The medical memory clinic and atypical dementias

Matt Jones
Consultant Neurologist
Cerebral Function Unit, SRFT
All of medicine...
Accurate diagnosis of dementia
Certain brain regions perform certain tasks

Certain pathologies target certain brain regions

Predictable clinical syndromes emerge
Theory

Frontal lobe
- Motor cortex
- Executive function
- Social behaviour
- Speech production (dominant hemisphere)

Temporal lobe
- Auditory cortex
- Memory

Dominant
- Speech comprehension
- Verbal semantics

Non-dominant
- Face and object recognition

Parietal lobe
- Somatosensory cortex

Dominant hemisphere
- Reading
- Writing
- Calculation
- Praxis

Non-dominant
- Visuospatial awareness
- Dressing

Occipital lobe
- Visual cortex
- Colour and motion perception
Establish Time course
Key areas

Cognitive domains
• Memory
• Language
• Calculation
• Visuospatial
• Praxis
• Executive

Behaviour and function
• Personality
• Behaviour
• Psychosis
• Sleep / fluctuation
• Neurological
• ADLs, work, social, driving
Amnesia

Word finding difficulty

Visuospacial

Loss of insight

Behaviour change

Apathy/Disinhibition

Non fluent speech

Phonological errors

Agrammatism

Speech apraxia
Visual Fields
Eye movements
Speech and tongue
Tone
Power and wasting
Reflexes
Plantars
Gait

Exam

Bradykinesia
Tremor
Myoclonus
Praxis
Primitive reflexes
Cortical sensory loss
Visual Fields

Myoclonus

Praxis

Cortical sensory loss

Posterior cortical = Alzheimers and Lewy Body
Speech and tongue

Plantars

Praxis

Primitive reflexes

Anterior cortical = FTD spectrum
Basal Ganglia = Lewy body, Parkinson’s, PSP, CBD
Eye movements
Speech and tongue

Brainstem = MND, PSP
Posterior cortical / no basal ganglia / no hallucinations or fluctuations = Alzheimer’s
What does atypical look like?
Case 1

- 72 year old male
- 2 month history of progressive altered speech
  - Hesitant, slurring, phonologic errors
- Memory ok
- Clumsier with hands
- Walking worse, bumps into doors, 1 fall
- Needs help dressing, otherwise independent
- Normal behaviour, not depressed
- No FH, no vasc RF or sig comorbidities
Case 1

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Eye movements
Speech and tongue
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Power and wasting
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Plantars
Gait

Bradykinesia
Tremor
Myoclonus
Praxis
Primitive reflexes
Cortical sensory loss
R neglect
nystagmus
Dysarthria plus WFD

Rigid R arm
Power and wasting
Reflexes

Plantars
Broad based gait

Bradykinesia
Tremor
Myoclonus
Praxis
Primitive reflexes
R sided extinction
R neglect
nystagmus
Dysarthria plus WFD

R rigid R arm
Power and wasting
Reflexes

Plantars
Broad based gait

Bradykinesia
Tremor
Myoclonus
Praxis
Primitive reflexes
R sided extinction
• Is there something atypical going on?
  – Yes

• What are the atypical features?
  – Rapid onset and progression
  – Multifocal, (cerebellar, BG, cortical)

• What does this mean?
  – Possible CJD

• How do we confirm this?
  – MRI +/- CSF +/- EEG
MRI
Case 2

• 74 yr old male

• 1yr hx
  – Initially sleep disturbance
  – Personality change
    • Irritable, inappropriate comments, irrational with money, mood swings, ‘suspicous’ thoughts
  – Poor memory and planning
  – Normal speech, visuospatial function, gadget use,
  – Not depressed, no hallucinations.

• Sectioned 6/12 ago, but improved spontaneously
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Further info...

• Intermittent spells of confusion
• Behaviour has been abnormal for 2 protracted periods but actually now better
• Discrete and stereotyped episodes lasting seconds:
  – Look blank, can’t find words
  – Looks emotional, tearful
  – “feels like someone’s walking over my grave”
• No alcohol or drugs
• Normal neuro exam
• Is there something atypical going on?
  – Yes

• What are the atypical features?
  – Abrupt onset, fluctuating course
  – Probable new onset seizure disorder

• What does this mean?
  – ?Limbic encephalitis  ?Metabolic encephalopathy

• How do we confirm this?
  – Bloods +/- MRI +/- CSF +/- EEG
• MRI brain
  – Normal for age

• Bloods
  – Normal routine
  – Normal ammonia
  – Normal thyroid function

• CSF
  – Normal
Summary

Medical Memory Clinic

- Use a structured approach
- #examineyourpatients
- Look for familiar patterns

Atypical dementias

- Rare ≠ atypical
- Look out for the treatable
- When it seems weird revert to the basics
NEANU 2018:
The use and misuse of investigations in Acute Neurology

Friday 22nd June 2018
Salford Royal Hospital, UK
Thank you