Neurological Manifestations of AIDS

Acquired immune deficiency syndrome (AIDS) is the result of an infection with the human immunodeficiency virus (HIV). This virus attacks selected cells of the immune, nervous, and other systems. It impairs their proper function. HIV infection may cause damage to the brain and spinal cord. This may cause:

- Inflammation of the brain (*encephalitis*).
- Inflammation of the membranes around the brain (*meningitis*).
- Nerve damage.
- Difficulty in thinking (i.e., AIDS dementia complex).
- Behavioral changes.
- Poor circulation.
- Headache.
- Stroke.

AIDS-related cancers (such as lymphoma) and opportunistic infections (OI) may also affect the nervous system. Neurological symptoms may be mild in the early stages of AIDS. But they may become severe in the final stages. Complications vary from one patient to another.

- Cerebral toxoplasmosis is a common OI in AIDS patients. It may cause:
  - Headache.
  - Confusion.
  - Lethargy.
  - Low-grade fever.
  - Weakness.
  - Speech disturbance.
  - Ataxia.
  - Apraxia.
  - Seizures.
  - Sensory loss.

- Progressive multifocal leukoencephalopathy (PML)can also happen in AIDS patients. It may cause:
  - Weakness.
  - Facial weakness (*hemiparesis*).
  - Dysphasia.
  - Vision loss.
  - Ataxia.
  - Some patients may also develop compromised memory and cognition.

TREATMENT

There is no cure for AIDS. But recently developed, experimental treatments appear very promising. Some symptoms and complications may improve with treatment. For example, anti-dementia drugs may relieve confusion and slow mental decline. Infections may be treated with antibiotics. Radiation therapy may be needed to treat AIDS-related cancers present in the brain or spinal cord. Drug "cocktails" recommended to treat AIDS can cause neuropathy. Neurological complications of AIDS are often under recognized by AIDS clinicians. So patients who suspect they are having neurological complications should be sure to discuss these with their caregivers.

The prognosis for individuals with AIDS in recent years has improved greatly. This is due to new drugs and treatments, and educational and preventive efforts.

RESEARCH BEING DONE

The NINDS supports a broad spectrum of basic and clinical research studies on the neurological complications of AIDS. Much of this research is done at leading biomedical research institutions.

Research is continually being done to learn more about this problem.

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