City of Milwaukee Health Department Laboratory
Clinical and Environmental Microbiology
www.milwaukee.gov/healthlab
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SUMMARY OF CONFIRMED INFECTIONS

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June 2010, Vol. 15, No. 6

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The June 2010 issue presents the laboratory diagnosis of some of the infectious diseases and the reference microbiology work done in this laboratory during May 2010 and new cases of syphilis in Milwaukee during May 2010. Information on the laboratory diagnosed mycobacterial infections in Wisconsin during April 2010 is also included.

Syphilis

Test	Total	Test	Total
RPR Reactive	1	TPPA Reactive	5
VDRL Reactive	15	Darkfield Positive	0

New Cases of Syphilis

Stage	Number of Cases	
	May 2010	May 2009
Primary syphilis	0	0
Secondary syphilis	0	0
Early latent	0	4
Late latent	1	0
Total	1	4

Source: Wisconsin Division of Health

Isolates Other Than *N. gonorrhoeae*

Organism	Site	Number Isolates	Organism	Site	Number Isolates
Ureaplasma urealyticum	Genital	6	*Mycoplasma hominis*	Genital	1

Enteric Parasites Identified

Age	Sex	Parasite
41	M	*Blastocystis hominis*
58	M	*Blastocystis hominis*
30	M	*Endolimax nana*
29m	M	*Blastocystis hominis*
		Entamoeba coli
36	M	*Blastocystis hominis*
		Entamoeba coli
6	M	*Blastocystis hominis*
		Entamoeba coli
26	M	*Endolimax nana*
20	M	*Endolimax nana*
15	M	*Endolimax nana*
55	F	*Endolimax nana*
		Entamoeba coli
17	F	*Entamoeba coli*
31	F	*Entamoeba coli*
25	F	*Entamoeba coli*
6	F	*Entamoeba coli*
		Giardia lamblia
37	M	*Entamoeba coli*
		Iodamoeba buetschlii
41	M	*Entamoeba coli*
		Iodamoeba buetschlii
6	M	*Entamoeba coli*
		Trichuris trichiura
27	M	*Entamoeba coli*
		Trichuris trichiura
13	M	*Giardia lamblia*
35m	M	*Giardia lamblia*
6	F	*Giardia lamblia*

Mycobacterial Infections

Age	Sex	Test Results			Identification
		Sputum Smear	Culture	DNA Probe	
63	M	-	+	+	*M. kansasii*
88	M	-	+	+	*M. avium* complex
34	M	+	+	+	*M. tuberculosis* complex

Reference Cultures

Age	Sex	Source	Identification
84	F	Foot	*Bacillus species*, NOT *Bacillus anthracis*
23	M	Hand wound	*Bacillus species*, NOT *Bacillus anthracis*
7	M	Eye	*Bacillus species*, NOT *Bacillus anthracis*
77	F	Blood	*Bordetella holmseii*
92	M	BAL	*Legionella pneumophila*
19	F	Throat	*Neisseria meningitidis*
18	F	Throat	*Neisseria meningitidis*
60	M	Stool	*Salmonella* Braenderup
5	F	Stool	*Salmonella* Braenderup
40	M	Stool	*Salmonella* Newport
42	F	Stool	*Salmonella* Saintpaul
23	F	Stool	*Salmonella* Stanley
54	M	Stool	*Shigella flexneri* type 1

Laboratory Diagnosed Mycobacterial Infections in Wisconsin during April, 2010

***Mycobacterium* species**		**Brown**	**Dane**	**Eau Claire**	**Fond du Lac**	**Kenosha**	**La Crosse**	**Manitowoc**	**Marathon**	**Milwaukee**	**Outagamie**	**Racine**	**Rock**	**Waukesha**	**Winnebago**	**Wood**	**TOTALS**
M. tuberculosis complex	Pulm		1				1		1								**3**
	Extra																**0**
Total M. tuberculosis complex		**0**	**1**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**
***M. avium* complex**	Pulm		4	1	1		2	1		40		1		2	3	3	**58**
	Extra		2							2							**4**
M. gordonae	Pulm		6	1		1	2		2	8		5	1	2	1		**29**
	Extra									1				1		1	**3**
M. chelonae-abscessus	Pulm		2							2							**4**
	Extra									3					1	1	**5**
M. fortuitum group	Pulm	1	1							5	1					1	9
	Extra									2							2
M. mucogenicum	Pulm																0
	Extra									2							2
M. xenopi	Pulm																0
	Extra				1												1
M. neoaurum	Pulm									1							1
M. bovis *BCG*	Extra		1							1							2
TOTALS:		**1**	**16**	**2**	**2**	**1**	**4**	**1**	**2**	**67**	**1**	**6**	**1**	**5**	**5**	**6**	**120**

Extra-Pulmonary Sources of Isolation:

M. avium complex Extra-pulmonary:	2 neck, 1 pleural, 1 blood
M. gordonae Extra-pulmonary:	1 knee, 1 elbow, 1 unknown
Other *Mycobacterium* species:	*M. bovis* BCG*:* 1 arm, 1 periprostate; *M. chelonae/abscessus*: 1 lip, 1 eye, 1 cornea, 1 toenail, 1 ankle; *M. fortuitum* group: 1 knee, 1 scalp; *M.mucogenicum*: 1 blood, 1 ear canal*; M. xenopi:* 1 leg

***M. tuberculosis* complex First-Line Drug Susceptibility Testing*:**

Drug Resistance	**Number of Isolates**
Susceptible to all first-line drugs	2
Multi-drug resistant	1#
TOTAL	3

(*) Drugs tested: isoniazid=INH (0.2 ug/ml and 1.0 ug/ml), rifampin (1.0 ug/ml), ethambutol (5.0 ug/ml), and pyrazinamide=PZA (100 ug/ml); (#) isolate was resistant to INH, rifampin, PZA, and ethambutol.

Source: Mycobacteriology Laboratory Network Data Report, WI State Laboratory of Hygiene, Madison, WI.

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Virus Isolations from Clinical Specimens

Age	Sex	Source	Symptoms	Agent
24	F	Throat/NP	ARD, fever, headache, cough, sore throat	Rhinovirus
5 M	M	NP	Autopsy	Rhinovirus
22	M	Arm	Vesicular rash	Varicella-Zoster Virus
21	M	Chest	R/O Varicella	Varicella-Zoster Virus

Herpes Simplex Virus Isolations

Agent	Number of Isolates
Herpes Simplex type 1	11
Herpes Simplex type 2	9

Influenza Real-time RT-PCR Testing

Samples Tested	2009 Influenza A (H1N1) Positive
17	0

Molecular Amplification and PCR

Agent	Method	Tested	Positive	% Positive
Mumps	RT-PCR	2	0	0.0%
Chlamydia trachomatis	ProbeTec	495	76	15.3%
Neisseria gonorrhoeae	ProbeTec / GenProbe	670	43	6.4%

DNA Sequencing: The MHD laboratory uses 16S rRNA and the D2 region of the 26S rRNA genes for DNA sequence-based microbial identification of selective reference bacteria and fungal isolates.

Reference Microbe	Target gene	Final Identification
Bacteria	16S rRNA	*Bordetella holmesii*
Bacteria	16S rRNA	*Clostridium difficile*
Bacteria	16S rRNA	*Legionella pneumophila*
Bacteria	16S rRNA	*Moraxella osloensis*
Bacteria	16S rRNA	*Mycobacterium abscessus/chelonae*
Bacteria	16S rRNA	*Mycobacterium mucogenicum*
Fungi	D2/26S rRNA	*Trichophyton mentagrophytes*
Fungi	D2/26S rRNA	*Trichophyton verrucosum*

Lyme Disease Information:

On June 15th, an article published in the *Milwaukee Journal Sentinel* reported the discovery of deer ticks at Doctors Park in Bayside by a UW-Madison research team. According to the article, there is evidence that there is an established breeding population of deer ticks in that area. Deer ticks can carry communicable diseases reportable by state law, including Lyme disease, human anaplasmosis (formerly known as human granulocytic ehrlichiosis), and babesiosis. Because deer ticks and Lyme disease are known to be endemic in Wisconsin, clinicians and health care providers should not rule out Lyme disease based on lack of travel history to northern Wisconsin.

Symptoms of Lyme disease can include an erythema migrans (EM) rash that typically begins as a red macule or papule and expands over a period of days to weeks to form a large round lesion, often with partial central clearing creating a "bull's-eye" appearance. For most patients, the expanding EM lesion is accompanied by other acute symptoms, particularly fatigue, fever, headache, mildly stiff neck, arthralgia, or myalgia. These symptoms are typically intermittent. Later manifestations of Lyme disease include any of the following, and Lyme disease should be considered when an alternative explanation is not found:

- Musculoskeletal system. Recurrent, intermittent attacks (weeks or months) of objective joint swelling in one or a few joints, sometimes followed by chronic arthritis in one or a few joints. Manifestations not considered as criteria for diagnosis include chronic progressive arthritis not preceded by brief attacks and chronic symmetrical polyarthritis. Additionally, arthralgia, myalgia, or fibromyalgia syndromes alone are not criteria for musculoskeletal involvement.
- Nervous system. Any of the following, alone or in combination: lymphocytic meningitis; cranial neuritis, particularly facial palsy (may be bilateral); radiculoneuropathy; or, rarely, encephalomyelitis. Encephalomyelitis must be confirmed by demonstration of antibody production against *Borrelia burgdorferi* (the bacteria that causes Lyme disease) in the CSF, evidenced by a higher titer of antibody in CSF than in serum. Headache, fatigue, paresthesia, or mildly stiff neck alone are not criteria for neurologic involvement.
- Cardiovascular system. Acute onset of high-grade (2nd-degree or 3rd-degree) atrioventricular conduction defects that resolve in days to weeks and are sometimes associated with myocarditis. Palpitations, bradycardia, bundle branch block, or myocarditis alone are not criteria for cardiovascular involvement.

All cases of diagnosed Lyme Disease should be reported to the local health department where the patient lives. For Milwaukee County, cases can be faxed to Survnet at (414) 286-0280. When faxing reports to the local health department, please fill out and submit the Wisconsin Lyme Disease Case Report Form (CDES 107) with all known information. If you have additional questions, please contact Survnet at (414) 286 -3624.

****** IMPORTANT NOTES ******

- MHDL will be closed on Friday, July 2, 2010 as a furlough day for City of Milwaukee government and Monday, July 5, 2010 for the Independance Day Holiday. However, abbreviated staff will be on duty in the laboratory over the weekend.

- Please contact the laboratory at (414) 286-3526 or mhdlab@milwaukee.gov during regular hours with any questions.

- In case of emergency or beyond regular work hours please call 414-286-2150.