

Alzheimer Dementia

Definition:

Alzheimer Disease (AD) is the most widespread of the dementias, the main features being a progressive deterioration of cognition and memory.

Incidence: 50 – 60 % of all dementias
Women twice as likely to develop AD as men

Onset: 65 – 85 years

Duration: 8 – 10 years

Risk factors: age, genetics, education, previous head injury, Down syndrome, Mild Cognitive Impairment (MCI), diabetes

Core features:

- Neurofibrillary tangles (abnormal bundles of filaments in a nerve cell)
- Senile plaques (patches of degenerating axon terminals and dendrites)
- Progressive deterioration of specific cognitive functions such as:
 - a) language (aphasia - defective or absent language function, may be receptive or expressive)
 - b) motor skills (apraxia - impairment in the ability to perform purposeful acts or to manipulate objects)
 - c) perception (agnosia - total or partial loss of the ability to recognize familiar objects or persons)
- Impaired activities of daily living and altered patterns of behaviour
- Progressive worsening of memory
- Associated symptoms of:
 - a) depression
 - b) insomnia
 - c) incontinence
 - d) delusions
 - e) illusions
 - f) hallucinations

Mixed/Vascular Dementia

Definition:

Vascular Dementia (VD) is the result of a single or multiple strokes affecting blood supply to the brain cells. Strokes can be large or small, and can have a cumulative effect.

Incidence:

Mixed form (VD and AD) comprise 2nd most common cause of dementia (20 – 30% of cases). Pure VD now considered rare (2.5%)

Onset:

60 - 65 years. Can be sudden, after a CVA, or gradual over time due to many small strokes
More common in men over 60 years.

Duration: 8 – 10 years

Risk factors:

Hypertension, cigarette smoking, Myocardial infarction, atrial fibrillation, diabetes; depression may be premonitory (give warning in advance)

Core features:

- History of stair-step progression only if related to repeated infarctions. Not typical of most VD's
- Varied presentation dependent on pathology
 - Infarcts – discrete focal signs
 - Vascular perfusion insufficiency – global dementia
- Memory impairment
- One or more of the following cognitive disturbances:
 - a) aphasia (language disturbance)
 - b) apraxia (impaired ability to carry out motor activities despite intact sensory function)
 - c) agnosia (failure to recognize or identify objects despite intact sensory function)
 - d) disturbances in executive functioning (i.e. planning, organizing, sequencing, abstracting)
- Impairment in social and/or occupational functioning
- Focal signs:
 - Hemianopia (defective vision or blindness in 1/2 of visual field)
 - Dysarthria (difficult, poorly articulated speech due to loss of control over speech muscles)
 - Hemiplegia (loss of motor control on 1/2 of the body)
- Emotional lability (happens early in the course of the disease)
- Personality changes (happen early in the course of the disease)

Lewy Body Dementia

Definition:

Lewy Body Dementia (LBD) is a form of progressive dementia identified by abnormal structures in brain cells called "Lewy Bodies". These are distributed in various areas of the brain. Lewy Body Dementia can occur by itself, or together with Alzheimer or Parkinson's Disease.

Incidence: 15 to 20 % of dementias

Onset: approx. 60 - 80 years

Duration: 7 years; some experience rapid decline over several months

Causes: no known causes or risk factors. Abnormal protein lesions occur in the nerve cells of the brainstem, subcortical nuclei, limbic cortex and neocortex. Very rarely it is passed from generation to generation.

Core features:

- Prominent or persistent memory impairment may not necessarily occur in the early stages but is usually evident with progression
- Progressive cognitive decline of sufficient magnitude to interfere with normal social or occupational function
- Cognitive performance may fluctuate dramatically during early stages
- Depression is a common feature
- Clinical features of Parkinson's Disease:
 - Bradykinesia (slowness of all voluntary movement and speech) and rigidity
 - Flexed posture
 - Reduced arm swing
 - Tendency to falls; syncope
 - Paucity of spontaneous movement
 - Tremor – uncommon
- Speech Impairments: word block, difficulty word finding
- Visuo-spatial: difficulty following an unfamiliar route
- Cognitive Impairments: inattention, mental inflexibility, indecisiveness, lack of judgement, loss of insight
- Visual hallucinations (typically well formed and detailed)
- Delusions with persecutory themes are common
- Decreased tolerance to neuroleptics; severe allergic reactions to antipsychotics

Frontotemporal Lobe Dementia

Definition:

An umbrella term for a number of uncommon illnesses, including Pick's disease, which affect the frontal and / or temporal lobes of the brain and produce a dementia syndrome that is quite characteristic.

Incidence:

3rd most common cause of cortical dementia; comprises 10% of all dementias

Onset:

45 – 65 years; onset is gradual, progression is rapid

Duration: 5 – 10 years

Causes: Picks Disease, tumors, brain surgery, head trauma

Core features:

Early signs: profound changes in personality, behaviour, social skills due to frontal lobe involvement

Cognitive Changes:

- mental rigidity and inflexibility (fixed ideas, "stubborn")
- easily distracted
- loss of insight; impulsive
- visual, auditory and tactile hallucinations
- sensory distortions – hyperesthesia: painful reactions to touch, heat and cold

Communication Changes (due to involvement of the temporal lobe):

- lack of spontaneity of speech
- stereotype of speech or use of catch phrases
- echolalia - (the automatic and meaningless repetition of another's words or phrases)
- mutism - (inability to speak)

Behavioural Changes

- perseverative behaviour (persistence of the same verbal response or motor activity)
- may express socially inappropriate behaviours (impolite, tactless, inappropriate comments)
- ritualistic behaviours (clapping, hoarding, singing, repeated undressing and dressing)
- utilization behaviour (unrestrained exploration of objects in the environment)
- decline in personal hygiene and grooming
- hyperorality (inappropriate objects are placed in the mouth) and dietary changes
- disinhibition (swear/yell in public, shoplift, sexually inappropriate)

Physical Changes

- weight gain is extremely common - there is a carbohydrate craving, and gorging may be a problem (this may be related to loss of serotonin in the brain)
- early incontinence
- early primitive reflexes (grasp, sucking)
- low blood pressure, susceptible to falls

Emotional Changes

Apathetic Sub-type

- depressive appearance, emotionally dulled, apathetic, loss of interest, decreased speech. HOWEVER, are not distressed by these symptoms = pseudo-depression

Disinhibited Sub-type

- euphoric, inappropriately talkative, confabulate, restless, smile and giggle excessively, easily distracted, crave physical affection and sexual contact