Boonshoft School of Medicine
WRIGHT STATE UNIVERSITY

INFECTIOUS DISEASES NEWSLETTER

May 2015

T. Herchline, Editor

LOCAL NEWS

ID Fellows

Dr. Katelyn Booher will be completing her fellowship at Miami Valley Hospital in June and will be joining the Wright State University group based at Miami Valley Hospital. Dr Shruti Patel will be at the VA Medical Center in June, and at Miami Valley Hospital in July - September. At this time, there is no fellow scheduled to start in July.

Local Disease Activity

There were three reports of invasive Haemophilus influenzae reported during late February/early March. The first was a 17 month old girl admitted to Children's Hospital with seizures and found to have H. influenzae in the blood. She was treated and discharged to home. The second was a 59 year old woman who was also diagnosed with H. influenzae in the blood. She was also treated and discharged; she works part time in a daycare. The third was a 65 yo man who was diagnosed with H. influenzae in the CSF. He is still completing therapy. There were no epidemiologic links between the cases; none were documented to be H. influenzae type b which is the serotype the vaccine covers.

There were eight cases of Salmonella reported during April. Ages ranged from 8 months to 62 years. The infant was attending daycare; there were no sensitive occupations among adults. Reported risk factors included eating raw eggs, exotic pet (bearded dragon), eating undercooked chicken. Two cases were contacts with each other. No other links were noted. One patient was hospitalized with bacteremia. She was treated and recovered. Other GI illnesses reported during the month of April included E coli (2), Campylobacter (2), Shigella, and Cryptosporidium. No common factors identified.

NATIONAL NEWS

Contributed by Shruti Patel, MD

HIV outbreak in Indiana among community of IV drug users

As of May 5, 2015, Indiana state officials announced that new cases in HIV outbreak in south eastern Indiana has reached to 149. Numbers are steadily increasing since outbreak was first declared in February 2015. Outbreak is linked with injection drug abuse of oxymorphone. Outbreak is quickly spreading in population where issues of sharing needle, homelessness and prostitution are more prevalent. Needle exchange program has also been started for residents in Scott county. Total 223 visitors have been provided with 9491 needles so far. HIV awareness "You are not alone" campaign has been started to reach out to truck drivers on US 65 as they pass through epicenter of the outbreak and at highest risk of getting HIV.

Multi state outbreak of listeriosis is linked to blue bell products

As of April 21, 2015, total ten patients in four states have been found to have listeria infection from January 2010 to January 2015. Isolates from these patients are similar to isolate from blue bell ice cream samples. Blue bell has recalled all its products from market on April 20, 2015. Recently Sabra hummus has been recalled from market as well after a routine random sample collected at Michigan store was positive for listeria on March 30.

Botulism outbreak in Lancaster

According to CDC an average 145 cases of botulism are diagnosed every year and 15% of them are foodborne. 21 people were affected with botulism after eating at pot luck dinner at a church on April 19 in Lancaster, Ohio. Health officials tested several food samples and said potato salad made with home canned potatoes is likely to be source. One person died from botulism in this outbreak.

INTERNATIONAL NEWS

Experimental Ebola vaccine trial started in Guinea

Guinea has started trial of an experimental Ebola vaccine developed by Merck and Newlink Genetics. Vaccine contains weekend strain of a different virus which is modified to express Ebola virus protein to help trigger immune response. WHO has planned to vaccinate around 10,000 people over 6-8 weeks period. Target populations are close contacts of Ebola patients thereby creating circle of immunity surrounding patients. Trials of two other vaccines have been started in Liberia since February. As of May 6, 2015 according to CDC total 14913 are confirmed cases of Ebola and out of those 11005 death reported.

Case Conference

Contributed by Katelyn Booher, DO

A 36-year-old Caucasian male with advanced HIV initially presented October 2014 with left foot weakness, found to have a ring-enhancing lesion on MRI brain. He was treated empirically with pyrimethamine, leucovorin, and sulfadiazine for 8 weeks. Repeat MRI brain approximately 4 weeks into treatment demonstrated decrease in enhancement, but no decrease in lesion size or clinical improvement otherwise. He was then transitioned to maintenance therapy with pyrimethamine, leucovorin, and clindamycin, though tolerated oral clindamycin due to nausea and emesis. Brain biopsy completed April 2015 confirmed cerebral toxoplasmosis, including brachyzoites and cysts. Pyrimethamine, leucovorin, and intravenous clindamycin were then resumed at treatment dosing, planned for a total of 4-6 weeks. At that time, the patient was re-admitted with DVT and presumed PE. His CD4 was found to be 50 and HIV viral load undetectable after starting emtricitabine, tenofovir, and raltegravir in October 2014. Due to known poor tolerability of oral clindamycin, and logistical issues with discharge on IV clindamycin, decision was made to pursue alternative treatment with pyrimethamine, leucovorin, and trimethoprim/sulfamethoxazole orally to complete a total of four weeks of treatment dosing, followed by maintenance therapy.

Discussion

Multiple studies have compared safety and efficacy of toxoplasma treatment regimens. One pilot study compared trimethoprim-sulfamethoxazole (TS) with pyrimethamine-sulfadiazine (PS) as acute therapy for four weeks followed by maintenance therapy for three months at half the original dosage. Seventy-seven patients were included, with 40 randomized to TS, and 37 randomized to PS. No statistically significant difference was found during acute therapy, and TS was more likely to achieve a complete radiologic response (1). A meta-analysis of prevention and treatment of toxoplasmic encephalitis in HIV-infected patients reviewed 11 trials comparing TS versus dapsone and pyrimethamine (DP), PS versus pyrimethamine and clindamycin (PC), and PC versus TS. No significant differences in morbidity, mortality, or clinical response were found (2). A systemic review of 14 randomized trials also demonstrated similar efficacy among multiple agents, including TS versus PS.

References

1. Torre D., Casari S., Speranza F., et al. Randomized trial of trimethoprim-sulfamethoxazole versus pyrimethamine-sulfadiazine for therapy for toxoplasmic encephalitis in patients with AIDS. Antimicrobial agents and chemotherapy **1998**. 42:1346-1349.
2. Yan J., Huang B., Liu G. Meta-analysis of prevention and treatment of toxoplasmic encephalitis in HIV-infected patients. Acta Tropica **2013**. 127:236-244.
3. Rajapakse, Shivanthan, Samaranayake, Rodrigo, Fernando. Antibiotics for human toxoplasmosis: a systematic review of randomized trials **2013**. 107:162-9.

Bug of the Quarter

Contributed by: W. Grant Starrett, M.D.

This article reviews the more obscure organisms which are less commonly isolated in clinical specimens and are often considered contaminates or colonizers. Please contact me at wgstarrett@premierhealth.com if you come across an isolate that may fit in this category.

Organism: *Finegoldia magna* (aka *Peptostreptococcus magnus*)

Clinical Data: A 67 year-old female with a history of diabetes and hypertension was admitted with diabetic ketoacidosis associated with a left foot abscess following an injury about a month prior. Purulent drainage was noted from her foot wound as well as ischemic changes in the forefoot, and films showed soft tissue gas. She underwent prompt incision and drainage followed four days later by an open transmetatarsal amputation of the left foot. All preoperative wound and surgical cultures grew methicillin susceptible *staphylococcus aureus*. A preoperative wound culture also grew Group G streptococcus as well as *peptostreptococcus asaccharolyticus.* Final surgical cultures also grew *Finegoldia magna.* A course of ceftriaxone was completed, but the patient developed some dehiscence associated with an ischemic flap. A referral to interventional cardiology was made and she underwent angiography with atherectomy/PTA of her deep peroneal and left anterior tibial arteries about three months after her original foot surgeries. Upon follow-up three weeks later the patient's left foot wound had completely healed.

Taxonomy:

Division: Bacteria
Phylum: Firmicutes
Class: Clostridia
Order: Clostridiales
Family: *Peptoniphilaceae*
Genus: *Finegoldia*
Species: *magna*

Associated Diseases:

1. Bone and joint infections (native and prosthetic)
2. Skin and soft tissue infections (often with mixed flora)
3. Lung abscess
4. Endometritis/chorioamnionitis/tubo-ovarian abscesses
5. Endocarditis

Description:

Finegoldia magna is a normal colonizer of the skin and gastrointestinal tract of humans and is the most common gram-positive anaerobic cocci isolated from clinical specimens (followed by *P. anaerobius* and *P. asaccharolyticus*). It was previously known as *Petpostreptococcus magnus* and *Peptococcus magnus*, but was reclassified in 1999 with its own genus based on ribosomal RNA sequencing. Infections caused by these organisms occur in locations within the gastrointestinal/genitourinary tract as well as distant sites, including intra-abdominal abscesses, skin, gynecologic and chest infections, septic arthritis (native and prosthetic) and endocarditis (native and prosthetic). Most beta-lactam antibiotics are active against this organism, Fluoroquinolones are generally not reliable. Obviously, infections with these organisms may be missed due to poor handling of clinical specimens, and some perioperative antibiotic prophylaxis regimens are poorly active against *Finegoldia magna*, particularly for orthopedic surgeries. The significance of this isolate in our patient is unclear given the presence of *Staphylococcus aureus*, and she did well following revascularization and a relatively short ceftriaxone course.

Resources:

1. Arsene C, *et al.* A Case of Septic Arthritis of the Wrist due to *Finegoldia magna.* Case reports in Infectious Diseases, Hindawi Publishing Corp. 2014; Article ID 793053.
2. Bassetti S, *et al.* Endocarditis caused by *Finegoldia magna* (formerly *Peptostreptococcus magnus*): diagnosis depends on the blood culture system used. Diagnostic Microbiology and Infectious Disease 47 (2003); 359-60.
3. Fournier P, *et al. Finegoldia magna*, an early post-operative cause of infectious endocarditis: Report of two cases and review of the literature; Anaerobe 14 (2008); 310-12.
4. Pierre-Yves L, *et al. Finegoldia magna:* A Forgotten Pathogen in Prosthetic Joint Infection Rediscovered by Molecular Biology. Clin Inf Dis 2009;49:1244-7.
5. Murray, *et al.* Manual of Clinical Microbiology, 7th edition.

Upcoming Events

May 2015		
13	Journal Club	MVH 6NW
14-17	SHEA	Orlando, FL
27	Case Conference	MVH Maxon Parlor
June 2015		
4-6	Refugee Health Conference	Toronto, Canada
10	Journal Club	MVH 6NW
24	Case Conference	MVH Maxon Parlor
July 2015		
8	Journal Club	MVH 6NW
29	Case Conference	MVH Maxon Parlor
August 2015		
12	Journal Club	MVH 6NW
26	Case Conference	MVH Maxon Parlor
September 2015		
9	Journal Club	MVH 6NW
17-21	ICAAC	San Diego, CA
30	Case Conference	MVH Maxon Parlor
October 2015		
7-11	IDSA/ID Week	San Diego, CA
14	Journal Club	MVH 6NW
25-29	American Society of Tropical Medicine & Hygiene	Philadelphia,PA
28	Case Conference	MVH Maxon Parlor
November 2015		
TBA	Journal Club	MVH 6NW
TBA	Case Conference	MVH Maxon Parlor
December 2015		
9	Journal Club	MVH 6NW
TBA	Case Conference	MVH Maxon Parlor
January 2016		
13	Journal Club	MVH 6NW
27	Case Conference	MVH Maxon Parlor