Causes and Risk Factors of Alzheimer's Disease

There are multiple causes for Alzheimer's disease and some causes may not have been discovered yet. In fact, the causes for any given person vary greatly and are difficult to determine. However, researchers have come up with a list of risk factors that may make a person more likely to develop Alzheimer's disease. Similarly, researchers have identified factors that decrease the risk of developing Alzheimer's disease. And finally, researchers have ruled out certain popular myths about what causes the disease.

Myths About the Cause of Alzheimer’s Disease

In recent years there have been several myths about things that cause AD, including the following:

- Viruses like the common cold
- A bacteria like E.coli
- Aluminum used to make soda cans or aluminum foil
- Microwave oven
- Deodorant

The truth is, none of these things cause Alzheimer’s disease. These are among the many myths about how the disease is acquired, yet none of them are true. Although researchers are not exactly sure what causes Alzheimer's disease, they have ruled out the items on the list above.

Risk Factors for Alzheimer's Disease

Old Age

Aging alone does not result in Alzheimer's disease; however, as you get older the chances of developing the disease increases. After age 65 a person's risk for developing AD doubles about every 5 years, and nearly half of those age 85 and older are believed to have symptoms of Alzheimer's disease (Kuhn, 2003). Yet, this isn't to say that every senior will develop Alzheimer's disease; it is not a normal part of aging.

Family History

Having an immediate family member (mom, dad, brothers, and sisters) with AD means that you are up to 3 times more likely to develop it as well. The more people in the family that have the disease, the greater the likelihood that other members will develop it. In particular, early-onset familial AD, which develops between ages 30-60, is suspected to be caused by genetic mutations. Only 3% of all people with AD have the early-onset type (Bird, et al., 1989). Late-onset AD, which develops after age 65, is the most common type.
Down Syndrome

Down Syndrome is a genetic disease that causes mental retardation and characteristic body and facial features. AD is far more common in this population than in the general population. People with Down Syndrome generally develop AD between ages 30 and 50; about 25% of individuals with Down Syndrome over age 30 show signs of AD (NDSS, 2005). Studies suggest that individuals who have a family history of Down Syndrome have a higher risk of developing AD.

Head Trauma

An estimated 2 million Americans suffer from head injuries every year (NIA, 2000). Injury that results in the loss of consciousness or amnesia for 30 minutes or more with or without a skull fracture is considered a head injury. Early adulthood head injury is strongly associated with development of Alzheimer's disease later in life. Injuries resulting in skull fractures and long periods of amnesia put a person at greater risk. Researchers are still trying to determine why and how head injury contributes to the development of Alzheimer's disease. Protective head gear and seat belts should be worn as often as possible to reduce head injury.

In addition to these, several other factors -- such as diet, smoking, stress, depression, cardiovascular disease and cerebrovascular disease -- may put people at greater risk for developing Alzheimer's disease.

Learn more about other risk factors.

Other Possible Risk Factors

Each of the factors below are suspected to contribute to the development of Alzheimer's disease. However, scientists are not sure on their direct link to the disease. More research will be needed to better understand the relationship between these factors and Alzheimer's disease.

Environmental

Naturally occurring substances or chemicals that are found in our surroundings are considered to be environmental factors. Exposure to an abundant amount of these factors can cause many health problems, including AD.

- Natural minerals: lead, zinc, and iron

- Chemicals: benzene, toluene, fertilizers, and pesticides

Gender

Women are at considerably more risk for developing AD than men.

- Women generally have a longer life expectancy than men, and the rate of AD increases with
Lower levels of estrogen after menopause increase women's chances of developing AD.

Cerebrovascular disease

Suffering a stroke is the third most common cause of deaths in the United States (Merck, 2006).

- Diabetes, high blood pressure, cigarette smoking, and heart disease are the primary cause of strokes.
- When stroke deprives the brain of blood, which contains oxygen and food, brain cells can be damaged or die. This can lead to a form of dementia called vascular dementia.

Parkinson's Disease

Parkinson's disease (PD) is a progressive and irreversible neurological disease that produces tremors, impaired balance, rigid movements, and extreme slow movements to routine tasks, such as getting dressed.

- Individuals with rapidly developing signs of PD are 8 times more likely to develop AD (Rosack, 2003).
- The symptoms associated with PD and AD are oftentimes very similar and difficult to distinguish. AD generally develops in late stages of PD. Similarly, individuals in the late stages of AD often have symptoms of PD.

Diet

Diets high in cholesterol and fats can put people at greater risk of developing AD.

- Foods high in these products are risk factors for heart disease and strokes; brain damage occurs when these diseases starve the brain of blood (Morris, 2004).
- An association has been found to exist between obesity and increased development of AD and other types of dementia (Beydoun et al, 2008).

View References


Merck and Company. Introduction: Cerebrovascular Accident. Available at: http://www.merckmanuals.com/professional/sec16/ch211/ch211a.html
Reducing Risk

Several factors that may reduce risk or actually prevent Alzheimer's disease and other forms of dementia are currently being explored. For example, exercise and diet appear to be important.

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