WEEKLY EPIDEMIOLOGICAL REPORT

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Ministry of Health

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Mumps (Part II)

This is the second in a series of two articles on Mumps .

Diagnosis

When the patient has parotitis, the diagnosis of mumps is based upon the characteristic clinical features. Leukopenia, with a relative lymphocytosis, and an elevated serum amylase may be noted on routine blood testing.

Specific assays for the diagnosis of mumps are more often used in the setting of prominent extrasalivary gland involvement or during a mumps outbreak, when laboratory criteria are necessary to establish accurate incidence figures.

Laboratory evidence supportive of a mumps diagnosis include :

- A positive IgM mumps antibody
- Significant rise in IgG titers between acute and convalescent specimens
- Isolation of mumps virus or nucleic acid from a clinical specimen

In patients with classic symptoms of mumps, laboratory confirmation is not required. In patients with more atypical presentations (eg, mumps meningitis) polymerase chain reaction testing of the appropriate fluids enables a rapid diagnosis.

Serology

Serum IgM antibody testing should be obtained as soon as mumps infection is suspected . A second convalescent phase serum sample obtained about two to three weeks after the first sample should be collected.

A fourfold or greater increase in IgG titer is considered a positive diagnostic result for mumps. In vaccinated persons with breakthrough disease, IgG titers may rise rapidly and precipitously, which can impair the ability to capture a fourfold rise in serum antibodies. Thus, it is important to obtain the first serum sample soon after clinical presentation.

Serum IgM antibody to mumps typically remains positive for up to four weeks but may be negative in up to 50 to 60 percent of specimens from individuals with acute disease who were previously immunized . A negative mumps IgM titer in vaccinated individuals, therefore, does not rule out mumps.

A positive mumps IgG serology is expected among previously immunized persons; however, the level of neutralizing antibody that is needed for protection against mumps is not known. Serologic tests cannot differentiate between prior exposure to mumps virus or mumps vaccine .

Viral culture

In patients with aseptic meningitis due to mumps, the virus can frequently be isolated from the CSF during the first three days of clinical symptoms . Virus is present in saliva for approximately one week, starting two to three days before the onset of parotitis. Virus is also excreted in urine for the first two weeks of illness . However, the selective viral isolation culture techniques are time consuming and may require days to yield a positive identification of mumps virus, thus delaying the diagnosis.

Polymerase chain reaction assays — The use of an IgM antibody capture immunoassay or a nested polymerase chain reaction (PCR) assay enables more rapid confirmation of mumps in the CSF

Treatment

Therapy for mumps parotitis is symptomatic and includes analgesics or antipyretics, such as aspirin. Topical application of warm or cold packs to the parotid may also be soothing.

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Patients who have meningitis or pancreatitis with nausea and vomiting may require hospitalization for intravenous fluids.

Patients with orchitis are also treated symptomatically with bed rest, non-steroidal anti-inflammatory agents, support of the inflamed testis, and ice packs.

Prevention

Prevention of transmission of mumps to others is dependent on early diagnosis, isolation of the infected patient, and immunization of susceptible exposed individuals. Since the introduction of vaccine, mumps cases have declined .

- Isolation of infectious patients-Recommendations for the management of mumps include isolation until the parotid swelling has resolved to prevent the spread of infection to susceptible persons. Patients with mumps should stay home from school or work for five days after onset of clinical symptoms. It is important to note that the virus is present in saliva days before clinical parotitis occurs and viral shedding can occur in asymptomatic persons, often making control measures quite difficult.

  Factors that contribute to local outbreaks of mumps include closed environments and a delay in recognition of mumps by health care providers.

- Immunization of susceptible patients-The first inactivated mumps vaccine was introduced in the 1940s; this formulation was eventually replaced by the attenuated vaccine .

  Active immunization with attenuated mumps virus vaccine is recommended for those who have not been vaccinated in the past, or in those who only received one dose of vaccine.In Sri Lanka, according to National Immunization schedule for EPI vaccines, children should receive 2 doses of the MMR vaccine, the first at completion of 9 months of age and the second at 3 years of age. Immunization after exposure has not been demonstrated to be protective, although it is recommended by the CDC; the rationale for vaccination is to decrease the risk of disease with possible future exposures. Recently immunized persons should be educated about the symptoms and signs of illness and be instructed to contact their medical provider should they become sick.

- Concurrent disinfection-Frequent hand washing using soap or an alcohol-based hand gel, non sharing of eating utensils, towels and bed linen and regular cleaning of frequently touched surfaces may minimize the spread among immediate contacts.

- Investigation of contacts and source of infection-Mumps is a notifiable disease in Sri Lanka. Upon notification cases of mumps should be investigated by the MOH and his team. This should be followed by isolation of cases and contacts where necessary.

Contradictions to vaccine

Vaccine should not be administered to pregnant women, immunosuppressed patients, or persons with advanced malignancies. A full discussion of the vaccine's efficacy, risks and benefits and complications is presented elsewhere.

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 : Water Quality Surveillance
Number of microbiological water samples August/ 2015

District	MOH areas	No: Expected *	No: Received
Colombo	12	72	87
Gampaha	15	90	NR
Kalutara	12	72	NR
Kalutara NIHS	2	12	10
Kandy	23	138	NR
Matale	12	72	NR
Nuwara Eliya	13	78	1
Galle	19	114	100
Matara	17	102	15
Hambantota	12	72	NR
Jaffna	11	66	29
Kilinochchi	4	24	29
Manner	5	30	17
Vavuniya	4	24	33
Mullatvu	4	24	15
Batticaloa	14	84	32
Ampara	7	42	32
Trincomalee	11	66	NR
Kurunegala	23	138	109
Puttalam	9	54	NR
Anuradhapura	19	114	43
Polonnaruwa	7	42	NR
Badulla	15	90	118
Moneragala	11	66	58
Rathnapura	18	108	76
Kegalle	11	66	67
Kalmunai	13	78	37

* No of samples expected (6 / MOH area / Month)
NR = Return not received

Table 1: Selected notifiable diseases reported by Medical Officers of Health 12th – 18th Sep 2015 (38th 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	62	6647	3	142	0	9	2	78	2	110	6	217	0	9	0	29	0	3	4	361	3	33	0	0	**81**	**19**
Gampaha	14	2901	2	69	0	6	1	27	0	27	6	282	0	9	3	113	0	0	7	207	0	21	0	2	**60**	**40**
Kalutara	9	1054	5	80	0	4	2	36	2	75	8	240	0	3	2	30	0	2	2	226	1	40	0	0	**85**	**15**
Kandy	11	857	1	96	0	6	0	27	1	39	1	92	1	54	1	109	0	0	0	174	3	18	0	11	**91**	**9**
Matale	1	344	0	35	0	1	0	8	0	5	0	50	0	8	0	26	0	0	2	24	1	20	0	15	**62**	**38**
NuwaraEliya	1	121	1	268	0	3	4	22	0	7	1	32	4	56	0	44	0	0	6	106	1	45	0	0	**100**	**0**
Galle	8	591	1	63	0	3	0	7	0	21	2	174	1	65	0	7	0	0	1	216	0	42	0	2	**65**	**35**
Hambantota	0	232	1	26	0	1	0	8	1	25	3	75	2	42	2	31	0	0	0	92	0	11	0	221	**83**	**17**
Matara	12	296	2	53	0	6	0	4	0	44	10	142	2	33	0	29	0	0	5	193	0	16	6	103	**100**	**0**
Jaffna	13	1279	22	668	0	9	1	160	4	71	0	14	2	543	0	11	0	2	0	168	0	15	0	0	**100**	**0**
Kilinochchi	2	56	0	67	0	0	0	13	0	31	0	1	0	21	0	0	0	1	0	15	0	0	0	0	**50**	**50**
Mannar	0	77	3	12	0	1	0	5	0	3	0	8	0	20	0	0	0	0	0	7	0	0	0	1	**100**	**0**
Vavuniya	2	98	0	16	0	6	4	64	1	12	0	17	0	13	0	1	0	2	0	37	1	15	0	6	**75**	**25**
Mullaitivu	0	115	0	24	0	2	0	12	0	1	0	5	0	9	0	3	0	1	0	5	0	3	0	5	**20**	**80**
Batticaloa	1	1325	4	262	0	7	0	25	0	145	0	12	0	3	0	11	0	1	3	50	0	16	0	0	**57**	**43**
Ampara	0	44	0	38	0	1	0	1	0	10	0	13	0	2	0	5	0	0	1	172	0	5	0	3	**43**	**57**
Trincomalee	1	514	1	47	0	0	1	31	0	35	0	14	0	21	0	8	0	1	3	79	0	7	0	3	**83**	**17**
Kurunegala	8	986	2	138	0	2	1	7	4	17	3	203	0	28	0	37	0	6	5	324	0	30	0	103	**93**	**7**
Puttalam	1	549	2	40	0	4	0	7	0	9	3	28	0	18	0	1	0	0	2	45	0	24	0	2	**54**	**46**
Anuradhapura	4	311	6	75	0	2	0	3	0	58	2	186	1	20	0	13	0	1	0	144	0	28	1	255	**63**	**37**
Polonnaruwa	1	164	0	30	0	4	0	12	0	3	0	64	0	1	1	5	0	0	0	101	0	21	1	82	**57**	**43**
Badulla	3	425	0	166	0	7	0	9	0	12	0	56	7	109	4	159	0	2	5	169	1	73	0	6	**71**	**29**
Monaragala	0	153	2	93	0	4	0	15	0	5	1	136	0	64	29	148	0	1	1	82	3	23	0	29	**82**	**18**
Ratnapura	9	784	0	236	1	15	2	40	0	8	5	259	0	55	1	192	0	1	6	123	1	47	0	16	**67**	**33**
Kegalle	7	452	0	57	1	10	1	64	3	12	5	241	1	41	0	73	0	0	7	182	0	41	0	0	**73**	**27**
Kalmunei	4	448	0	96	0	1	0	1	0	48	0	7	0	0	0	3	0	0	0	96	0	9	0	0	**31**	**69**
SRILANKA	**174**	**20823**	**58**	**2897**	**2**	**114**	**19**	**686**	**18**	**833**	**56**	**2568**	**21**	**1247**	**46**	**1088**	**0**	**24**	**60**	**3398**	**15**	**603**	**8**	**866**	**74**	**26**

Source: Weekly Returns of Communicable Diseases (WRCD).

*T=Timeliness refers to returns received on or before 18th September , 2015 Total number of reporting units 337 Number of reporting units data provided for the current week: 252 **C****-Completeness

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

Table 2: Vaccine-Preventable Diseases & AFP

12th – 18th Sep 2015 (38th 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	00	00	00	00	54	61	-11.4%
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	00	0%
Mumps	01	01	01	00	00	00	00	00	01	04	08	283	534	-47.0%
Measles	16	01	04	00	01	03	00	01	08	34	37	2195	2686	-18.2%
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	02	00	01	00	00	01	00	00	00	04	03	68	47	+44.6%
Tuberculosis	75	34	26	07	03	18	00	17	21	201	347	7257	7257	0%

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

Influenza Surveillance in Sentinel Hospitals - ILI & SARI								
Month	Human					Animal		
	No Received	ILI	SARI	Infl A	Infl B	Pooled samples	Serum Samples	Positives
August	4742	Not Performed	Clinical	13	12	552	368	0

Source: Medical Research Institute & Veterinary Research Institute

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ON STATE SERVICE

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