



Dementia and how it is diagnosed

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Often when we think of dementia we think of Alzheimer's disease. While Alzheimer's disease is considered to be the underlying cause of 60–80 per cent of all dementia cases, there are other conditions that can also cause dementia. It is important to know about the other types and causes of dementia because treatment can vary between diseases and discussions with a doctor can lead to early detection, which can be beneficial in slowing the progression of incurable dementias.

Here are some of the most common types of dementia and their causes.

Vascular dementia

This is the second most common type of dementia. It is caused by poor blood flow to the brain, depriving brain cells of the nutrients and oxygen they need to function normally.

Vascular dementia can be caused by any number of conditions that narrow the blood vessels, including stroke, diabetes and hypertension.

Mixed dementia

Sometimes dementia is caused by more than one medical condition. Most commonly, mixed dementia is caused by both Alzheimer's and vascular disease.

Dementia with Lewy bodies

Sometimes called Lewy body disease, this type of dementia is characterized by abnormal protein deposits (called Lewy bodies) that develop in nerve cells in the brain stem. This disrupts the brain's ability to function normally and impairs cognition and behaviour. It can also cause tremors and is often linked with Parkinson's disease. It is irreversible and there is no known cure.

Parkinson's disease dementia

Parkinson's disease is a chronic, progressive neurological condition that can affect cognitive functioning in its later stages. However, not all people with Parkinson's disease will develop dementia. Parkinson's-related dementia is a type of Lewy body dementia. Symptoms include tremors, muscle stiffness and speech problems. Reasoning, memory, speech and judgment are also often affected.

Frontotemporal dementia

Pick's disease is the most common and recognized form of frontotemporal dementia. It is a rare disorder that causes damage to the brain cells in the frontal and temporal lobes. This significantly affects an individual's personality, usually resulting in decreased social skills and emotional apathy. Unlike other dementias, Pick's disease usually results in behaviour and personality changes that occur before memory loss and speech problems.

Creutzfeldt–Jakob disease

A degenerative neurological disorder, Creutzfeldt–Jakob disease (CJD) is also known as “mad cow disease.” Its incidence is very low, occurring in only about one in one million people. CJD is caused by a virus and progresses rapidly, usually over a period of several months. There is no cure. Symptoms include memory loss, speech impairment, confusion, muscle stiffness and twitching and a general lack of coordination, which makes the individual susceptible to falls. Blurred vision and hallucinations may also occur with this form of dementia.

Normal pressure hydrocephalus

Normal pressure hydrocephalus involves an accumulation of cerebrospinal fluid in the cavities of the brain. When this fluid does not drain as it should, the associated build-up results in added pressure on the brain, interfering with its ability to function normally. Individuals with dementia caused by normal pressure hydrocephalus often experience problems with ambulation, balance and bladder control, as well as cognitive impairments involving speech, problem-solving abilities and memory.

Huntington's disease

Huntington's disease is an inherited progressive dementia that affects the individual's cognition, behaviour and movement. Symptoms include memory problems, impaired judgment, mood swings, depression and speech problems (especially slurred speech). Delusions and hallucinations may also occur. Individuals with Huntington's disease may experience difficulty walking and uncontrollable jerking movements of the face and body.

Wernicke–Korsakoff syndrome

Wernicke–Korsakoff syndrome is caused by a vitamin B₁ (thiamine) deficiency. It often occurs in alcoholics, although it can also result from malnutrition, cancers, abnormally high thyroid hormone levels, long-term dialysis and long-term diuretic therapy (used to treat congestive heart failure). The symptoms include confusion, permanent memory gaps and impaired short-term memory. Hallucinations may also occur. This dementia can be reversed if it is treated early with supplements.

Mild cognitive impairment

Dementia can be caused by illness, medications and a host of other treatable causes. With mild cognitive impairment, an individual will experience memory loss and sometimes impaired judgment and speech, but they are usually aware of this decline. These problems usually don't interfere with the normal activities of daily living. Individuals with mild cognitive impairment may also experience behavioural changes that involve depression, anxiety, aggression and emotional apathy. This is often due to the awareness of and frustration related to the condition.

Discussions with the doctor

With an understanding of the types of dementia, questions begin to arise about how these diseases are diagnosed. What can a patient expect when trying to determine whether he or she has some form of dementia? What can a caregiver expect?

When you initially meet with the doctor, it is important to be honest with them about the symptoms the patient is experiencing and their duration, frequency and rate of progression. The doctor will then review the patient's

“A new broom sweeps clean, but an old brush knows the corners”

Irish Proverb

current health status, family history and medication history. This includes evaluating the patient for depression, substance abuse, nutrition and other conditions that can cause memory loss, including anemia, vitamin deficiency, diabetes, kidney or liver disease, thyroid disease, infection, and cardiovascular and pulmonary problems. The patient will also undergo a physical exam and blood tests.

Diagnosing specific dementia-causing diseases can be difficult and it may be necessary to ask for a referral to a doctor with expertise in this area.



Additional tests

Additional tests that may be used in conjunction with the aforementioned approaches include the Mini Mental State Exam (MMSE), the Mini Cog Screen and medical imaging (CT, MRI and PET scans).

The **MMSE** is an evaluation of the patient's cognitive status. The patient is asked to identify the time, date and place where the test is taking place, count backwards, identify objects previously known to him or her, repeat common phrases, perform basic skills involving math, language use and comprehension, and demonstrate basic motor skills.

The **Mini Cog Screen** takes only a few minutes to administer, and is used as an initial screening for dementia. The patient is asked to identify three objects in the office, then draw the face of a clock in its entirety from memory and finally recall the three items identified earlier.

Medical imaging displays images of the patient's brain to help the doctor determine whether there are any growths, abnormalities or the general shrinkage that occurs with Alzheimer's disease. These medical imaging tests can help improve the accuracy of a dementia diagnosis to 90 per cent.

Beyond diagnosis

Once a diagnosis has been made, doctors can help patients to look at various treatment options. In addition, they can often provide information for caregivers and families about support groups and organizations that can provide more information about the specific diagnosis.

Patients and their families should try to learn as much as they can about the disease and how it is expected to progress.

Organizations such as the Alzheimer's Society of Canada (www.alzheimer.ca) or the Parkinson Society of Canada (www.parkinson.ca) can provide valuable information about these diseases and their progression, and tips on how to slow progression and deal with symptoms. These organizations also provide support groups for both patients and their caregivers to help deal with the blow of a dementia diagnosis.

As mentioned, early detection is often the key to being able to reverse or slow the progression of many of these diseases. Having a basic understanding of the many dementias that may occur and how they are diagnosed is beneficial to physicians and families alike.

If you or your loved one has a dementia diagnosis and you find that you simply do not know where to begin or how to handle this change in status and what it means for your future, ask for a referral to a case manager, social worker or geriatric care manager to assist in making plans for the future. ●



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