FLORIDA DEPARTMENT OF HEALTH IN PINELLAS COUNTY

EPI WATCH

Monthly Epidemiology and Preparedness Newsletter

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Florida Department of Health in Pinellas County
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Division of Disease Control and Health Protection

Disease Reporting

To report diseases and clusters of illness:

Phone: (727) 824-6932

Fax: (727) 820-4270 (excluding HIV/AIDS)

To report HIV/AIDS by mail:

Surveillance Room 3-138
205 Dr. MLK Jr St. N.
St. Petersburg, FL 33701

Possible Rabies Exposure/ Animal Bite Reports:

Phone: (727) 524-4410 x7665

Rat Lungworm
(*Angiostrongylus cantonensis*)

Formerly limited to Hawaii in the United States, *Angiostrongylus cantonensis*, or more commonly known as the rat lungworm has recently been identified in the southern United States[1]. This parasitic nematode causes eosinophilic meningitis in incidental hosts such as humans, birds, horses, dogs and non-human primates. Most human cases occur in Southeast Asian and the Pacific Basin, however cases have been reported in approximately 30 countries[2]. Rat lungworms have recently been identified in Florida and Louisiana in native and non-native snail species, and rats (*Rattus rattus*)[1]. A recently published study conducted at the University of Florida, sampled snails, rats and rat feces for the nematode. Positive samples were identified in five out of eighteen counties across the state including, Alachua, Hillsborough, Leon, Orange and St. John[1]. A previous study had also identified the parasite in Miami-Dade suggesting an established statewide distribution[1].

The natural lifecycle of this parasite requires mollusks such as snails and slugs as intermediate hosts and rats as the definitive hosts. However, ingestion of contaminated foods such as undercooked snails may result in an incidental infection. Symptoms of infection vary between adults and children. Adults often present with headaches, stiff neck, fever, vomiting, and nausea. Children are more likely to express fever, vomiting and nausea. Rarely, ocular angiostrongyliasis may develop and severe infections can result in coma and death[1]. *Angiostrongylus cantonensis* is diagnosed by identification of eosinophilia in the blood and cerebrospinal fluid and travel history to endemic regions[3]. Treatment is currently supportive since no anti-helminthic drugs have been proven to be effective. Various studies suggest the use prednisolone, mebendazole or albendazole for treatment; however, results are inconclusive regarding effectiveness[3]. Prevention measures against *A. cantonensis* include education before travelling to endemic areas, avoiding eating undercooked snails, slugs, freshwater shrimp, crabs, frogs, and lizards and raw vegetables and vegetable products that not been thoroughly washed[1,4].

The introduced rat lungworm poses a public health threat for various reasons. Primarily, due to the rarity of infection, physicians may not be aware to test for this parasite if the patient hasn't travelled to a foreign country, which may lead to misdiagnosed cases. In addition, due to the large horticultural industry, the transportation of snails infected with this nematode can facilitate the expansion of its naturally nonindigenous territory[1].

References:

1. Stockdale Walden HD, Slapcinsky JD, Roff S, Mendieta Calle J, Diaz Goodwin Z, Stern J, et al. (2017) Geographic distribution of Angiostrongylus cantonensis in wild rats (Rattus rattus) and terrestrial snails in Florida, USA. PLoS ONE 12(5): e0177910. https://doi.org/10.1371/journal.pone.0177910
2. Centers for disease control. (2016). Parasites - Angiostrongyliasis (also known as Angiostrongylus Infection)- Epidemiology & Risk Factors. Retreived from https://www.cdc.gov/parasites/angiostrongylus/epi.html
3. Centers for disease control. (2016). Parasites - Angiostrongyliasis (also known as Angiostrongylus Infection)- Resources for Health Professionals. Retreived from https://www.cdc.gov/parasites/angiostrongylus/health_professionals/index.html
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5. Image: http://gailshumway.com/gallery/plog-content/images/my-collection/little-critters/snail-sharp.jpg

Group B Streptococcus (GBS)

By Nekole Gray, Epidemiologist

Group B *Streptococcus* (GBS) is a type of aerobic bacteria found in the gastrointestinal and genitourinary tracts that can cause skin, soft-tissue, bone and joint infections, pneumonia and bacteremia in adults[1]. The infection has a more severe effect on newborns and is most commonly transmitted to newborns from mothers shortly before and during delivery[2]. In newborns, GBS disease is separated into two categories contingent upon age at the time of infection development. Early-onset disease occurs within the first week of life and can cause sepsis, pneumonia, respiratory distress, apnea, shock, and meningitis. Late-onset GBS disease typically occurs 3 to 4 weeks after birth, but can occur as late as three months after birth. It causes the same illnesses as early-onset GBS disease, but is more commonly associated with the development of meningitis. GBS disease is diagnosed in adults and newborns by testing sterile body fluids, such as blood or spinal fluid[2].

While everyone is susceptible to GBS infection, the most at-risk adult groups include those with preexisting medical conditions such as cancer, diabetes, cardiovascular disease, congestive heart failure, and obesity. The risk of GBS disease increases with age and the Centers for Disease Control and Prevention (CDC) estimates that 25 out of every 100,000 adults over the age of 65 will develop an infection annually. Newborns that are at risk for early-onset infection are those born to mothers that develop fever during labor, test positive for GBS between 35 -37 weeks gestation via urine testing and those who have previously given birth to an infant with GBS. Infants born at less than 37 weeks gestation and those that are delivered more than 18 hours after the mother's water breaks are also at risk for early-onset infection. The risk factors for late-onset infection are unknown, but infants that develop it are commonly premature and are born to mothers that test positive for GBS prior to giving birth.

The CDC recommends antibiotics, typically penicillin or ampicillin, for treatment in adults and newborns. To prevent GBS disease, intrapartum prophylaxis (IAP) should be given to women, while in labor, that present with any of the risk factors listed above. If IAP is taken during labor, the newborn may not need extra antibiotics to fight the infection. CDC also recommends that pregnant women be tested for GBS between 35-37 weeks gestation[2].

References

[1] American Academy of Pediatrics. Summaries of Infectious Diseases. In: Pickering LK, Baker CJ, Kimberlin DW, Long SS, eds. *Red Book: 2012 Report of the Committee on Infectious Diseases.* Elk Grove Village, IL: American Academy of Pediatrics; 2012: 620-627

[2] *Group B Streptococcus.* (5/23/16) Retrieved from https://www.cdc.gov/groupbstrep/index.html

CDC MMWR: Update: Influenza Activity in the United States During the 2016–17 Season and Composition of the 2017–18 Influenza Vaccine

Morbidity and Mortality Weekly Report (MMWR); Early Release June 30, 2017

Summary: In the United States, the 2016-2017 Influenza season started October 2, 2016 and ended May 20, 2017. This last season was relatively moderate, cases beginning to increase in December and nationally peaking in February. The predominant strains were Influenza A (77.9%) and Influenza B (22.1%). The predominate Influenza A strains were (H3N2) (97.2%) and (H1N1)pdm09 (2.8%). Influenza B strains that circulated this year belonged to the B/Yamagata lineage (71.2%) and B/Victoria lineage (28.8%). Three novel Influenza A strains were identified with no hospitalizations and full recoveries.

Influenza hospitalizations were most closely linked with Influenza A (78.0%) of which the A(H3N2) strain accounted for 98.0% of cases. Hospitalization rates were highest amount the ≥65 age group (~60%), of which 94.1% presented with underlying medical conditions (e.g. cardiovascular disease, metabolic disorders, obesity, and chronic lung disease). Pediatric hospitalizations more commonly reported other conditions, such as asthma (26.4%) and neurologic disorders (23.2%). All tested strains were found to be susceptible to the Influenza antiviral drugs, oseltamivir, zanamivir, and peramivir.

The 2016-17 Influenza vaccine was found to be 42% effective against circulating strains. Vaccine effectiveness against Influenza A (H3N2) was 34% and against Influenza B 56%. This is comparable with previous seasons vaccine effectiveness and is considered well matched. The 2017-2018 Influenza trivalent vaccine will include A/Michigan/45/2015 (H1N1) pdm09 – like virus, A/Hong Kong/4801/2014 (H3N2) – like virus and B/Brisbane/60/2008 -like (B/Victoria lineage) virus. The Quadrivalent will also include the B/Phuket/3073/2013- like (B/Yamagata linage) virus.

The complete article can be found here: https://www.cdc.gov/mmwr/volumes/66/wr/mm6625a3.htm?s_cid=mm6625a3_w

Selected Reportable Diseases in Pinellas County

Disease	Pinellas		YTD Total		Pinellas County Annual Totals		
	June 2017	June 2016	Pinellas 2017	Florida 2017	2016	2015	2014
A. Vaccine Preventable							
Measles	**0**	**0**	**0**	**3**	0	0	0
Mumps	**0**	**0**	**1**	**17**	0	0	0
Pertussis	**1**	**0**	**24**	**206**	18	17	19
Varicella	**3**	**1**	**14**	**367**	74	38	35
B. CNS Diseases & Bacteremias							
Creutzfeldt-Jakob Disease (CJD)	**0**	**0**	**0**	**14**	2	3	0
Meningitis (Bacterial, Cryptococcal, Mycotic)	**2**	**1**	**7**	**59**	7	6	4
Meningococcal Disease	**0**	**0**	**0**	**13**	0	1	0
C. Enteric Infections							
Campylobacteriosis	**28**	**15**	**97**	**2173**	146	104	103
Cryptosporidiosis	**8**	**2**	**18**	**194**	27	49	240
Cyclosporiasis	**1**	**0**	**1**	**23**	5	3	0
E. coli Shiga Toxin (+)	**0**	**1**	**1**	**69**	3	2	6
Giardiasis	**3**	**3**	**28**	**546**	41	30	42
Hemolytic Uremic Syndrome (HUS)	**0**	**0**	**0**	**8**	0	0	0
Listeriosis	**0**	**1**	**0**	**22**	2	2	0
Salmonellosis	**31**	**18**	**92**	**2398**	188	196	216
Shigellosis	**7**	**1**	**14**	**592**	19	174	21
D. Viral Hepatitis							
Hepatitis A	**0**	**0**	**0**	**125**	2	4	2
Hepatitis B: Pregnant Woman +HBsAg	**4**	**3**	**18**	**245**	28	37	21
Hepatitis B, Acute	**6**	**8**	**22**	**351**	68	57	44
Hepatitis C, Acute	**1**	**4**	**9**	**169**	49	32	19
E. VectorBorne/Zoonoses							
Animal Rabies	**0**	**0**	**2**	**38**	4	1	2
Rabies, possible exposure	**14**	**16**	**69**	**1645**	131	114	190
Chikungunya Fever	**0**	**0**	**0**	**3**	1	2	10
Dengue	**0**	**0**	**0**	**14**	2	3	1
Eastern Equine Encephalitis	**0**	**0**	**0**	**0**	0	0	0
Lyme Disease	**1**	**3**	**7**	**75**	11	6	5
Malaria	**0**	**0**	**0**	**23**	0	2	3
West Nile Virus	**0**	**0**	**0**	**1**	1	1	0
F. Others							
Chlamydia	**329**	**319**	**2157**	**n/a**	4084	4168	3853
Gonorrhea	**167**	**132**	**771**	**n/a**	1560	1439	1295
Hansen's Disease	**0**	**0**	**0**	**12**	0	0	0
Lead Poisoning	**5**	**4**	**17**	**429**	32	40	62
Legionellosis	**1**	**1**	**8**	**169**	19	18	13
Mercury Poisoning	**0**	**0**	**0**	**23**	0	1	2
Syphilis, Total	**33**	**36**	**171**	**n/a**	400	289	186
Syphilis, Infectious (Primary and Secondary)	**11**	**19**	**81**	**n/a**	187	151	75
Syphilis, Early Latent	**14**	**12**	**51**	**n/a**	144	83	61
Syphilis, Congenital	**0**	**0**	**1**	**n/a**	2	3	0
Syphilis, Late Syphilis (Late Latent; Neurosyphilis)	**8**	**5**	**38**	**n/a**	68	52	50
Tuberculosis	**3**	**1**	**14**	**n/a**	31	14	25
Vibrio Infections	**0**	**0**	**2**	**102**	8	11	10

n/a = not available at this time. Reportable diseases include confirmed and probable cases only. All case counts are provisional. Data is collected from the Merlin Reportable Disease database, surveillance systems maintained at the Florida Department of Health in Pinellas County, and Florida CHARTS http://www.floridacharts.com/charts/default.aspx.

*STD data in PRISM is continually updated. Please note, data from the previous month takes up to an additional month or more to be correctly updated.

* Florida tracks cases of HIV/AIDS. For the most up to date data, please visit: http://www.floridahealth.gov/diseases-and-conditions/aids/surveillance/index.html