



# BEHAVIOURAL & PSYCHOLOGICAL SYMPTOMS IN ALZHEIMER'S DEMENTIA

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# SUMMARY

- Chronic, progressive neurodegenerative disorder -> global, non-reversible impairment of brain functioning
- Symptoms – loss of memory, social and occupational functioning, reduced executive functioning, speech and motor deficits, personality change and behavioural and psychological disturbance;
- Deteriorating course – 8 to 10 years
- Brain lesions include neurofibrillary tangles, senile plaques, neuronal loss, brain atrophy, and deficits of cellular acetyl choline synthesis
- Treatment is multidisciplinary emphasising behavioural and psychological symptoms;
- Psychosocial intervention and carer support are key. Always think carer support groups

# DEFINITION

- Neurodegenerative disease
- Insidious onset
- Most common dementia
- Co-exists very often with vascular dementia – mixed dementia
- Histopathology – senile plaques, neurofibrillary tangles, and neuronal loss
- Hallmark symptoms - memory loss, impairment of daily activities & neurobehavioral abnormalities
- Categorised as mild, moderate or severe
- Use mini mental state examination or MOCA – no copyright

# KEY DIAGNOSTIC FACTORS

- Presence of risk factors age, APOE e4, diabetes, smoking, less than secondary schooling, Africans, HT & Pre HT
- Memory loss
- Disorientation
- Nominal dysphasia
- Executive dysfunction

# OTHER DIAGNOSTIC FACTORS

- Mood changes
- Poor abstract thinking
- Constructional dyspraxia
- Prosopagnosia
- Autoprosopagnosia
- Personality change

# RISK FACTORS

- Advanced age
- Family history
- Genetics
- Down's syndrome

# DIAGNOSTIC INVESTIGATIONS— FIRST-LINE

- Bedside cognitive testing
- Full blood count – anaemia
- Metabolic panel &  $\text{Ca}^{2+}$  Low or high Na, BSL
- TSH low or high

# BEHAVIOURAL & PSYCHOLOGICAL SYMPTOMS OF DEMENTIA BPSD

- Anxiety
- Agitation
- Aggression Wandering
- Hallucinations
- Delusions
- Depression



# INVESTIGATIONS TO CONSIDER

- Formal neuropsychological testing
- Syphilis Serology
- HIV
- CSF analysis – HIV, Lyme disease, herpes, prions, patterns of Abeta / tau
- CT MRI – once during the course of the illness – exclude structural causes and assess hippocampal atrophy
- Genetic C 1, 14, 21
- Emerging tests – amyloid positron emission tomography

# TREATMENT ALGORITHM –FIRST LINE

- Carer Support – mental health professional – community service organisation e.g. Alzheimer's Association
- Home safety evaluation - Driving Safety – OT
- Care giving advice- written instructions-treatment of comorbidity-calendars clocks and charts using lighting at night time, removing unnecessary furniture
- Exercise
- Advanced directive power of attorney organised

# TREATMENT ALGORITHM SECOND- LINE

- Environmental control measures
  - Identification bracelets
  - Sound and motion detectors for wandering patients
  - Tagging with devices with global positioning technology for difficult

See Alzheimer's Society: Assistive Technology

# TREATMENT ALGORITHM - 3RD LINE MEDICATIONS

- Rx goals
  - Enhance or prevent decline in cognitive function, reduce BPSD, improve QOL, Reduce adverse effects
- Choline esterase inhibitors
  - Donepezil 5mg /d & increase to 10 mg /d after 4-6 weeks (max 23 mg / day after 3/12); Or
  - Rivastigmine 1.5 mg po bd and increase by 3 mg every 2/52 to max 12 mg /d; Or
  - Rivastigmine transdermal 5mg /24hm & increase to 10mg /24 h after 4 weeks
  - Galantamine 4mg po bd and increase by 8 mg /d every 4 weeks

# ANTIDEPRESSANTS

- Indications
  - Depression
  - Irritability
  - Aggression
- First options
  - Sertraline 50-100 mg
  - Citalopram 10-40 mg
  - Escitalopram 10-20 mg
- Secondary option
  - Mirtazapine 15-45 mg

# ANTIPSYCHOTICS

- Controversial
  - Mortality
  - EPSE
  - Falls
  - Stroke

Indications – hallucinations , delusions, agitation wandering

Informed written consent

Low doses

Risperidone 0.25 mg bd or Olanzapine 2.5 mg /d or quetiapine 12.5 mg

# EMERGING TREATMENTS

- Abeta 1-42 vaccination
  - Works in animals – reduces plaque burden and improves cognition
  - Associated 6% incidence of meningoencephalitis
  - No benefit in cognition among humans who can tolerate it

Ongoing interest in immunotherapy

- Second generations antigens in Phase 2 trials
- Secretase inhibitors – stop cleavage of precursor proteins into toxic amyloid beta fragment. Two enzymes
  - beta secretase – modulators in development
  - gamma secretase – inhibitor worsened cognition

# MONITORING

- See every 6/12 and review
  - Function and cognition
  - Comorbid illness
  - New signs and symptoms
  - Carer burden
  - Need for respite / NH care
  - Driving status





# CARER STRESS ESPECIALLY WITH AGGRESSIVE / WANDERING PATIENT

- Depression
- Abuse of the patient
- Dependence on alcohol & other drugs

# COMPLICATONS

- Dysphagia – pneumonia – death
- Institutionalisation – loss of independence, isolation, depression, bed sores & muscle contractions
- UTI – Sepsis – Multiorgan failure
- Falls & their complications
- Elder Abuse – carer burden, isolation, neglect, limited resources, agesit attitudes
- Weight loss – protein energy malnutrition, immune problems, muscle atrophy, loss of independence

# PROGNOSIS

- Chronic illness with progressive course some plateaus
- Symptom profile and need for daily care changes as disease progresses
- Early in disease patients need help with
  - Medication administration
  - Household chores
  - Daily transport
  - Financial Matters
  - Other activities of daily living

Late help with everything

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