	1	1	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	100	0
Vavuniya	0	96	0	16	0	6	0	57	0	11	0	17	0	13	0	1	0	2	0	37	0	14	0	6	50	50
Mullaitivu	0	115	1	24	0	2	0	12	0	1	0	5	0	9	0	3	0	1	0	5	0	3	0	5	100	0
Batticaloa	3	1324	8	258	0	7	0	25	6	145	0	12	0	3	0	11	0	1	1	47	0	16	0	0	79	21
Ampara	0	43	0	37	0	1	0	1	0	10	0	11	0	2	0	4	0	0	2	170	0	5	0	3	29	71
Trincomalee	0	513	1	46	0	0	0	30	0	35	0	14	0	21	0	8	0	1	2	76	1	7	1	3	75	25
Kurunegala	6	978	3	136	0	2	0	6	0	13	0	200	0	28	0	34	0	6	1	319	1	30	4	103	89	11
Puttalam	0	547	0	38	0	4	0	7	0	9	0	25	0	18	0	1	0	0	0	42	0	24	0	2	38	62
Anuradhapura	1	307	4	69	0	2	0	3	0	58	0	182	0	19	0	13	0	1	3	144	1	28	2	253	53	47
Polonnaruwa	1	162	1	30	0	4	0	12	0	3	0	64	0	1	0	4	0	0	0	100	0	21	4	79	43	57
Badulla	1	421	6	165	0	7	0	9	0	12	0	56	3	96	1	154	0	2	3	162	2	69	0	6	65	35
Monaragala	1	153	2	91	0	4	0	15	0	5	0	135	1	64	9	107	0	1	3	81	1	20	2	29	82	18
Ratnapura	3	764	4	230	0	14	1	38	0	8	4	251	0	53	12	185	0	1	8	112	0	45	1	16	61	39
Kegalle	5	443	1	57	0	9	2	63	0	9	4	235	1	39	0	73	0	0	5	174	1	41	0	0	82	18
Kalmunei	2	442	0	96	0	1	0	1	0	48	0	7	0	0	0	1	0	0	0	95	0	9	0	0	46	54
SRILANKA	250	20619	68	2828	0	112	7	664	16	815	37	2499	17	1214	31	1021	0	24	67	3318	14	583	18	855	76	24

Source: Weekly Returns of Communicable Diseases (WRCD).

*T=Timeliness refers to returns received on or before 11th September, 2015 Total number of reporting units 337 Number of reporting units data provided for the current week: 258 C**=Completeness
A = Cases reported during the current week. B = Cumulative cases for the year.

Table 2: Vaccine-Preventable Diseases & AFP

05th - 11th Sep 2015 (37th 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*	01	00	00	00	00	00	00	00	00	01	01	54	61	-11.4%
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	00	0%
Mumps	01	00	00	00	01	00	01	00	03	06	04	278	524	-47.1%
Measles	31	01	03	01	03	04	00	01	04	48	40	2152	2628	-18.1%
Rubella	00	00	00	00	00	00	00	00	00	00	00	08	15	-46.6%
CRS**	00	00	00	00	00	00	00	00	00	00	00	00	04	-100%
Tetanus	00	00	00	00	00	00	00	00	00	00	00	14	11	+27.2%
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	07	22	-68.1%
Whooping Cough	00	00	00	00	01	00	00	00	00	01	04	63	44	+43.1%
Tuberculosis	47	20	15	05	13	11	08	15	15	149	142	7056	6910	+2.1%

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