# TerraneanPMC Safety Share

## Week of October 15, 2012 – Meningitis

While overshadowed by all the political campaigning, in the background of our national news is a story where twelve deaths and 170 illnesses (so far) are being attributed to a rare form of fungal meningitis. Every day, the number of victims climbs. These particular cases have all been linked to an injectable steroid, called methylprednisolone acetate, made by the New England Compounding Center in Framingham, Mass. A sealed vial of the drug, obtained by the U.S. Food and Drug Administration, contained levels of the fungus aspergillus meningitis that were so evident it was visible to the naked eye. Health officials estimate that 13,000 people may have been exposed to the suspect steroid since May with the drug being distributed to seventy-six clinics in 23 states. Illnesses have been reported in Tennessee, Michigan, Virginia, Indiana, Maryland, Florida, Minnesota, North Carolina, Ohio, New Jersey and, most recently, Idaho.

Methylprednisolone is used to treat pain and swelling that occurs with arthritis and other joint disorders. This medication may also be used to treat various conditions such as blood disorders, severe allergic reactions, certain cancers, eye conditions, skin/intestinal/kidney/lung diseases, and immune system disorders. While it is not known how this contamination occurred, this incident has revived the debate over whether smaller pharmacies should be subjected to greater government oversight. Many clinics have moved their business from major drug manufacturers to smaller pharmacies to save money. It has been reported that pharmacies such as New England Compounding mix their own batches of drugs with less supervision of drug safety and quality.

Meningitis affects the lining of the brain and spinal cord, known as the meninges. The meninges is comprised of three membranes that, together with the cerebrospinal fluid, enclose and protect the brain and spinal cord (the central nervous system).

The suffix of meningitis -itis, is derived from Greek, meaning inflammation (often mistaken to mean disease ï which is attributed to the suffix ï osis). Persons that contract meningitis are subject to severe headaches, pain, as well as the inability to flex the neck. Deafness and epilepsy have also resulted from contracting this disease. Meningitis may develop in response to a number of causes, usually bacteria or viruses, but meningitis can also be caused by physical injury, cancer or certain drugs. The severity of illness and the treatment for meningitis differ depending on how the disease was contracted. Thus, it is important to know the specific cause. There are five "types" of meningitis: fungal, bacterial, viral, non-infectious and parasitic.

Fungal meningitis ï the specific form causing the recent concern - is rare. According to medical researchers at Vanderbilt University Medical Center, Aspergillus meningitis -- the specific type associated with this latest outbreak, is very serious (there is no such thing as mild Aspergillus meningitis). As is the case with this most recent outbreak, fungal meningitis is contracted by people who received the steroid injections and is not considered to be transmitted person-to-person.

Early symptoms of fungal meningitis include headaches, fevers, dizziness, nausea, sensitivity to light, stiff neck, weakness or numbness, slurred speech and pain, redness or swelling at the injection site.

These symptoms can take nearly a month to appear (which is one reason why the number of recent cases keeps increasing). Left untreated, the inflammatory disease can cause permanent neurological damage and death. Sometimes, especially small children, can show only nonspecific symptoms, such as irritability and drowsiness. If a rash is present, it may indicate a particular cause of meningitis; for instance, meningitis caused by meningococcal bacteria may be accompanied by a characteristic rash.

Another type of meningitis, bacterial, if left untreated, is almost always fatal. While most people with meningitis recover (when properly treated), it can cause serious complications, such as brain damage, hearing loss, or learning disabilities. There are several pathogens (types of germs) that can cause bacterial meningitis. In the United States, about 4,100 cases of bacterial meningitis, including 500 deaths, occurred each year from 2003ï 2007. A common form of bacterial meningitis is meningococcal meningitis, which often affects teens and young people. This form can be transmitted through kissing and sharing utensils.

Viral meningitis is generally less severe and resolves without specific treatment. Most viral meningitis cases in the United States, especially during the summer months, are caused by enteroviruses (single-stranded RNA viruses). However, only a small number of people with this infection actually develop meningitis. Other viral infections that can lead to meningitis include mumps, herpesvirus (including Epstein-Barr virus, herpes simplex viruses, varicella-zoster virus - which also causes chicken pox and shingles), measles, and influenza. Other causes of viral meningitis are viruses spread through mosquitoes and other insects (arboviruses). In rare cases LCMV (lymphocytic choriomeningitis virus), which is spread by rodents, can cause viral meningitis. Persons with normal immune systems and who contract viral meningitis through herpes complex may get seriously ill, but the condition is not considered to be fatal. This form can also be spread through mosquitoes, rats and other rodents. Itôs often spread from person to person through fecal contamination.

Viral meningitis can affect anyone. But infants younger than 1 month old and people whose immune systems are weak are at higher risk for severe infection. People who are around someone with viral meningitis have a chance of becoming infected, but they are not likely to develop meningitis as a complication of the illness.

Non-infectious meningitis: This type of meningitis is not spread from person to person. Non-infectious meningitis can be caused by cancers, lupus, certain drugs, head injury and brain surgery.

The last type of meningitis; parasitic, is caused by parasites, organisms that live in hosts to get their food. The hosts can be humans and plants. This form of meningitis can be found in contaminated soil, food and water. This is more common in underdeveloped countries with poor water systems.

Because there are so many types of meningitis, a single preventative measure does not exist. However, practicing good personal hygiene, such as washing your hands often and maintaining a healthy diet (to ensure your immune system remains strong) can be effective. There are also vaccines available for specific bacterial strains of meningitis; some are part of a school systemôs immunization program while other vaccines are specifically for the elderly (ages 65 and up). Talk to your doctor to find out more regarding meningitis vaccines.

**Idealism is fine, but as it approaches reality, the cost becomes prohibitive**

– William F. Buckley