Dementia
‘Chronic Brain Failure’
The forgotten cardiovascular disease
Clare Hawley 2015

MB ChB, MRCGP, PG Dip Cardiol, PG Cert Med Ed
Associate Specialist Cardiology Chesterfield Royal Hospital
GPwSI Refractory Angina
Hon Clinical Lecturer Cardiology University of Bradford
Maslow's Hierarchy of Needs

- Physiological
  - (Food, Shelter, Clothing)
- Safety
  - (Physical Safety)
- Social
  - (Love, Belonging, Friendship, Connection)
- Esteem
  - (Approval, Recognition, Confidence)
- Self-Actualization
  - (Accomplishment, Pride, Growth)
It’s getting harder to die from cardiovascular diseases

Today you will hear about:

• New tests
• New drugs
• New treatments
• Lots of evidence

Patients are now living longer

Long enough to develop the forgotten CVD
Dementia - Chronic brain failure
CVD mortality is falling except vascular dementia which is rising & now in top 5 causes of death

Figure 3: Trend in proportion of all cardiovascular disease deaths by disease category in England, 2004–11

Source: Office for National Statistics mortality data
Dementia is a growing healthcare problem that touches the lives of nearly all of us.

- Affects approx 800,000 people in UK
- Numbers are set to double in next 30 years
- I in 3 of us will get dementia & many are/will be carers
- Dementia costs us £23bn each year

*Alzheimer's society*
Dementia is feared more than cancer

• 2 in 3 with dementia live at home (1 in 3 alone)
• 50% delay seeing GP – average 3 years
  – Denial, embarrassment, stigma
  – Believe nothing can be done
• People fear loss of:
  – Memory, identity, independence & autonomy
• 6 in 10 people are worried about themselves or someone they know developing dementia
• Over half people with dementia do not have a formal diagnosis
Dementia awareness is part of NHS Health Checks for people aged over 65

Aim is to offer information about:

• Dementia & reducing risk

It’s not screening or memory testing

When they are ready can say so and:

• Be reassured

• Have something else

• May benefit from medication

• Care & support

• Plan for the future
Our **Memories** make us the people we are, give us a sense of self and help us live our lives

- Neurones transmit messages across synapses:
  - electrical & chemical: acetyl choline & glutamine
- We are born with a fixed number of neurones, as we learn millions of connections build up between them
- Connections reorganise all the time – neuroplasticity
- Memories are stored by time, emotion & importance
- To remember: memory must be stored safely, retained & retrieved - this relies on connections between neurones working
- In dementia those connections are lost
What is dementia?

Group of symptoms worsening, over at least 6 months which impact on activities of daily living

Including problems with:

- Memory - mostly learning new information
- Skills needed to carry out daily activities
  - Judgement & thinking, planning & organising
- Language & communication
- Behaviour, intellect, emotions & motivation

No clouding of consciousness

Not if person is severely depressed or acutely unwell
Challenging Behaviour

• When people can’t communicate an unmet need
• Repeating the same word or question over & over
• Wandering
• Agitation, aggression, violence (often associated with hallucinations & delusions)
• Neglect normal behaviour
  – dressing, using the toilet, domestic skills
  – use inappropriate language, dis-inhibition
• Often worse late afternoon/evening – sundowning
• Can be extremely distressing for family & friends
Dementia is not part of normal ageing

From age 50 it’s normal to:
• forget & loose things
• be slower to process information & learn new skills

But should still be able to:
• recognise family
• perform normal daily activities
• pay attention to personal care
• be orientated in time, place & person

There are more than 100 conditions that can cause symptoms of dementia
Alzheimer's disease AD (62%)  
Type 3 diabetes

- The commonest sub type of dementia
- Changes in chemistry & structure: brain shrinks
- Amyloid plaques & TAU tangles strangle neurons
- Neuro-transmitters are less effective
- Insulin resistance & changes in blood vessels

At first problems with:
- Short term memory
- Everyday tasks

Other symptoms tend to develop later on
Gradual onset with progressive decline
Vascular dementia (17%)

- Reduced blood flow – like a series of small strokes
- Physical & cognitive symptoms
- Sudden onset after stroke, TIA, MI, surgery
- Gradual onset in small vessel disease
- Mixed vascular & AD in 10%
- Can be prevented & decline slowed by protecting vessels
Risk factors for dementia are similar to other CV diseases

- Age - >65 risk x2/5 years
- Previous stroke or MI x2
- Smoking x2
- Diabetes
- High blood pressure
- High cholesterol
- Chronic Kidney Disease
- Obesity & inactivity
- Poor diet
- Excess alcohol intake
- Family history 3x
- Social inactivity
- Head trauma
- Depression
- Parkinson's disease
- Multiple Sclerosis & HIV
- Down's Syndrome
- Learning disabilities
About half the burden of dementia could be reduced by encouraging people to follow 4 of the **Big Five**:’

1. Moderate exercise
2. Not smoking
3. Normal BMI
4. Eating healthily
5. Alcohol in moderation
Other Treatable or Reversible causes

Not all cognitive problems are dementia

- **Depression** (+/- dementia)
- **Deficiency** (B12, Folic acid, Thiamine, anaemia)
- **Electrolyte imbalances** (chronic)
- **Metabolic** (uraemia, hepatic problems)
- **Endocrine** (hypothyroidism)
- **Normal Pressure Hydrocephalus**, brain tumour
- **Tumour/trauma** (SOL & SDH)
- **Infection/Inflammation** (HIV, SLE etc)
- **Alcohol, toxins and drugs**
So - what if you are....

- Can be difficult to recognise in early stages
  - Frequent/missed appointments, confusion with drugs, may stop going out
  - Denial, adaptation, compensatory mechanisms
- No single effective screening or diagnostic test
Importance of early assessment & diagnosis

• Identify or rule out other conditions
• Identify and modify risk factors
• Exclude dementia in Subjective Cognitive Impairment
• Identify Mild Cognitive Impairment - 1/3 get dementia
• Receive the diagnosis - the right to know so:
  – Option of drug treatments
  – Plan for future – financial & legal/care & health
  – Lasting Power of Attorney*, Advance Directive*
  – Statement of Wishes & Preferences
  – Access support: NHS, Social Care, Voluntary sector

* Legally binding
Assessment in primary care

Things to consider:

- Symptoms causing concern – onset & progression
- Effect on ability to perform everyday tasks
- Include the person closest to them
- Consider other conditions, medication, alcohol intake
- Physical examination: neurology, hearing, vision
- Bloods: FBC, ESR, TSH, LFT, RBG, Vit B12, Folate (6m)
- ECG: arrhythmia, bradycardia, heart block
- Brief assessment of mental state & cognitive function
- Consider and treat depression
Cognitive tests

There are a number of tests for use in different settings:

Primary care short tests:
- 6 Item Cognitive Impairment Test (6-CIT)
- GP Assessment of Cognition (GPCOG)
- Abbreviated mental test score (AMTS) (delirium screen)

More detailed tests:
- Montreal Cognitive Assessment (MoCA)
- Addenbrooke’s Cognitive Examination (ACE III)
- Mini Mental State Examination (MMSE) copyright issues

Allow for education, language, heritage
Clock-drawing test

- Tests visuo-spatial errors, cognitive impairment and writing
- *If you can do the clock with no errors you are very unlikely to have dementia*
Brain imaging

- CT & MRI part of UK NICE guidelines
- Exclude reversible causes: tumours & hydrocephalus
- MRI good to identify vascular damage & atrophy
- A normal scan doesn’t exclude dementia

guidance.nice.org.uk/CG42
Role of drugs in dementia is limited

<table>
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<th>4 licensed drugs:</th>
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<tr>
<td>Anticholinesterase inhibitors</td>
</tr>
<tr>
<td>• Donepezil (Aricept) £1.50/mo</td>
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<tr>
<td>• Rivastigmine (Exelon) £39/mo</td>
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<tr>
<td>• Galantamine (Reminyl) £64/mo</td>
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<td>Glutamine receptor antagonists</td>
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<td>• Memantine (Ebixa) £69/mo</td>
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Don’t offer a cure but:

- Slow progression of mild-mod AD & mixed dementia
- Maintain independent living for 18-24 mo
- Long term use helps cognition in mod AD

*Cholinesterase inhibitors for Alzheimer’s disease. Cochrane Database Syst Rev 2006;1*
Non drug interventions

• Forget about what is lost & look for what is left behind
• Reminiscence therapy
  – Memory boxes, memorabilia packs, life story book
• Environmental modification
• Reality orientation
• Cognitive stimulation (as effective as the drugs)
• Occupational activities, Creative arts
• Exercise, dancing
• Singing for the brain – music therapy
• Hand massage, aromatherapy
• Distraction – especially at sun-downing
Managing challenging behaviour
An expression of unmet need

Consider:
• Hunger & thirst
• Pain
• Boredom
• Need to use the toilet
• Hallucinations
• Delusions
Caring for the carers

• The carers are our patients too
• 2 out of 3 live at home
• 670,000 friends & family provide that care
• All consuming
• Living bereavement
• High risk of physical & mental illness
• Depression is common
• Need equal help & support
• Practices should keep a register of carers & offer annual health checks