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Clinical and Environmental Microbiology
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SUMMARY OF CONFIRMED INFECTIONS

Steve Gradus, PhD, D(ABMM)
Laboratory Director

July 2009 Vol. 14, No. 7

Ajaib Singh, DVM, PhD
Chief Microbiologist

The July 2009 issue presents the laboratory diagnosis of some of the infectious diseases and the reference microbiology work done in this laboratory during June 2009 and new cases of syphilis in Milwaukee during June 2009. Information on the laboratory diagnosed mycobacterial infections in Wisconsin during May 2009 is also included.

Syphilis

Test	Total	Test	Total
RPR Reactive	1	TPPA Reactive	10
VDRL Reactive	27	Darkfield Positive	0

New Cases of Syphilis

Stage	Number of Cases	
	June 2009	June 2008
Primary syphilis	0	0
Secondary syphilis	2	0
Early latent	1	1
Late latent	3	0
Total	6	1

Median age: 34 yr; Age range: 17-52 yr
Source: Wisconsin Division of Health

Gonorrhea Antimicrobial Susceptibility Testing

Number Tested	Decreased Susceptible (DS) / Resistant (R) Antibiotics			
	Ciprofloxacin	Cefixime	Spectinomycin	Azithromycin
2	1(R)	0	0	0

Isolates Other Than *N. gonorrhoeae*

Organism	Site	Number Isolates	Organism	Site	Number Isolates
Ureaplasma urealyticum	Genital	0	*Mycoplasma hominis*	Genital	1

Enteric Parasites Identified

Age	Sex	Parasite
23	F	*Blastocystis hominis*
14	M	*Blastocystis hominis*
		Entamoeba coli
12	F	*Blastocystis hominis*
		Entamoeba coli
10	F	*Blastocystis hominis*
		Entamoeba species
9	F	*Blastocystis hominis*
		Giardia lamblia
12	F	*Blastocystis hominis*
		Entamoeba species
		Giardia lamblia
16	F	*Entamoeba coli*
		Entamoeba coli
		Entamoeba coli
13	F	*Endolimax nana*
		Entamoeba coli
30	F	*Entamoeba hartmanni*
		Giardia lamblia
24	M	*Entamoeba hartmanni*
		Giardia lamblia
8	F	*Entamoeba coli*
		Iodamoeba buetschlii
7	F	*Giardia lamblia*
4	F	*Giardia lamblia*
10	M	*Giardia lamblia*
17	F	Hookworm
44	M	*Strongyloides stercoralis*

Mycobacterial Infections

Age	Sex	Test Results			Identification
		Sputum Smear	Culture	DNA Probe	
51	F	-	+	ND	*M. abscessus*
22	M	-	+	+	*M. avium* complex
74	M	-	+	+	*M. avium* complex
49	M	-	+	+	*M. avium* complex
74	F	-	+	+	*M. avium* complex
60	M	-	+	+	*M. avium* complex
		-	+	+	*M. tuberculosis*
		-	+	ND	*M. fortuitum*
53	M	-	+	ND	*M. mucogenicum*
49	M	-	+	ND	*M. xenopi*
27	F	-	+	ND	*M. xenopi*

Reference Cultures

Age	Sex	Source	Identification
45	M	Fluid	*Actinomyces viscosus*
51	M	Abscess	*Aggregatibacter actinomycetemcomitans*
73	F	Wound	*Bacillus megaterium*
86	F	Blood	*Bordetella holmseii*
60	F	Abscess	*Eikenella corrodens*
57	F	Urine	*Escherichia coli*
77	F	Stool	*Escherichia coli*
60	F	Abscess	*Haemophilus aphrophilus*
76	M	Urine	*Klebsiella pneumoniae*
73	F	Blood	*Microbacterium hominis*
22	F	Genital	*Neisseria gonorrhoeae*
30	F	Genital	*Neisseria gonorrhoeae*
22	M	Throat	*Neisseria meningitidis*
90	M	Wound	*Pantoea* species
82	F	Fluid	*Pseudomonas aeruginosa*
86	F	Urine	*Salmonella* I 4,5,12: nonmotile
3	F	Stool	*Salmonella* I 4,[5],12:i:-
7	F	Stool	*Shigella sonnei*
24	F	Stool	*Shigella sonnei*
8	F	Stool	*Shigella sonnei*
5	M	Stool	*Shigella sonnei*
5	M	Stool	*Shigella sonnei*

4	M	Stool	*Shigella sonnei*
3	F	Stool	*Shigella sonnei*
3	M	Stool	*Shigella sonnei*
8	F	Stool	*Shigella sonnei*
20	M	Stool	*Shigella sonnei*
28	M	Stool	*Shigella sonnei*
7m	F	Stool	*Shigella sonnei*
22	F	Stool	*Shigella sonnei*
33	M	Blood	*Shigella sonnei*
39	M	Tissue	*Streptomyces* species

Laboratory Diagnosed Mycobacterial Infections in Wisconsin during May 2009

***Mycobacterium* species**		**Brown**	**Dane**	**Eau Claire**	**Fond du Lac**	**Kenosha**	**La Crosse**	**Marathon**	**Milwaukee**	**Outagamie**	**Racine**	**Rock**	**Sheboygan**	**Waukesha**	**Winnebago**	**Wood**	**TOTALS**
M. tuberculosis complex	Pulm								2						1		**3**
	Extra		2						1			1					**4**
Total *M. tuberculosis* complex		**0**	**2**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**7**
***M. avium* complex**	Pulm	3	8	2	1		2		37	6	2		2	2			**65**
	Extra								1						1		**2**
M. gordonae	Pulm		4	1	1	1		1	8		2	3			1	1	**23**
	Extra							1									**1**
M. chelonae-abscessus	Pulm		4			1			7								**12**
	Extra		1						3						1		**5**
M. fortuitum group	Pulm		2				1		6	1					1		**11**
	Extra								1								**1**
M. kansasii	Pulm				1												**1**
	Extra								1								**1**
M. mucogenicum	Pulm																**0**
	Extra								2								**2**
M. xenopi	Pulm								3					1			**4**
***M. bovis* BCG**	Extra								1								**1**
M. terrae complex	Pulm			1											1		**2**
TOTALS		**3**	**19**	**4**	**3**	**2**	**3**	**2**	**70**	**7**	**4**	**3**	**2**	**3**	**5**	**1**	**131**

Extra-Pulmonary Sources of Isolation:

M. tuberculosis Extra-pulmonary:	1 lymph node, 1 pleural, 1 bowel, 1 urine
M. avium complex Extra-pulmonary:	1 lymph node, 1 spleen
M. gordonae Extra-pulmonary:	1 abdominal
Other *Mycobacterium* species	*M. bovis* BCG: 1 urine; *M. chelonae/abscessus*: 1 synovia, 1 chest wall, 1 subcarinal, 1 lymph node, 1 skin; *M. fortuitum* group: 1 pacemaker; *M. kansasii*: 1 stool; *M. mucogenicum*: 2 blood

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

Drug Resistance	**Number of Isolates**
Susceptible to all first-line drugs	3
Resistant to PZA, PZA indeterminant, or PZA pending	2
susceptibility testing pending	2
TOTAL	7

(*) 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).

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

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Chief Molecular Scientist

Influenza Real-time RT-PCR Testing

Samples Tested	Novel Influenza A (H1N1) Positive	Seasonal Influenza A/H3 Positive	Seasonal Influenza B Positive
1682	745	3	2

Herpes Simplex Virus Isolations

Agent	Number of Isolates
Herpes Simplex type 1	5
Herpes Simplex type 2	11

Molecular Amplification and PCR

Agent	Method	Tested	Positive	% Positive
Chlamydia trachomatis	ProbeTec	774	98	12.7%
Neisseria gonorrhoeae	ProbeTec / GenProbe	952	52	5.5%

DNA Sequencing

The MHD laboratory is currently performing DNA sequence-based microbial identification for selective reference bacteria and fungal isolates. This rapid, high throughput molecular assay targets 16S rRNA and the D2 region of the 26S rRNA genes for the detection of bacteria and fungal species. Please call the laboratory at (414) 286-3526 for further detail.

Reference Microbe	Target gene	Final Identification
Bacteria	16S rRNA	*Actinomyces* species
Bacteria	16S rRNA	*Aggregatibacter actinomycetemcomitans*
Bacteria	16S rRNA	*Aggregatibacter aphrophilus*
Bacteria	16S rRNA	*Bordetella holmesii*
Bacteria	16S rRNA	*Eikenella corrodens*
Bacteria	16S rRNA	*Microbacterium hominis*
Bacteria	16S rRNA	*Pantoea sp.*

Bacteria	16S rRNA	*Pseudomonas aeruginosa*
Bacteria	16S rRNA	*Streptomyces griseoauranticus*
Bacteria	16S rRNA	*Tatlockia micdadei*
Fungus	D2/26S rRNA	*Acrodontium crateriforme*
Fungus	D2/26S rRNA	*Aspergillus fumigatus*
Fungus	D2/26S rRNA	*Trichophyton tonsurans*