Brandee Roberts

Meningococcal Disease/ Cerebrospinal Meningitis

Identification

Infection of the fluid in a person's spinal chord and fluid that surrounds the brain. Meningitis can be caused by viral or bacterial infection. Viral meningitis is less severe than bacterial meningitis. Bacterial meningitis can result in brain damage, hearing loss, or learning disability. Meningitis can lead to sepsis, which is a potentially life-threatening blood infection.

The three main clinical forms of meningococcal disease include: meningeal syndrome, the septic form, and pneumonia. Meningococcal disease can occur in two forms or in a combination of the two forms. Meningococcal septicemia occurs when the germ invades the bloodstream and causes blood poisoning. Meningococcal meningitis occurs when the bacterium infects the outer lining around the brain and spinal chord. Signs and symptoms of Meningococcal Disease include: high fever, headache, and stiff neck, which are the most common signs and symptoms in people over the age of 5; and in newborns of infants the signs and symptoms may be irritability, eating poorly, and vomiting. People of any age can also experience seizures.

It is important for people to know the different symptoms of meningitis at an early stage to be able to identify if someone may possibly have it.

Infectious Agents

Haemophilus influenzae type b (Hib), *Streptococcus pneumoniae*, and *Neisseria meningitides* are leading causes of bacterial meningitis. *Neisseria meningitides* is the most important of these three, because it has the greatest potential to create an epidemic. There are five strains of serogroups that cause *Neisseria meningitides*. They include type A, B, C, Y, and W-135.

Occurrence

Meningococcal disease occurs sporadically throughout the world with seasonal variations. The most cases occur in the African meningitis belt. The meningitis belt is located from Senegal to Ethiopia; the risk of contracting meningitis increases due to cold nights associated with an increase in upper respiratory tract infections. In temperate regions the number of cases increases in winter and spring. Meningococcal disease occurs mostly in children under the age of five, and young adults between the ages of 15–24.

Reservoir

Believed to only be humans.

Mode of transmission

Bacteria transmitted from person to person through droplets of respiratory or throat secretions. The bacteria can also be spread through close and prolonged contact; this includes kissing, sneezing, coughing on someone, living in close quarters and sharing eating or drinking materials. It is important for people to know the different symptoms of meningitis at an early stage to be able to identify if someone may possibly have it. It has also been found that active and passive cigarette smoke increases the chances of a person's contracting meningococcal disease.

Incubation period

Average is 4 days, ranging between 2 and 10 days.

Period of communicability

From 4 days after infection until patient is cured.

Susceptibility and resistance

Anybody can get the disease. Vaccines can be given to help prevent people from getting meningococcal disease; however the vaccines may not provide adequate protection for 10 to 14 days following injection.

Methods of control

1) Routine Vaccination.
2) Protection of close contacts; vaccinate those in close contact to anyone who becomes a victim of a sporadic case of meningitis.
3) Vaccination for epidemic control has been able to avoid approximately 70% of cases. A polysaccharide vaccine can protect against many different strains of Meningococcal disease.