

## WHAT IS MENINGITIS?

Meningitis is an inflammation of the membranes that surround the brain and spinal cord. This condition may be caused by bacteria, fungi, or viruses and sometimes develops as a complication of another infectious disease.

The symptoms that indicate the possibility of meningitis, include a headache, fever, sore throat, stiffness of the neck, and later a rash. When these symptoms are present, the physician can make a diagnosis by obtaining spinal fluid by means of a spinal tap (lumbar puncture). The fluid is examined to determine if infection is present so that the appropriate treatment can be started.

The epidemic form of meningitis is due to bacteria called meningococcus, (*Neisseria meningitidis*). During the winter months, these germs may be present in the nose and throat of perfectly healthy persons (**approximately 20%**) without them being aware they are carrying the germ. These healthy carriers do not get sick, but they can spread the germ to others by sharing saliva such as when sharing drinking cups, water and soda bottles, lipstick, eating utensils, cigarettes, etc.

Medical Science cannot yet account for the fact that some people carry these germs with no adverse effects, while others become seriously ill. One theory is that individuals who become ill are for some reason unable to mount an immunologic defense (produce antibodies) to ward off the bacterial invaders. In the presence of a high carrier rate and perhaps increased virulence on the part of the organism, some factors promote the occurrence of the disease. These factors include crowding, exhaustion, change of climate, and lowered resistance because of other illnesses, cigarette smoking and exposure to second hand smoke.

In all forms of bacterial meningitis, the most important consideration is early detection and the use of appropriate antibiotics. Not only the patient, but also all of those exposed to the patient should be treated with these medications in an attempt to eradicate the germs before they spread. The difficult thing to decide is just where these efforts should stop. There is evidence that widespread use of antibiotics for prevention of the disease has caused some of the organisms to develop resistance to the antibiotics.

Current recommended control methods in meningococcal disease involve giving antibiotics to contacts to prevent them from getting the disease. The drugs of choice for this prophylaxis are Rifampin and Ciprofloxacin. A polysaccharide vaccine for *Neisseria meningitidis* **serogroups A, C, Y, and W-135** has been developed. It is currently recommended that travelers planning to visit countries recognized as having epidemic meningococcal disease, military recruits in basic training centers, and for college freshmen living in dorms receive this vaccine. **Serogroup B** occurs approximately 50% of the time in our region and is not covered in the vaccine.

There are other types of bacterial meningitis than those caused by *Neisseria meningitidis*. These include bacterial infections that occur elsewhere in the body but may extend to the membranes of the spinal cord and brain. These organisms can cause pneumonia, cellulitis, abscesses, etc. The bacteria can be streptococcus or staphylococcus, among others. Bacterial meningitis may occur following an ear infection, a sinus infection, or in connection with a skull fracture. These other types of bacterial meningitis are rarely communicable to others.

Much more common and somewhat less severe are the types of meningitis caused by viruses. The more common forms of viral meningitis include echoviruses, enteroviruses, and the herpes simplex virus. There is no effective treatment against viral meningitis, but most of these infections are mild in nature and patients recover with symptomatic care.

Less common is meningitis due to fungal infections. In the Western states, coccidiomycosis (Valley Fever) and cryptococcosis (from contact with germs in the droppings of pigeons and other birds) are the most frequently encountered fungal infections. These types of meningitis are not communicable from person-to-person.

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Rev. 04/2001