Episode 2.4 Show Notes
Diagnosing Dementia

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Learning Outcomes

Knowledge

- To understand what dementia is
- To understand the main differences between Alzheimer's Disease, Vascular dementia, Lewy Body dementia and Fronto-temporal dementia

Skills

- To be able to take a history and collateral history of cognitive impairment
- To be able to complete the common diagnostic and screening tools in patients with possible cognitive impairment
- To know when to refer on for more detailed investigations / testing

Attitudes

- To appreciate the implications of a dementia diagnosis on patients and their relatives

What is dementia?

"A decline in memory, which is most evident in the learning of new information, although in more severe cases, the recall of previously learned information may be also affected. The impairment applies to both verbal and non-verbal material. The decline should be objectively verified by obtaining a reliable history from an informant, supplemented, if possible, by neuropsychological tests or quantified cognitive assessments."

ICD 10 Definition of dementia

There is however often the question of what is normal brain ageing and what constitutes dementia - "Dementia is a progressive and largely irreversible clinical syndrome caused by pathological changes to the brain which are not simply due to ageing. It is not an inevitable part of the ageing process". The key differnce betwen normal ageing and dementia is that dementia leads to a ***functional*** impairment for your patient.

NICE CG42: Dementia: supporting people with dementia and their carers in health and social care - updated May 2016

When to make a diagnosis?

The general rule of thumb is not to make a diagnosis during an acute hospital stay - there are too many variables and delirium (see episode 2) is so common that it makes it hard to do. Although a recent study from Dr Jackson and collegues shows that it can be done if you interview the patients relatives using a standardised questionnaire.

Diagnostic test accuracy of informant-based tools to diagnose dementia in older hospital patients with delirium: a prospective cohort study.

One small study we talked about looked at OT assessment of patients functional abilities in the clinic vs at home and suggests that assessments should be performed in the patient's usual environment as the impact of environment on the ability to perform ADLs is key.

Nygard, Bernspang, Fisher, Winblad. Comparing motor and process ability of persons with suspected dementia in home and clinic settings. Am J Occup Ther 1994 Aug;48(8):689-96.

How to make the diagnosis

1) You need to take a really detailed history:

- looking for cognitive decline
- AND functional problems resulting from this
    - Iain recommends looking at the FAST staging to guide these questions:

FAST tool article

This is the actual tool

- a review of medication in order to identify and minimise use of drugs, including over-the-counter products, that may adversely affect cognitive functioning.

2) Then an examination:

- cognitive and mental state examination (e.g. mood and delusions - i.e. another dysfunction of the brain / mind e.g. depression, anxiety, psychosis).
    - Needs to look at a number of cognitive domains:
        - attention and concentration (affected most in delirium),
        - orientation,
        - short and long-term memory,
        - praxis,
        - language

        - executive function
            - Each of these can be affected in dementia - so the patient may present with a language problem or a praxis (e.g Posterior Cortical Atrophy)
- physical examination
- In some cases formal neuropsychological testing may be needed

3) Followed by investigations:

- A basic dementia screen include:
    - routine bloods looking for reversible causes of cognitive impairment e.g. delirium, high calcium, low glucose, encephalopathy,
        - thyroid function tests
        - serum vitamin B12 and folate levels
    - Imaging of the brain
        - MRI better than CT
        - Perfusion hexamethylpropyleneamine oxime (HMPAO) single-photon emission computed tomography (SPECT) should be used to help differentiate Alzheimer's disease, vascular dementia and frontotemporal dementia if the diagnosis is in doubt

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Subtypes of dementia

The aim of the investigations is to diagnose a dementia and ideally the subtype as this may affect the kind of support the patient and their family will need and the treatments available.

    - 60% of all dementia is Alzheimer's dementia - Tending to present with short-term memory problem, visuo-spatial problems. It is steadily progressive but progression *may* be slowed by medications.

- Vascular and mixed dementia make up to 30% - there may have stepwise decline, often there are gait and balance problems. It is a a spectrum of disease and all vascular territories can be affected which leads onto a potential for a broad presentation.
- Lewy Body Dementia - is a mixture of cognitive decline with a movement disorder and psychosis (in particular hallucinations).
- Fronto-Temporal Dementia - may present to SaLT with speech problems. It is association with MND in younger adults. Tend to be quite mobile but with little insight and marked executive function problems i.e. planning (OT may pick up).
- Others - PD dementia / younger onset / CJD etc.

Cognitive screening tools

MMSE - Mental State Examination (MMSE)

- Score out of 23/30 as cut off
- takes 5-10mins to complete

MOCA - Montreal Cognitive assessment

- Score out of 30 - shorter form available.
- Free - online and versions for blind ppl etc. and give instructions and languages.
- For mild cognitive impairment
- Very detailed so can illustrate the areas of deficit well (OTs love it)

Addenbrooks

- Long but detailed and includes MMSE questions
- a shorter form is out now.
- Will help suggest a subtype.

There are several other shorter screening tools available e.g.

6 item - Cognitive Impairment Test (6-CIT)

General Practitioner Assessment of Cognition (GPCOG)

Clock drawing (a number of ways of scoring this - but very quick to do).

Choice depends on practicalities of time available / job role.

Sheehan,B. Assessment scales in dementia Ther Adv Neurol Disord. 2012 Nov; 5(6): 349–358.

A. Juby,S.Tench,V. Baker. The value of clock drawing in identifying executive cognitive dysfunction in people with a normal Mini-Mental State Examination score. CMAJ 2002;167(8):859-64

When performing an assessment think Talk briefly through MCI - is it early dementia? Is it normal ageing?

There is no functional deficit though with MCI.

May not cause a progression - may be part of 'normal' ageing for that patient- so retesting in the future is probably important.

We touch on the medication for the management of dementia but later on in this series we will talk about early interventions in dementia in more detail.

Curriculum Mapping:

This episode covers the following areas (n.b not all areas are covered in detail in this single episode):

Curriculum	Area	
Foundation curriculum	**Section** 7.2 7.3 8.6	**Title** History and examination Diagnosis and clinical decision-making Manages acute mental disorder and self-harm

	7.9 10.1	Interface with different specialties and with other professionals Manages patients with long-term conditions
Core Medical Training	Team working and patient safety Management of long term conditions and promoting self-care Communication with colleagues and cooperation Evidence and guidelines Confusion, Acute / Delirium Memory Loss (Progressive) Neurology (Dementia section) Geriatric Medicine	
GPVTS program	Section 3.05 - Managing older adults • Core Competence: Managing medical complexity • Core Competence: Data gathering and interpretation • Core Competence: Clinical management • Core Competence: Working with colleagues and in teams	
ANP (Draws from KSF)	Section 4 - History taking skills Section 6 Section 7.21 Dementia, depression, anxiety Section 10 - Appropriate assessment scales Section 11 - Plan diagnostic strategies	
Physician Associate Matrix of conditions	Dementia Alzheimer's Disease Vascular diseases	
College of Paramedics Curriculum Guidance	C2.3.8 Dementia, Alzheimer's disease, Parkinson's disease, palliative care and EoLC.	

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