



Mental Health Association of Northern Kentucky

A LEADER IN PROVIDING ADVOCACY, EDUCATION, AND SERVICES THAT PROMOTE MENTAL WELLNESS

**EDUCATION AND SCREENING OUTREACH PARTNER FOR THE NATIONAL INSTITUTE OF MENTAL HEALTH AND
NATIONAL MENTAL HEALTH ASSOCIATION**

513 Madison Avenue, 3rd Floor Covington, KY 41011 859-431-1077 or www.mhanky.org

ALZHEIMER'S DISEASE

Mrs. Smith's symptoms began gradually about a year ago. She burst into fits of anger for no apparent reason. Her husband noticed she mixed up her facts when they discussed current events. She got lost driving to familiar places and forgot the grandchildren's birthdays. Mrs. Smith began to feel confused and frightened.

Family and friends became frustrated when her memory failed her. Some hoped her symptoms were temporary ; others assumed that, because she was 72 years old, her memory problems were an inevitable part of her growing older.

Many older Americans have symptoms like Mrs. Smith's. Often, they stem from an undetected illness, from the effects of medication, or from depression. Proper diagnosis and treatment may clear them up quickly.

But Mrs. Smith's problem could also be Alzheimer's disease, a disorder of the brain that affects memory and the ability to think logically. In its severest forms, Alzheimer's disease hampers such daily tasks as dressing, bathing, and eating. With an early diagnosis of Alzheimer's disease, she and her husband may be able to make adjustments to compensate for the illness' erosion of memory, language and skills.

What is Alzheimer's Disease ?

Alzheimer's disease is a progressive disorder that slowly kills nerve cells in the brain. First identified in 1907 by the German physician Alois Alzheimer, the illness afflicts some 4 million Americans today. At least one in 20 adults aged 65 and older suffers from the disease ; one study found that some 47 % of those over age 85 have Alzheimer's disease.

Symptoms

At first, people suffering from Alzheimer's disease develop almost imperceptible personality changes and memory loss. They seem more easily tired, upset or anxious. Their memory loss differs from normal age-related memory problems (see Chart A). They can't cope well with change ; they can follow familiar routes but traveling to a new place confuses them and they easily become lost. They grope for the words they want in conversation. Often they try to cover up their memory lapses by denying forgetfulness or by blaming it on events or people.

Later, memory loss worsens, and Alzheimer's patients may repeatedly ask the same questions. They can't make good decisions but may become angry when family member try to help with such accustomed tasks as balancing the checkbook or filling out tax forms. Driving becomes more dangerous, because they can't react quickly or appropriately to traffic dangers, and the freedom to operate a motor vehicle may become a thing of the past. At this stage, people with Alzheimer's

disease begin to forget the names of longtime friends. Social life becomes more difficult, and they may become more isolated.

In the early stages of their illness, people with Alzheimer's disease are particularly susceptible to depression. Their condition may also be aggravated by reactions to medications or an unsuitable living environment, and the erosion of their intimate relationships may increase their suffering.

Dementia - a syndrome characterized by deterioration of reasoning, judgment and impulse control as well as changes in memory and personality - becomes more apparent in the next stage. A number of illnesses may cause dementia, but among older people Alzheimer's disease is the most common cause. People afflicted with dementia lose the ability to read words or music. They can no longer identify the date or season. As they lose recent memory, they seem to lose entire blocks of time, forgetting, for instance, who the current president is. Emotional problems may become more severe as the person with Alzheimer's disease tries to make sense of a failing reality. They may have long crying spells, become increasingly agitated, anxious, suspicious, and develop paranoid notions about things being stolen or hidden, or about their food being poisoned. Their sleep may be disrupted, and they may wander at night.

In later stages, people with Alzheimer's begin to lose physical coordination and need help with dressing and bathing. More and more often, they can't identify their family and friends, though they may still smile, laugh and enjoy company. Physical impairments can increase until walking is impossible. Eventually the Alzheimer's patient completely loses touch with reality and requires constant care.

Diagnosing Alzheimer's Disease

Research on Alzheimer's disease has established that all people with the disease develop characteristic microscopic change in the brain, called "plaques" and "neurofibrillary tangles" which develop as brain cells die. The ultimate reason for the premature death of brain cells isn't yet known. However, because plaques or tangles develop deep within the brain, doctors don't normally test for them. As a result, physicians must carefully review a person's symptoms and take a thorough medical history. Psychiatrists and other physicians will only diagnose probable Alzheimer's disease after a thorough medical, psychiatric and neurological evaluation has ruled out other conditions that mimic the disease. At the best established medical centers with Alzheimer's disease specialty programs, clinical diagnosis can be quite accurate - 90 % or better.

Research Looks for Causes

The tangles and plaques of Alzheimer's disease appear inside the nerve cells in large numbers in parts of the brain that regulate thinking, learning, sleep and memory. When magnified, these tangles look like pairs of filaments that have been twisted around each other. The plaques are made of protein called amyloid, which is surrounded by what appear to be debris from dying cells.

Psychiatric researchers have focused on amyloid in plaques because this protein has been associated with several other diseases such as tuberculosis, Hodgkin's disease and cancer. Some researchers think amyloid regulates growth in nerve cells and could be part of the cells' attempts to defend themselves. Others have found that abnormal proteins associates with amyloid may contribute to brain cells' death. Finally, researchers have found amyloid in the skin and intestines of some Alzheimer's disease patients, but not in healthy people, leading some doctors to hope they may some day diagnose Alzheimer's disease by detecting amyloid in other parts of the body.

Other studies also have focused on imbalances in calcium. If Alzheimer's disease changes the calcium regulatory system, it may cause too much calcium to build up in brain cells and, eventually, kill them. Also, the presence of abnormally high concentrations of aluminum in the brain tissues of some with Alzheimer's disease has led some researchers to investigate a possible link. Researchers speculated that aluminum - ingested along with foods and drinks stored in aluminum cans - might be causing or aggravating the illness. Research has suggested, however, that if there is any connection, it probably stems from Alzheimer's disease making brain tissues more permeable to aluminum, rather than from aluminum causing the illness.

Still other studies have found imbalances of certain brain chemicals called neurotransmitters. People suffering from Alzheimer's disease have low levels of the neurotransmitter acetylcholine, which are critical to the proper functioning of memory, thoughts and other higher intellectual functions. Alzheimer's patients also have low levels of serotonin, the neurotransmitter that regulates aggression, mood and sleep. Scientists think a serotonin imbalance could contribute to the sleep disturbances, mood changes and aggressive behavior that appear in some Alzheimer's patients.

Finally, some researchers have found that some Alzheimer's disease victims have low levels of norepinephrine in their brains. Deficiencies in this neurotransmitter can contribute to anxiety, depression, excessive sleepiness, and difficulty focusing attention.

Treatments May Be on the Horizon

What do these findings mean ? Some have guided studies to develop medicines that alleviate the symptoms of Alzheimer's disease by bringing acetylcholine, serotonin or norepinephrine back into balance.

Scientists have seen mixed results in medications' ability to halt the progression of Alzheimer's disease. Some increase the amount of acetylcholine in the brain, but offer only modest improvements in mental alertness and memory. Others keep existing acetylcholine from degenerating, improve visual and verbal memory and help certain types of learning.

More recently, researchers have learned that a chemical known as Alcar (acetyl -l-carnitine) imitates the action of acetylcholine in rats and seems to slow the death rate among nerve cells. While it is too early to tell if this avenue of research will lead to a treatment, Alcar studies are continuing in the U.S. to learn whether it can reduce Alzheimer's symptoms.

Coping : A Team Approach Works Best

Even though scientists don't fully understand how Alzheimer's disease begins and what causes its symptoms, patients and their loved ones can do much to cope with the illness and its effects.

Choosing your Physician

One of the most important steps is finding a qualified physician. Older people have special health needs, so family members should seek medical care from a physician who understands and has expertise in the health of the elderly. The doctor may be a primary care physician, a neurologist or a psychiatrist who has an interest in geriatrics.

A psychiatrist is often the first choice when Alzheimer's disease begins with its prominent changes in personality, mood or behavior. As a medical doctor with specialized training in the diagnosis and treatment of mental and emotional illness, a psychiatrist also knows how to identify physical ailments that may require attention from other physicians. A psychiatrist can also identify and treat major

depression, an illness common among Alzheimer's victims and their families. If unrecognized or untreated, depression can mimic or intensify other problems. A psychiatrist can modify treatment to meet each individual's needs.

In addition, psychiatrists have expertise in prescribing and monitoring psychiatric medications that help manage the behaviors that can develop from Alzheimer's disease. The prescription written by the psychiatrist or other physician is designed to control symptoms without causing unnecessary side effects. Families should make sure they understand why these medications are prescribed and which side effects to watch for and report.

Counseling and Support are Vital

Psychiatric medication should not be the only treatment. Both patients and loved ones may need the help of support groups and counseling.

By taking advantage of group support, education and psychotherapy, patients and loved ones can prepare themselves for the disease and its progression. They can learn ways to manage the emotional and behavioral changes that accompany this disease. For example, they can learn to alleviate negative behavior by responding to the underlying causes, such as fear or low self-esteem. They can also identify and cope better with feelings of loss and grief related to permanent changes in a loved one's function and personality.

A person suffering from Alzheimer's disease and his or her family or friends should not feel they must cope with the illness alone. Numerous organizations across the country provide friendship, support, and fellowship. Community resources can help patient and family as they struggle with the emotional and behavioral roller coaster, the medical and social service maze, and the legal and financial intricacies that accompany Alzheimer's disease.

With proper diagnosis and intervention, Alzheimer's disease patients and their loved ones can help prolong the time during which people with Alzheimer's can enjoy productive, fulfilling lives. With a solid understanding of the illness, the patients and their loved ones can cope more effectively with the symptoms and avoid some of the complications that may come with the disease's later stages.