

Meningitis - meningococcal

Updated: February 2016

Meningococcal disease, also known as cerebrospinal meningitis, is a severe and sometimes fatal infection caused by meningococcus bacteria, also known as *Neisseria meningitidis*. The bacteria have 12 subtypes (serogroups) and six are known to cause illness in humans: A, B, C, W, X and Y. These contagious bacteria are capable of causing large epidemics.

Transmission

The disease spreads from person to person. People can contract the disease if they inhale droplets that have been coughed or sneezed into the air by an infected person. Direct contact with an infected person's throat secretions (e.g. through kissing, sharing drinks) can also spread the disease. Typically, epidemics of meningococcal disease occur among people who live in close quarters.

Although it can affect anyone, it is commonly seen in infants, adolescents and young adults. People with weakened immunity are also at a higher risk of contracting the disease. Travellers to regions in the meningitis belt in sub-Saharan Africa may be at risk of meningococcal disease, particularly during the dry season.

Symptoms

Symptoms usually develop suddenly three to seven days after exposure to infection. The illness may present as any of the three forms - meningeal syndrome, the septic form and pneumonia. The bacteria can invade the brain and its linings (meningitis) and can multiply in the blood (septic form). Pneumonia occurs in around 10% of cases and is more common in the elderly. A characteristic red, blotchy rash occurs all over the body in the most serious cases. The rash is often a late sign of infection and other symptoms include fever, intense headache, vomiting, neck stiffness and coma. Around 5-10% of those infected may not develop symptoms and become asymptomatic carriers who continue to spread the disease. A majority of the disease is spread through asymptomatic carriers.

It is essential that infected people receive antibiotics quickly, as the disease progresses rapidly and can cause permanent brain damage or death. Complications include hearing loss, speech disorders, neurological defects and paralysis. Left untreated, up to 50% of cases die.

Diagnosis

Blood or cerebrospinal fluid (CSF) is sent to the laboratory for testing to identify which bacteria are causing the disease.

Treatment

Treatment is with antibiotics. It is important that treatment is started as soon as possible.

Prevention

Different types of vaccines are available to protect against two or more strains of meningococcus - bivalent (2), trivalent (3) or tetravalent (4) vaccines for A, C, Y and W serogroups. There is a separate vaccine for serogroup B.

Recommendations for type of vaccination varies with age and risk of contracting the illness. For more information on vaccine recommendations from the US Centers for Disease and Prevention see More Information below.

For an individual recommendation, talk to your healthcare provider.

The best way to avoid infection is to practice good personal hygiene, especially if you are around an infected person.

- Wash your hands frequently with warm water and soap, regardless of whether you are sick or healthy. Encourage others to do so as well.
- Take care not to touch your face (especially your eyes, nose and mouth).
- Avoid crowds in affected areas.
- Keep food, drinks, eating utensils, lipstick, cigarettes etc. to yourself. Sharing these objects can transmit germs.
- Avoid close contact, such as kissing, with an infected person.
- Clean objects that may be contaminated using soap and water, then disinfect with a bleach solution or other disinfectant.
- Wash your hands after using the toilet or helping a sick child use the toilet, after changing a sick baby's diaper, and after handling used bed sheets, towels, clothes, or personal items of a person with meningitis.
- If you have close contact with the saliva or mucus of an infected person, tell your medical provider. You may be given antibiotics to lessen your chances of infection. People who have casual contact with an infected person do not need these medications.
- Ensure you are up-to-date with all routine vaccinations.

Risk to Travellers

Although meningococcal disease is known to occur sporadically worldwide, the risk to travellers is higher in areas of sub-Saharan Africa including the regions that constitute the meningitis belt. Because it is a serious disease that develops very quickly, travellers to countries in the "meningitis belt" of Africa (the savannah areas extending from Mali eastward to Ethiopia) should consider vaccination if they are travelling during outbreaks or during the dry season (December to June). Pilgrims to Mecca in Saudi Arabia are also required to be vaccinated due to a higher risk in mass gatherings. As many recent outbreaks have involved the W135 strain, a quadrivalent (4 strain) vaccine (serogroups A, C, Y and W135) should be considered.

Reference

International SOS - Country Guides
<http://www.internationalsos.com>

More information

CDC Meningococcal disease information
<http://www.cdc.gov/meningococcal/>

Disclaimer

This information has been developed for educational purposes only. It is not a substitute for professional medical advice. Should you have questions or concerns about any topic described here, please consult your healthcare professional.