



REVIEW OF COGNITIVE IMPAIRMENT OF DEMENTIA

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ABSTRACT

Cognitive impairment of dementia is memory loss problems in the elderly. Primary care providers are the first point of contact for most patients with these disorders and should be familiar with their diagnosis, prognosis and management. Both mild cognitive impairment and mild dementia are characterized by objective evidence of cognitive impairment. The main distinctions between mild cognitive impairment and mild dementia are that in the, more than one cognitive domain is involved and substantial interference with daily life is evident. The diagnosis of mild cognitive impairment and mild dementia is based mainly on the history and cognitive examination. The prognosis for mild cognitive impairment and mild dementia is an important motivation for diagnosis, as in both, there is a heightened risk for further cognitive.

KEYWORDS; Dementia, Alzheimer's disease, Mild cognitive impairment, Epidemiology, Diagnosis

INTRODUCTION ^(1,2)

Cognitive impairment in the elderly is a common condition, and in most instances, primary care providers are the first point of contact for a patient and family. In persons over age 70 years, 14% have sufficient cognitive impairment to warrant a diagnosis of dementia¹, and an equal number have mild but unequivocal cognitive impairment short of dementia². Persons with moderate to severe dementia are generally brought to medical attention because their care needs demand. Milder forms of cognitive impairment, on the other hand, present formidable conceptual and practical challenges in detection by primary care providers. Mild cognitive impairment (MCI) is the term for individuals who fall between the cognitive changes of aging and early dementia.

DEFINITION

A chronic or persistent disorder of the mental processes caused by brain disease or injury and marked by memory disorders, personality changes, and impaired reasoning. "Early-stage dementia or Alzheimer's disease may be associated with gluten antibodies."

D : Drug

E : Endocrine disorders

M: Metabolic

E: Emotional

N; Nutritional

T; Toxic, Tumor, Trauma

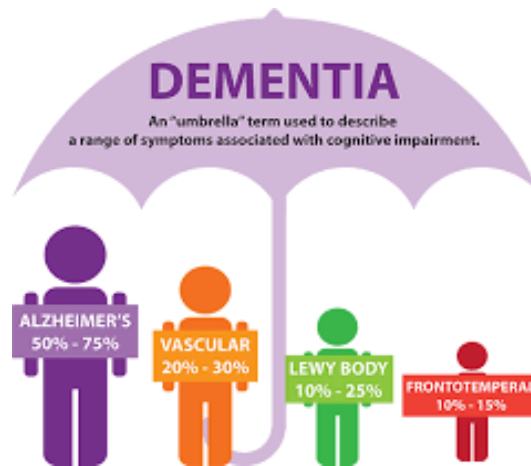
I; Infection

A; Alcohol

CLASSIFICATION

The dementias can be classified according into four major groups:

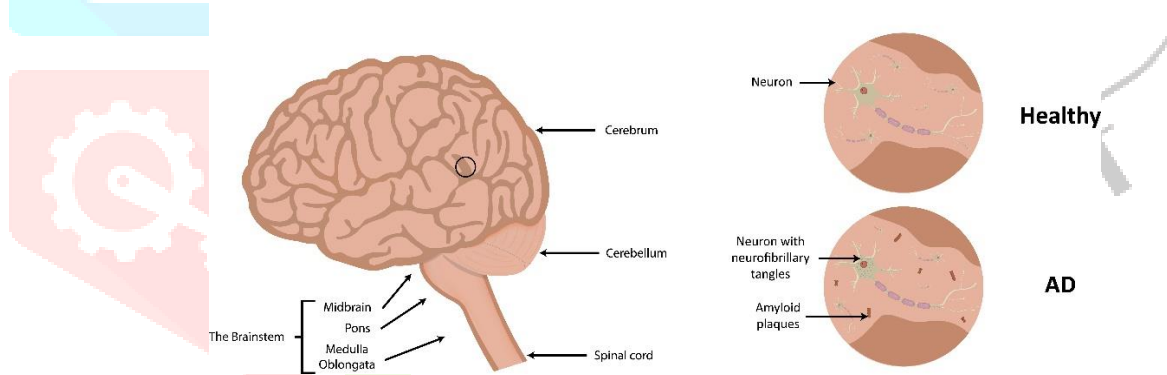
- (1) *Alzheimer's disease*
- (2) *Vascular dementia*
- (3) *Parkinson's disease*
- (4) *Frontotemporal disease*



1).Alzheimer's disease (3)

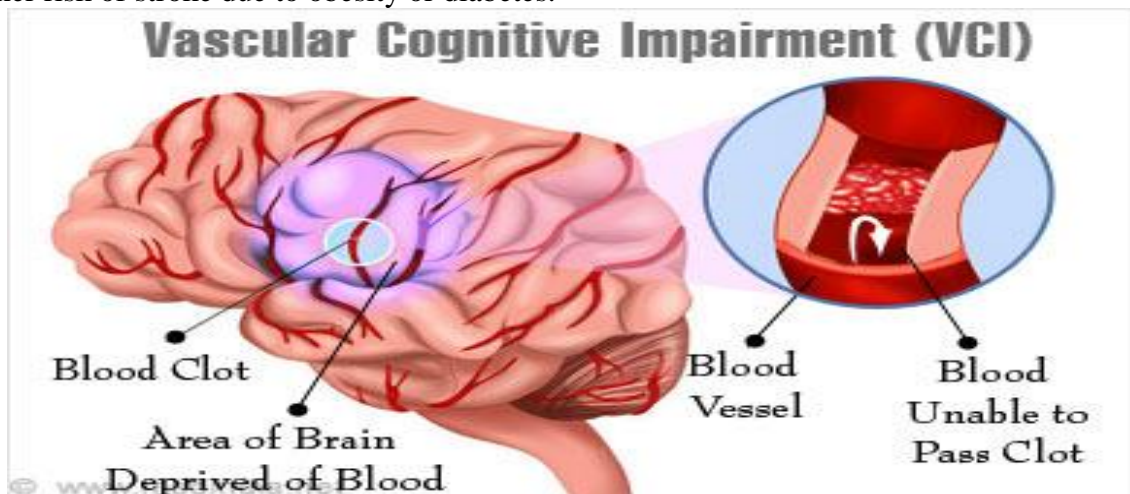
A progressive disease that destroys memory and other important mental functions. Brain cell connections and the cells themselves degenerate and die, eventually destroying memory and other important mental function.

Alzheimer's Disease



2) Vascular dementia (4)

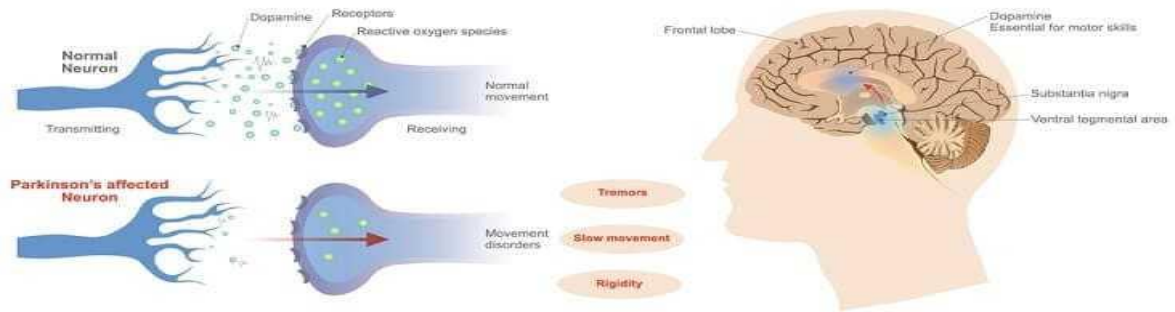
Brain damage caused by multiple strokes Vascular dementia causes memory loss in older adults, particularly in those at higher risk of stroke due to obesity or diabetes.



3. Parkinson's disease ⁽⁵⁾

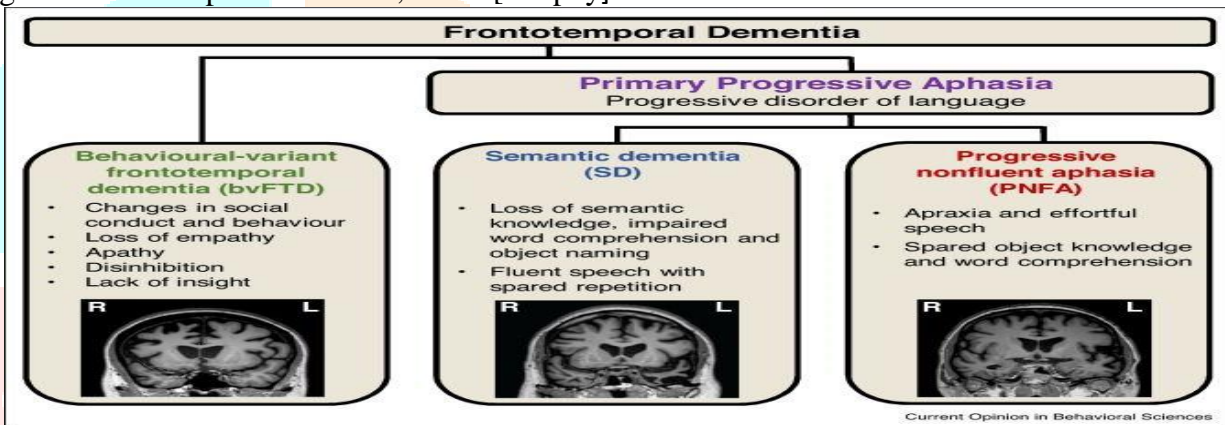
A disorder of the central nervous system that affects movement, often including tumors. Nerve cell damage in the brain causes dopamine levels to drop, leading to the symptom.

Parkinson's disease



4) Frontotemporal dementia ⁽⁶⁾

Frontotemporal dementia is an umbrella term for a group of brain disorders that primarily affect the frontal and temporal lobes of the brain. These areas of the brain are generally associated with personality, behavior and language. In frontotemporal dementia, shrink[atrophy].



ETIOLOGY ⁽⁷⁾

In persons over age 65 years, AD is the most common etiology of MCI and mild dementia^{25–27}. Amnestic impairment is most typical for AD whether in the MCI or mild dementia stage. However, other diseases may also cause MCI and mild dementia, and other diseases often co-occur with AD. Cerebrovascular disease that causes brain infarctions becomes more common with advancing age as well. Estimates vary widely as to the exact contribution that cerebrovascular disease makes, but it is likely clinically important.

ETIOLOGY

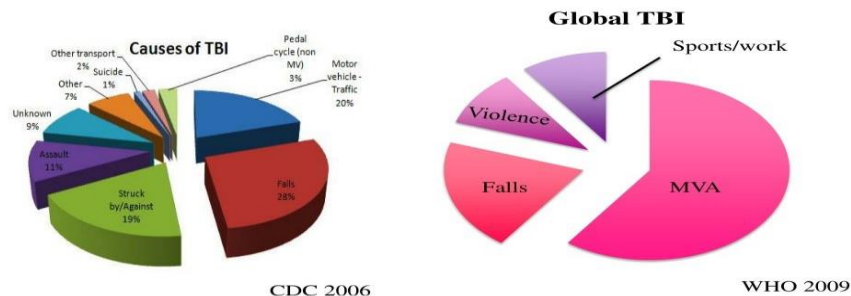
NEURO-DEGENERATIVE	Alzheimer's Ds; Dementia with Lewy Bodies; Frontotemporal dementia; Parkinson's Ds
VASCULAR	Infarction; Hemodynamic insufficiency
NEUROLOGICAL	Multiple Sclerosis; Normal Pressure Hydrocephalus
ENDOCRINE	Hypothyroidism
NUTRITIONAL	Def. of Vit. B12, Thiamine, Niacin
INFECTIOUS	HIV; Prion Ds; Neurosyphilis; Cryptococcus
METABOLIC	Hepatic/ Renal Insufficiency; Wilson's Ds
TRAUMATIC	Subdural Haematoma; Dementia pugilistica
TOXIC AGENTS	Alcohol; Heavy Metals; Anticholinergic Med; CO

EPIDEMIOLOGY (8)

Dementia refers to a syndrome that is characterized by progressive deterioration of cognitive functions. Neuropsychiatric symptoms, such as apathy, agitation, and depression, are also common. With increasing loss of function, a patient is gradually robbed of his or her independence. Eventually, placement in a nursing home may be necessary. Patients with dementia usually survive 7-10 years after onset of symptoms. Dementia places a tremendous burden not only on caregivers, but also on society, and has already been established as one of the major challenges of this century. Epidemiology refers to the medical science that studies frequencies of disease. Measures of frequency that are often used in epidemiology are prevalence and incidence.

The concept of prevalence refers to the number of patients with a disease at a certain moment in time, whereas measures of incidence reflect the number of new cases over time. Although important for health care planners, the knowledge of frequency of disease in itself is not the goal of epidemiology. Rather, the aim is to gain insight into the mechanisms that cause disease, eventually to be able to cure or prevent disease.

Epidemiology-Causes

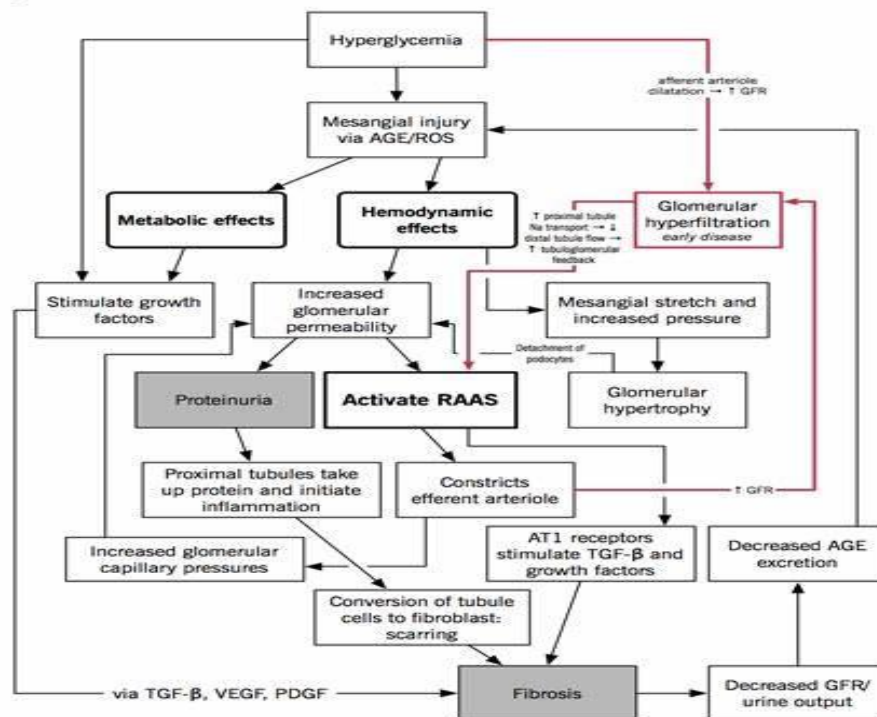


PATHOPHYSIOLOGY(9)

Dementia is a symptom of a variety of specific structural brain diseases as well as several system degenerations. Alzheimer’s disease presently is the commonest cause in the developed world, causing a cortical-subcortical degeneration of ascending cholinergic neurons and large pyramidal cells in the cerebral cortex.

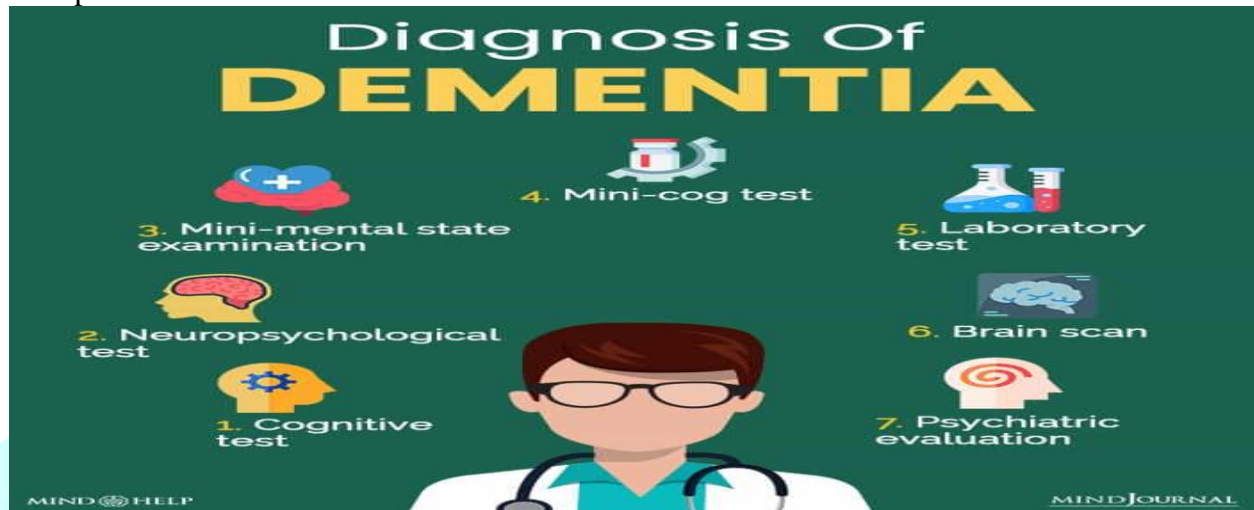
Pathophysiology of diabetic nephropathy

Eric Wong



DIAGNOSIS⁽¹⁰⁾

New onset cognitive impairment is common and is a worrisome symptom to patients and families. If a patient is having difficulties in managing independently medications, finances or transportation, diagnosis and intervention are necessary to ensure the health and safety of the patient. Acknowledging that we lack therapies that block progression of AD or other degenerative dementias, there are nonetheless important reasons to make a diagnosis. First, if family members sense that the patient is having cognitive difficulties, affirming the diagnosis through a rational evaluation enables them to come to grips with how the memory or cognitive difficulties interfere with daily life and what accommodations are needed. Second, the diagnosis of MCI enables families to plan for the future. Some patients and families may choose to discount future risk, but others might desire as much information as possible.

**TREATMENT AND CARE⁽¹¹⁾**

There is currently no treatment available to cure dementia. Anti-dementia medicines and disease-modifying therapies developed to date have limited efficacy and are primarily labeled for Alzheimer's disease, though numerous new treatments are being investigated in various stages of clinical trials. Additionally, much can be offered to support and improve the lives of people with dementia and their cares and families. The principal goals for dementia care are:

- Early diagnosis in order to promote early and optimal management
- Optimizing physical health, cognition, activity and well-being
- Identifying and treating accompanying physical illness
- Understanding and managing behaviors changes
- Providing information and long-term support to cares.

Treatment of patients with MCI and mild dementia should include strong encouragement to remain physically, socially and mentally active. One study of persons with subjective memory impairment showed clear though modest benefits of physical exercise

SYMPTOMS⁽¹²⁾

Your brain, like the rest of your body, changes as you grow older. Many people notice gradually increasing forgetfulness as they age. It may take longer to think of are to recall a person's name. But consistent or increasing concern about your mental performance may suggest mild cognitive impairment (MCI). Cognitive issues may go beyond what's expected and indicate possible MCI if you experience any or all of the following:

- You forget things more often.
- You forget important events such as appointments or social engagements.
- You lose your train of thought or the thread of conversations, books or movies.
- You start to have trouble finding your way around familiar environments.
- You become more impulsive or show increasingly poor judgment.
- Your family and friends notice any of these changes.

If you have MCI, you may also experience:

- Depression
- Irritability and aggression
- Anxiety

PREVENCTIONS ⁽¹³⁾

Mild cognitive impairment can't always be prevented. But research has found some environmental factors that may affect the risk of developing the condition. Studies show that these steps may help prevent cognitive impairment:

- Avoid excessive alcohol use.
- Limit exposure to air pollution.
- Reduce your risk of head injury.
- Don't smoke.
- Manage health conditions such as diabetes, high blood pressure, obesity and depression
- Practice good sleep hygiene and manage sleep disturbances.
- Engage socially with others.
- Exercise regularly at a moderate to vigorous intensity.
- Wear a hearing aid if you have hearing loss.
- Stimulate your mind with puzzles, games and memory training.

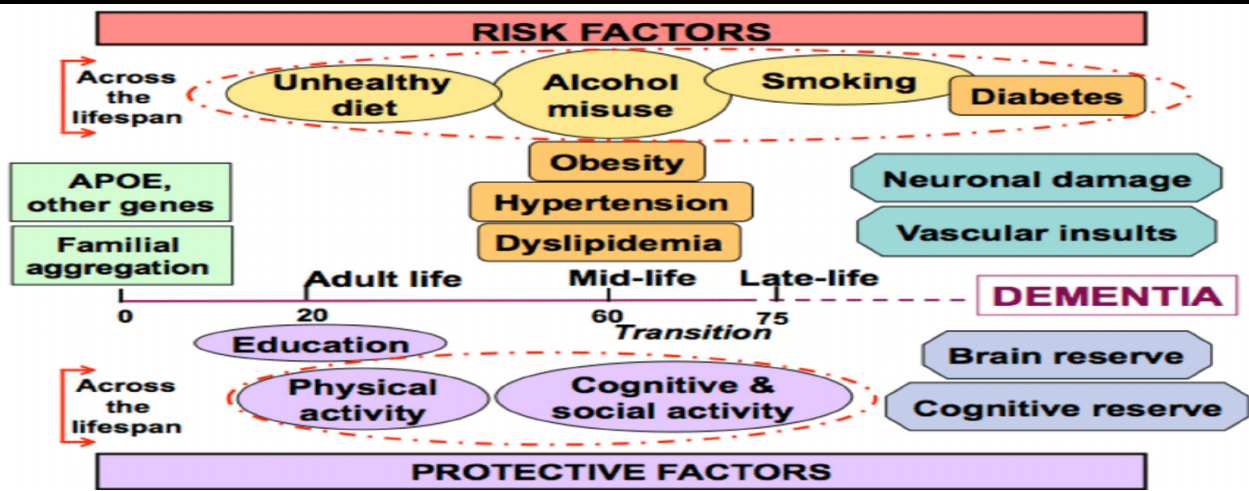
RISK FACTORS ⁽¹⁴⁾

Age

The risk of Alzheimer's disease, vascular dementia, and several other dementias goes up significantly with advancing age.

Genetics/family history

Researchers have discovered a number of genes that increase the risk of developing Alzheimer's disease. Although people with a family history of Alzheimer's disease are generally considered to be at a heightened risk of developing the disease themselves, many people who have relatives with Alzheimer's disease never develop the disease, and many without a family history of the disease do get it.



Smoking and alcohol use

Several recent studies have found that smoking significantly increases the risk of mental decline and dementia. People who smoke have a higher risk of atherosclerosis and other types of vascular disease, which may be the underlying causes for the increased dementia risk.

Atherosclerosis

Atherosclerosis is the build-up of plaque – deposits of fatty substances, cholesterol, and other matter – in the inner lining of an artery.

Cholesterol

High levels of low-density lipoprotein (LDL), the so-called "bad" form of cholesterol, appear to significantly increase a person's risk of developing vascular dementia. Some research has also linked high cholesterol to an increased risk of Alzheimer's disease.

Plasma homocysteine

Research has shown that a higher-than-average blood level of homocysteine, a type of amino acid, is a strong risk factor for the development of Alzheimer's disease and vascular dementia.

Diabetes

Diabetes is a risk factor for both Alzheimer's disease and vascular dementia. It is also a known risk factor for atherosclerosis and stroke, both of which contribute to vascular dementia.

Mild cognitive impairment

While not all people with mild cognitive impairment develop dementia, people with this condition do have a significantly increased risk of dementia compared to the rest of the population. One study found that approximately 40 percent of people over age 65 who were diagnosed with mild cognitive impairment developed dementia within three years.

CANCLUSION

Although a drug cure for dementia or cognitive impairment remains elusive, there is still much that can be done to prevent or delay the onset of either condition, slow down progression of either condition, and most importantly for Age UK, to improve people's well-being while living with these conditions. Age UK, as the largest charity for older people, could be in a unique position to provide dementia-friendly support and services which do not define people by their dementia, rather are inclusive of their needs in a generic setting. We could also supplement our evidence-based guides on healthy ageing with messages on healthy cognitive ageing.

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