AUGUST 2019 *Parish Nurse News*

Encephalitis



Signs and Symptoms

- Drowsiness
- Confusion and disorientation
- Seizures
- Sudden Fever
- Severe headache
- Nausea and vomiting
- Tremor
- In infants, bulging in the soft spot of the skull
- Occasionally, a stiff neck

Emergency Symptoms-Altered levels of consciousness

Encephalitis is a rare and acute inflammatory disease of the brain caused by a viral infection. Encephalitis sometimes occurs in a primary form when the disease is due to a direct viral invasion of your central nervous system. Its most common form, however, is secondary (post infectious) encephalitis, which follows or occurs with a viral infection in some other part of your body such as measles, chickenpox, rubella, or mumps. The cause in some of these secondary cases is believed to be a hypersensitivity reaction.

Secondary encephalitis arises from within your body, but the primary form results from the environment around you. The viruses can be sporadic or epidemic. The most common sporadic form, herpes simplex encephalitis, can be particularly deceptive when it starts as a minor illness with headache and fever. This is followed by neurologic symptoms, which may include difficulty in talking, weakness, confusion, unconsciousness, repeated seizures, and the symptoms described above. Epidemic varieties may be due to arboviruses. These are mosquito-borne and infect you only in warm weather.

Some 1,500 to 2,000 cases of encephalitis are reported annually in the United States.

Diagnosis

In infants, a bulging in the soft spot of the skull (the fontanelle) and a stiff neck are key symptoms. In older children, severe headache and sensitivity to light may be more significant. In adults, mental disturbances, from severe disorientation to coma, may be the most outstanding clinical feature.

After the initial signs, the onset of neurologic symptoms can be variable. You may be severely ill within 24 hours, or a week may pass before the neurologic symptoms are apparent. In the case of secondary viral encephalitis, the disease may develop 5 to 10 days after onset of the initiating viral infection.

Encephalitis usually is diagnosed by analyzing your cerebrospinal fluid, which is extracted by a lumber puncture. Analysis of the fluid reveals a normal glucose level, increased white blood cell count, and failure of culture of the fluid to show the presence of bacteria. Your physician will be able to rule out acute bacterial meningitis. When hemorrhages are part of the illness, your cerebrospinal fluid may be slightly bloody. Electroencephalography, MRI, or CT can help to confirm the diagnosis of encephalitis.

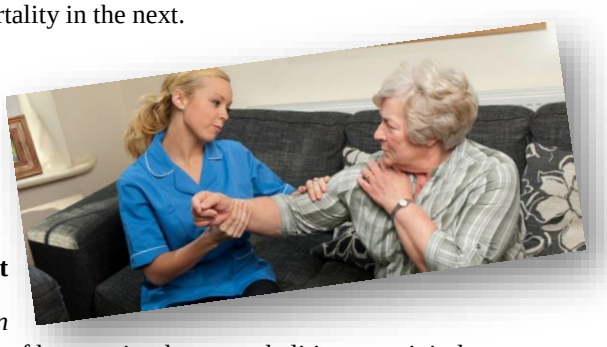
Diagnosis of herpes simplex encephalitis is sometimes difficult. Recent advances using sensitive DNA methods have allowed detection of virus in the spinal fluid, confirming the diagnosis. However, if negative, and if symptoms warrant, a biopsy from the brain may be necessary. Because this biopsy involves some risk, treatment with an antiviral agent is initiated early. If no response occurs with antiviral treatment, a brain biopsy may be advised.

How Serious Is Encephalitis?

The course of viral encephalitis is variable. It may be of short duration and benign, or it may strike with great severity and leave significant mental impairment. Such impairment can include loss of memory, the inability to speak coherently, lack of muscle coordination, paralysis, or hearing or vision defects.

The most acute phase of the illness can last from a few days to a week. The duration of the characteristic fever may be 4 to 14 days. Resolution may be gradual or abrupt. Resultant neurologic defects can continue to resolve over weeks or months. Even severely ill persons can have complete recovery.

The mortality rate varies with the source of the virus. Insect-borne sources might cause low mortality one year but severe mortality in the next.



Treatment

Medication

In the case of herpes simplex encephalitis, an antiviral agent such as acyclovir has been used with success in the early stages. For some patients, anticonvulsant medication may be needed.

Other Therapies

Because viruses that cause encephalitis do not respond to antibiotics, basic treatment is supportive and consists of rest, nourishment, and sufficient fluid intake to let your natural defenses fight the virus. In early convalescence, irritability is common. For persons left with mental impairment, physical and speech therapies may be needed.