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Fact Sheet Epilepsy (Seizure Disorder)

Definition

Epilepsy (also known as seizure disorder) is a neurological condition with symptoms which vary from a momentary lapse of attention to convulsions.

Damage to brain cells can disrupt the normally smooth-running pattern of electrical activity causing an electrical overload. Rapidly firing cells cause a sudden change in the individual's consciousness and/or change in motor activity, also known as a seizure.

Facts

Epilepsy affects people of all ages, races and nationalities. According to the Epilepsy Foundation of America, more than two million people in the United States have a seizure disorder. It can develop at any time in life. Approximately two-thirds of the 125,000 persons who are newly diagnosed each year are adults.

The symptoms, frequency, intensity and types of seizures vary greatly from person to person. Those whose condition is controlled by medication may not experience seizures at all.

In many cases, the cause of epilepsy is unknown. It can occur as a result of an infection, head injury, brain tumor, hydrocephalus, toxic reaction to drugs and alcohol, or other conditions which injure the brain and damage brain cells. Genetic factors may contribute to the development of a seizure disorder, but are not a primary cause. It may also be associated with other neurological conditions such as cerebral palsy.

Symptoms

There are two basic types of seizures: generalized and partial. These refer to how much of the brain experiences the abnormal electrical activity. The form, intensity and duration of the seizures are related to the number and type of brain cells which are affected.

In a *Generalized (or Grand Mal) Seizure* the whole brain is affected. The individual may experience lapse of consciousness and convulsions. Motor function and bladder or bowel control may also be affected.

In a *Partial Seizure*, abnormal electrical activity occurs in only a part of the brain. There is an alteration of consciousness in complete and partial seizures. "Simple partial" seizures do not affect consciousness. However, specific effects depend on the part of the brain involved. Common effects may include: a dazed state, automatic, purposeless behavior such as lip-smacking, or jerking movements in a certain part of the body.

Seizure activity may produce sensations involving the five senses, such as a sound, an unpleasant odor or taste, a sinking or rising feeling in the stomach or head, or spots before the eyes. When these occur prior to a secondary seizure, they may be referred to as an "aura." Some people may be able to train themselves to recognize the aura as a warning sign and prepare themselves for the oncoming seizure by taking preventative measures to protect themselves from possible injury.

Diagnosis

Diagnostic examinations will vary according to the needs of each individual. Diagnosis usually involves a thorough physical and neurological examination, a detailed medical history, analysis of blood and other bodily fluids, an electroencephalogram (EEG), and a computerized tomography (CT) or magnetic resonance imaging (MRI) scan. The pattern of seizures must be recorded, including types, frequency and duration.

Treatment

There is no known cure for epilepsy. According to the Epilepsy Foundation of America, in about 50% to 80% of cases, seizures can be successfully controlled by appropriate medication and treatment. Drugs that are used to treat seizures are called anti-epileptic drugs or anti-convulsants. They act by minimizing or blocking the spread of excess electrical discharge to other parts of the brain. Treatment methods may also consist of surgery, or special diet, or an implanted system of electrical stimulation of the brain.

Treatment of epilepsy is aimed at the underlying cause, if it is known, and at controlling seizures. Certain types of seizures are difficult to control even with medication. In some cases, surgery may be indicated in order to remove the epileptic focus, the part of the brain which produces the seizures.

A person with epilepsy can be potentially seizure-free, work, and participate in most activities. Since stress or emotional upset may lower the seizure threshold or raise the risk of experiencing seizures, treatment should include attention to social, emotional, psychological and vocational needs.

If a person has a generalized (Grand Mal) seizure, the following guidelines should be remembered:

- Remain calm.
- Remove sharp objects from the area.
- Loosen clothing around the neck to help the person breathe.
- Place something soft under the person's head.
- Turn the person on his/her side to keep air passage clear. Do not attempt to force open the person's mouth or to insert any objects into the

mouth.

- Do not try to hold the person down or stop his/her movements.
- Do not attempt CPR, unless the person does not start breathing again after the seizure has stopped.
- Remain with the person until the seizure has ended.
- Reassure the person as consciousness returns.
- Offer to call a friend, relative or taxi to help the person get home if he/she seems confused.
- If a seizure continues for more than five minutes, or recurs, call 911.

Recommended Readings

The Legal Rights of Persons with Epilepsy, 1992, available from the Epilepsy Foundation of America (see Resources listings).

Epilepsy, Frequency, Causes and Consequences, W. Allen Hauser, M.D. and Dale C. Hesdorffer, 1990, Demos Vermande Publications, 386 Park Ave., S., New York, NY 10016. (212) 683-0072.

Epilepsy: Part of Your Life; Epilepsy: You and Your Treatment; Safety and Seizures; and Seizures and Seniors are pamphlets available from the Epilepsy Foundation of America.

Credits

Questions and Answers About Epilepsy, 1993 and *Epilepsy Facts & Figures*, 1993, Epilepsy Foundation of America, Landover, MD.

Lechtenberg, Richard, 1984, *Epilepsy and the Family*, Harvard University Press, Cambridge, MA.

Resources

Family Caregiver Alliance

425 Bush Street, Suite 500

San Francisco, CA 94108

(415) 434-3388

(800) 445-8106 (in CA)

Web Site: <http://www.caregiver.org>

E-mail: info@caregiver.org

Family Caregiver Alliance supports and assists caregivers of brain-impaired adults through education, research, services and advocacy.

FCA's information Clearinghouse covers current medical, social, public policy and caregiving issues related to brain impairments.

For residents of the greater San Francisco Bay Area, FCA provides direct family support services for caregivers of those with epilepsy, Alzheimer's disease, stroke, head injury, Parkinson's and other debilitating brain disorders that strike adults.

Epilepsy Foundation of America

4351 Garden City Drive

Landover, MD 20785

(301) 459-3700

(800) 332-1000

The Epilepsy Foundation of America provides information and education and supports research and advocacy efforts. Local affiliates provide services such as counseling, community education and support groups.

National Institute of Neurological Disorders and Stroke

National Institutes of Health

Building 31, Room 8A-06

3 Center Dr., MSC 2540

Bethesda, MD 20892-2540

(301) 496-5751

(800) 352-9424 (recorded message)

The National Institute of Neurological Disorders and Stroke can provide information on epilepsy and epilepsy research.