Overview

About Meningococcal Disease

Meningococcal disease is a serious, potentially fatal bacterial infection that strikes nearly 3,000 Americans annually. In particular, adolescents and young adults are at increased risk of contracting meningococcal disease.

How Much Do You Know?

Incidence

There are nearly 3,000 cases of meningococcal disease every year in the U.S. According to the Centers for Disease Control and Prevention (CDC), between 10-12 percent of the cases are fatal (about 300 to 360). Among those who survive meningococcal disease, approximately 20 percent suffer long-term consequences, such as brain damage, kidney disease, hearing loss or limb amputations.

Who is at Risk?

Adolescents and young adults have an increased incidence of meningococcal disease compared to the general population, accounting for nearly 30 percent of all U.S. cases annually. However, the majority of cases among adolescents may be vaccine-preventable.

The disease is especially significant among college students, since studies show freshmen living in dorms are particularly vulnerable to meningococcal disease. Adolescents and young adults may be at increased risk for infection due to certain lifestyle factors, such as:

- Crowded living conditions (such as dormitories, boarding schools and sleep-away camps)
- Moving to a new residence
- Attendance at a new school with students from geographically diverse areas
- Sharing beverages or utensils
- Going to bars
- Active or passive smoking
- Irregular sleep patterns

Other risk groups include infants and young children, refugees, household contacts of case patients and military personnel.

How is it Spread?

Meningococcal disease is contagious. The disease is transmitted through air droplets and direct contact with infected persons (e.g., coughing, kissing).

The bacteria attach to the mucosal lining of the nose and throat where they can multiply. When bacteria penetrate the mucosal lining and enter the bloodstream, they travel rapidly throughout the body and can cause damage to many organs. The bacteria cannot live outside the body for very long, so the disease is not as easily transmitted as a cold virus. The disease occurs most often in late winter and early spring.

Ways to help prevent spreading the disease include following good hygiene practices, such as washing hands, not sharing water bottles or other drinks, avoiding cigarettes and generally not transmitting or sharing items that have been in one's mouth.

There is a vaccine available that protects against four strains of the disease, which account for approximately 70 percent of cases in the United States.

Symptoms

Even those who have been vaccinated against meningococcal disease should be aware of the symptoms in themselves or in others.

Meningococcal disease is often misdiagnosed as something less serious because early symptoms are similar to the flu. Early symptoms of meningococcal disease may include sudden onset of fever, headache and stiff neck. Nausea, vomiting, sensitivity to light, altered mental status and seizures often accompany these symptoms. After the disease has taken hold, a rash may appear.

Left untreated, the disease can progress rapidly, often within hours of the first symptoms, and can lead to shock, death or serious complications, including hearing loss, brain damage, kidney disease or limb amputations. Adolescents and young adults are urged to seek medical care immediately if they experience two or more of these symptoms concurrently, or if the symptoms are unusually sudden or severe.

Prevention

The Food and Drug Administration (FDA) approved a meningococcal conjugate vaccine for use among persons aged 2 to 55 years. Menactra® vaccine is the first quadrivalent conjugate vaccine licensed in the U.S. for the prevention of meningococcal disease. Menactra® vaccine is designed to offer protection against four serogroups of *Neisseria meningitidis* (A, C, Y, W-135), which account for approximately 70 percent of cases in the United States.

As with all vaccines, there can be minor reactions, including pain and redness at the injection site or a mild fever, which typically last for one to two days.

To find out if a meningococcal vaccination is right for your family, please contact your health care provider.

CDC Recommendations on Vaccination

The Advisory Committee on Immunization Practices (ACIP), which advises the Centers for Disease Control and Prevention (CDC) on national vaccination policy, met in June 2007 and developed recommendations calling for meningococcal disease immunization for all adolescents 11-18 years of age.

What is the Treatment?

Health care must be immediate and aggressive to prevent death and/or serious side effects. Once meningococcal disease is suspected or diagnosed, it is treated with heavy doses of antibiotics. Early treatment is essential to reduce the risk of death. However, because the disease can progress so quickly, early treatment does not guarantee a full recovery. Antibiotics also should be given to those in close contact with a person who is diagnosed with meningitis.

Is It Viral or Bacterial?

Meningitis is difficult to recognize, understand and diagnose.

Essentially, there are two major divisions of meningitis -- viral (caused by a virus) and bacterial (caused by one of several types and strains of bacteria residing in the throat or nasal passages). The bacterial form of meningitis is extremely dangerous, fast-moving and has the most potential for being fatal. For many survivors, the long-term effects can be debilitating, possibly including multiple amputations, hearing loss and kidney damage. Many (but not all) forms of bacterial meningitis can be prevented by vaccination. Viral meningitis has similar symptoms to bacterial meningitis, but is neither as deadly nor as debilitating for the most part. According to the CDC, there is no specific treatment available for viral meningitis at this time. Most patients recover on their own.

Major Bacterial Types

There are many forms and types of bacteria which cause meningitis, but NMA focuses particularly on meningococcal disease because it is deadly, preventable and very few people, including doctors, are fully informed about methods of prevention against the disease.

The main kinds of bacterial meningitis in the U.S. are:

- **Meningococcal disease (*Neisseria meningitidis*)**

These are big words for one of the most devastating types of meningitis today. The disease is expressed as either meningococcal meningitis, an inflammation of the membranes surrounding the brain and spinal cord, or meningococcemia, the presence of bacteria in the blood. Meningococcal disease is the most common cause of bacterial meningitis for U.S. toddlers, adolescents and young adults.

The five main serogroups (or types) of bacteria in the U.S. are A, B, C, Y and W-135, which cause more than 95 percent of meningococcal disease worldwide. The bacteria that cause meningococcal disease reside in the throats and nasal passages of approximately 15 percent of the general population. Researchers are unsure why the bacteria attacks some people while most of the population are not affected.

- **Pneumococcal meningitis (*Streptococcus pneumoniae*)**

This variety primarily attacks younger children. In 2000, the U.S. approved a new conjugate vaccine for young children. The vaccine is deemed to be very effective and safe. There is some misunderstanding about pneumococcal meningitis. Even though the CDC has published a recommended vaccination schedule, parents need to understand this disease can also kill older children.

Taken from the National Meningitis Association Website: http://www.nmaus.org/meningitis/index.htm

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