

Meningitis

viral meningitis; bacterial meningitis

Definition

An infection which causes inflammation of the membranes covering the brain and spinal cord.

Causes, incidence, and risk factors

The most common causes of meningitis are bacterial infections that start in other parts of the body and spread to the brain or spinal cord via the bloodstream. Meningitis is also caused by viruses, chemical irritation, or tumors.

Types include:

- meningitis, cryptococcal
- syphilitic aseptic meningitis
- meningitis, H. influenza
- meningitis; meningococcal
- meningitis, pneumococcal
- meningitis, staphylococcal
- meningitis, tuberculous
- aseptic meningitis
- meningitis gram negative

Acute bacterial meningitis is very serious and should be treated immediately to prevent permanent damage. Bacterial strains that cause meningitis include Streptococcus, Haemophilus influenzae, Staphylococcus, and Meningococcus. In the U.S. about 17,500 cases of bacterial meningitis occur each year.

Common viral meningitis is milder and occurs more often than bacterial meningitis. It usually develops in the winter and affects people under 30. Seventy percent of the infections occur in children under the age of 5. Other types of viral meningitis are rare, but more serious.

Prevention

- Haemophilus vaccine (HiB vaccine) in children will help prevent one type of meningitis.
- It is highly recommended that parents and close contacts of individuals with meningitis caused by certain bacterial strains take preventative measures to avoid infection themselves. (See Meningitis, meningococcal, and Meningitis, H. influenza)

Symptoms

- fever
- headache, severe
- nausea and vomiting
- stiff neck
- sensitivity to light (photophobia)
- mental status changes

Additional symptoms that may be associated with this disease:

- speech impairment
- neck pain
- muscle pain
- hallucinations
- facial paralysis
- eye lid drooping
- drowsiness
- consciousness, decreased
- chills
- breathing, rapid
- agitation
- positive Babinski's reflex
- fontanelles - bulging
- opisthotonos
- poor feeding
- irritability

Signs and Tests

- lumbar puncture
- CSF smear
- culture of CSF (cerebral spinal fluid)
- skull X-ray, sinuses X-ray, and chest X-ray
- head CT scan looking for abscess or deep swelling

This disease may also alter the results of the following tests:

- CSF glucose
- CSF cell count

Treatment

Antibiotics will be prescribed for bacterial meningitis; the type will vary depending on

the infecting organism. Antibiotics are ineffective in viral meningitis. Treatment of secondary symptoms including brain swelling, shock, and convulsions will require other medications and intravenous fluids. Hospitalization may be required depending on the severity of the illness and the needed treatment.

Expectations (prognosis)

Early diagnosis and treatment of bacterial meningitis is essential to prevent permanent neurological damage. Viral meningitis is usually not serious, and symptoms should disappear within 2 weeks with no residual complications.

Complications

- hearing loss
- brain damage
- loss of vision
- deafness

Calling your health care provider

If you feel that you or your child have symptoms suggestive of meningitis, you must seek emergency medical help immediately. Early treatment is key to a good outcome.