Epi Center

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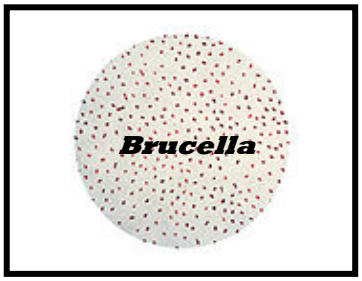
A Curious Case of Brucellosis

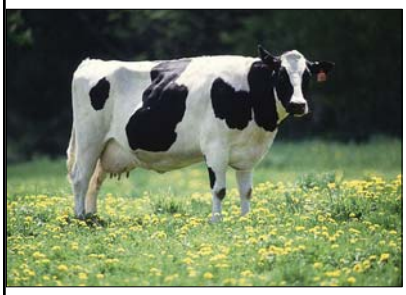
By Holli Tietjen, M.S.

A patient was admitted to a Palm Beach County (PBC) hospital in late Oct 2008 with a chief complaint of abdominal pain and an admitting diagnosis of cholecystitis. An infectious disease consult was requested after 6 days because the patient was septic with gram-positive coccobacilli; blood samples were submitted for culture. The patient improved with supportive care and antibiotic treatment and was discharged 5 days later.

Four additional days had passed when PBCHD Epidemiology and Disease Control staff and the PBC hospital were concurrently notified by a diagnostic lab in California that the patient's culture was presumptive positive for Brucella and was being forwarded to the state reference lab in California for confirmatory testing and speciation. The patient had been released from the hospital before the PCR and culture results were available. The primary physician and the patient were unaware of the Brucella PCR positive test results and were informed of this by PBCHD Epi. The ID doctor initiated treatment of the patient for brucellosis on the day he was notified by PBCHD Epi.



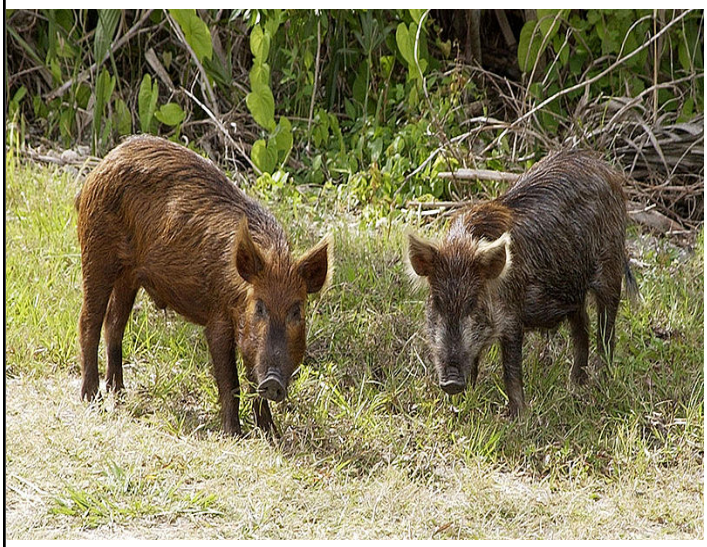
During the epidemiologic investigation it was learned that the patient had reported knee and waist pain in late Jan 2008 and had to quit working because of the pain. In early Feb 2008 he started having intermittent night sweats/chills. The patient was seen by several doctors following symptom onset but brucellosis was not suspected. In May 2008 the patient was seen by an infectious disease (ID) doctor post-knee surgery because of a possible joint infection. Culture specimens were negative and the patient did not follow up with the physician as requested.



The patient had visited relatives in Mexico in March of 2008, after his symptoms had already begun. He admitted to drinking "leche fresca" or fresh milk from an open air market during that visit. Prior to the March 2008 visit, the patient's last travel outside the US was to Mexico in Aug 2006. He admitted to eating unpasteurized cheese products during his 2006 stay. He denied contact with animals of any kind and does not hunt wild hogs. The patient denied having any illness from Aug 2006 until he presented in Jan 2008 with the previously described symptoms. The patient may not have accurate recall of more mild illness, such as flu-like symptoms, after such a lengthy period of time.

Brucellosis is a zoonotic bacterial disease caused by the infectious agent ***Brucella abortus, melitensis, sui*** or rarely ***canis***. It is a disease of acute or insidious onset with continued, intermittent or irregular fever patterns. Other symptoms include headache, weakness, sweating, chills, arthralgia, depression, weight loss, and generalized aching. If not adequately treated, the disease could persist for days, months or even a year or more. Osteoarticular complications can occur in 20-60% of the cases with sacroiliitis being the most common joint manifestation. Orchitis and epididymitis are also common manifestations. Usually patients recover from brucellosis, but disability can be pronounced.

The occurrence of brucellosis is worldwide and is predominantly an occupational disease of those working with infected animals or their tissues. Examples of this are farm workers, veterinarians, and abattoir workers. Transmission occurs through contact with breaks in the skin with animal tissues, blood, urine vaginal discharges, aborted fetuses and placentas and through the ingestion of raw milk and dairy products of infected animals. Airborne infection is possible and occurs in pens and stables for animals, whereas humans breathe in the infectious agent in laboratories and abattoirs. The incubation period for brucellosis is usually 1-2 months but can range from five days to several months.



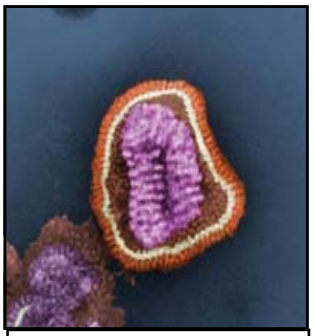
In areas where hunting is popular, it is important to educate hunters to use protective gloves and clothing when handling feral swine or other game such as elk, to practice hand washing hygiene and to avoid eating meat from animals that appear sick. Burying animal remains is also a good practice to prevent the spread of brucellosis.

In Florida hunting feral hogs is popular, and some of these hogs do carry brucellosis and have the ability to transmit it to domestic hogs and people coming into contact with their infected tissues. It is important that these hunters are aware of this and other potential diseases these hogs carry and to practice using proper precautions when handling potentially infected tissues.

Influenza A (H1N1) Oseltamivir Resistance Update

By Holli Tietjen, M.S.

So far the 2008-09 influenza season has been relatively quiet in the United States. Activity has been low. However, preliminary data from a limited number of states indicate a high prevalence of influenza A (H1N1) virus strains resistant to oseltamivir, an antiviral medication also know as Tamiflu®. Despite this high level of resistance, the 2008-09 influenza vaccine is expected to be effective in preventing or reducing the severity of illness with the currently circulating viruses, including this oseltamivir resistant one. These same virus strains, though, have been susceptible to zanamivir (Relenza®), amantadine (Symadine®, Symmetrel®) and rimantadine (Flumadine®). So far there does not appear to be a difference in symptom severity between oseltamivir resistant and oseltamivir sensitive influenza A (H1N1) viruses.



Influenza virus particle.

Credit: CDC/Dr. Erskine. L. Palmer; Dr. M. L. Martin

The challenge arises for clinicians when deciding which medications to use for treatment or chemoprophylaxis of influenza; therefore, it is important for them to know which strain they are treating by performing testing. Clinicians should consider the use of influenza tests that can distinguish influenza A from influenza B. Patients testing positive for influenza B may be given either oseltamivir or zanamivir (no preference) if treatment is indicated, and if a patient tests positive for influenza A, use of zanamivir should be considered if treatment is indicated. If available, confirmatory testing with a diagnostic test capable of distinguishing influenza caused by influenza A (H1N1) virus from influenza caused by influenza A (H3N2) or influenza B virus can also be used to guide treatment.

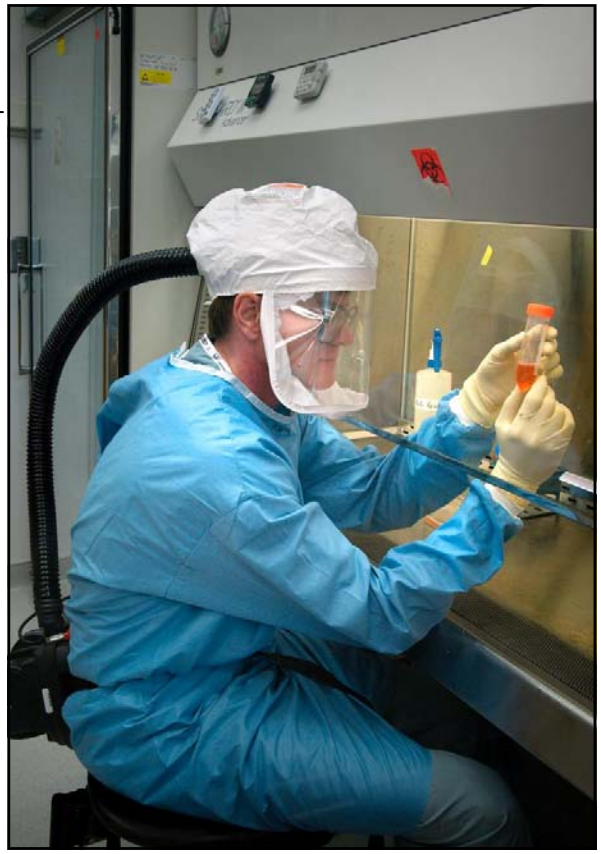
Note: Use of trade names is for identification only and does not imply endorsement by the Palm Beach County Health Department.

Influenza History Note from CDC Archives

This 2005 photograph of the Centers for Disease Control and Prevention's Dr. Terrence Tumpey, one of the organization's staff microbiologists and a member of the National Center for Infectious Diseases (NCID), showed him examining reconstructed 1918 Pandemic Influenza Virus inside a specimen vial containing an orange-colored supernatant culture medium.

Dr. Tumpey, here seen in a Biosafety Level 3-enhanced laboratory setting, was working beneath a flow hood, which pulls air from outside the hood into the hood's confines, and is then filtered of any pathogens before being re-circulated inside the self contained laboratory atmosphere.

Dr. Tumpey recreated the 1918 influenza virus in order to identify the characteristics that made this organism such a deadly pathogen. Research efforts such as this, enables researchers to develop new vaccines and treatments for future pandemic influenza viruses.



PALM BEACH COUNTY HEALTH DEPARTMENT
REPORTED COMMUNICABLE DISEASES
FROM THE EPIDEMIOLOGY AND DISEASE CONTROL PROGRAM

CENTRAL NERVOUS SYSTEM AND INVASIVE DISEASES:	This Week	This Year	Same Time Last Year
Haemophilus influenzae invasive disease	0	18	17
Meningococcal disease	0	4	0
Listeriosis	0	10	9
Streptococcus pneumoniae invasive disease, drug-resistant	0	48	33
Streptococcus pneumoniae invasive disease, susceptible	1	47	33
Streptococcal disease, invasive Group A	0	25	23
Meningitis: bacterial, cryptococcal, mycotic	0	16	17
Encephalitis, other (non-arboviral)	0	1	0
Creutzfeldt-Jakob Disease (CJD)	0	3	0
Staphylococcus aureus (GISA/VISA)	0	1	1
VACCINE PREVENTABLE DISEASES:	**This Week**	**This Year**	**Same Time Last Year**
Mumps	0	1	0
Pertussis	2	7	12
Varicella	0	164	185
HEPATITIS:	**This Week**	**This Year**	**Same Time Last Year**
Hepatitis A	1	17	11
Hepatitis B, acute	1	17	14
Hepatitis B, chronic	1	396	340
Hepatitis B (HBsAg+) in pregnant women	0	58	81
Hepatitis B, perinatal	0	0	0
Hepatitis C, acute	0	1	0
Hepatitis C, chronic	34	2748	1269
ENTERIC DISEASES:	**This Week**	**This Year**	**Same Time Last Year**
Giardiasis	3	118	72
Campylobacteriosis	2	86	66
Shigellosis	1	76	101
Salmonellosis	4	355	341
Cryptosporidiosis	0	37	46
Cyclosporiasis	0	12	10
Typhoid fever	0	5	3
Escherichia coli, Shiga toxin producing	0	13	17
Due to Vibrio alginolyticus	0	1	2
Due to Vibrio vulnificus	0	2	1
Due to Vibrio parahaemolyticus	0	0	2
Due to Vibrio, other	0	0	1
OTHER DISEASES:	**This Week**	**This Year**	**Same Time Last Year**
Human exposure to a potentially rabid animal	1	102	71
Animal rabies	0	3	3
Monkey bite	0	0	1
Brucellosis	0	2	0
Ciguatera	0	11	11
Dengue fever	0	4	5
Ehrlichiosis, human granulocytic	0	0	1
Ehrlichiosis, human monocytic	0	1	0
Hansen's disease (Leprosy)	0	1	2
Hemolytic uremic syndrome (HUS)	0	2	0
Lead poisoning	0	56	16
Legionellosis	0	18	16
Lyme disease	0	10	4
Malaria	0	4	5
Mercury poisoning	0	19	11
Rocky Mountain spotted fever	1	2	1
Toxoplasmosis	0	1	0