UPDATE IN ATYPICAL Parkinsonism
DLB - Dementia with Lewy Bodies

Claudia Trenkwalder, MD, FEAN
Paracelsus-Elena Klinik, Kassel,
University Medical Center Goettingen
Germany

Conflict of Interest

- No conflict of interest for this presentation on DLB

Learning Objectives

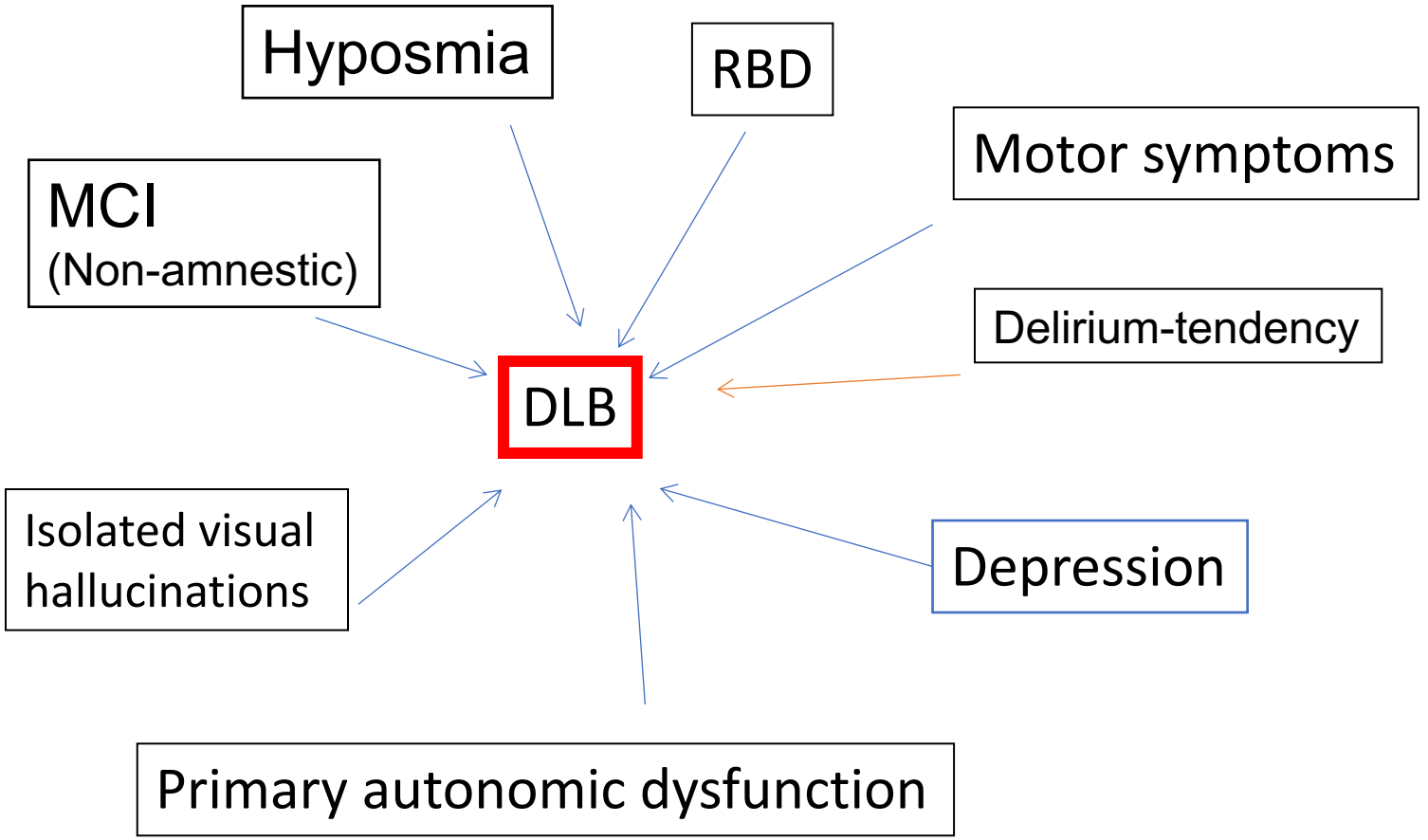
- Describe the clinical symptomatology of patients with Lewy Body Dementia (DLB)
- Assess patients with DLB using scales, imaging and polysomnography
- Explain neuropathological findings of DLB and treatment options

DLB: Motor – Cognitive - Psychiatric - Autonomic Symptoms

- Motor: mild akinetic-rigid Parkinson syndrome
  - Any clinical Parkinson symptoms can occur, mostly bradykinesia
  - Less rest tremor, gait disorder
- Cognitive:
  - Starts with mild cognitive decline
  - Executive function impaired
  - MCI up to dementia
- Psychiatric:
  - Hallucinations, mostly visual with complex content
  - Depression
- Autonomic:
  - Orthostatic hypotension
  - Constipation

IanMcKeith et al Neurology 2017

How does DLB start? Prodromal DLB



Prodromal DLB: research criteria (McKeith et al 2020)

Courtesy of Dag Aarsland

Revised criteria for the clinical diagnosis of Dementia with Lewy bodies (DLB)

Essential for a diagnosis of DLB is dementia

Core clinical features (The first 3 typically occur early and may persist throughout the course.)

- **Fluctuating cognition** with pronounced variations in attention and alertness.
- **Recurrent visual hallucinations** that are typically well formed and detailed.
- **REM sleep behavior disorder**, which may precede cognitive decline.
- **One or more spontaneous cardinal features of parkinsonism**: these are bradykinesia (defined as slowness of movement and decrement in amplitude or speed), rest tremor, or rigidity.

Supportive clinical features

- Severe sensitivity to antipsychotic agents; postural instability; repeated falls; syncope or other transient episodes of unresponsiveness; severe autonomic dysfunction, e.g., constipation, orthostatic hypotension, urinary incontinence; hypersomnia; hyposmia; hallucinations in other modalities; systematized delusions; apathy, anxiety, and depression.

Indicative biomarkers

- Reduced dopamine transporter uptake in basal ganglia demonstrated by **SPECT or PET.**
- Abnormal (low uptake) **123iodine-MIBG** myocardial scintigraphy.
- **Polysomnographic** confirmation of REM sleep without atonia.

Supportive biomarkers

- Relative preservation of medial temporal lobe structures on CT/MRI scan.

Ian McKeith et al, Neurology 2017

Additional diagnostic instruments

- **Cognitive Impairment**: MoCA, ACE, MMSE
- **Visual hallucinations**: Neuropsychiatric Inventory
- **Fluctuating cognition**: Mayo fluctuation scale
- **Parkinsonism**: MDS-UPDRS motor subscale
- **RBD** and other parasomnias: Polysomnography
- **Autonomic symptoms**: SCOPA-aut, orthostatic hypotension: Schellong-test
- **Imaging:** cranial MRI
- **CSF:** alpha-synuclein SAA (synuclein aggregation test)

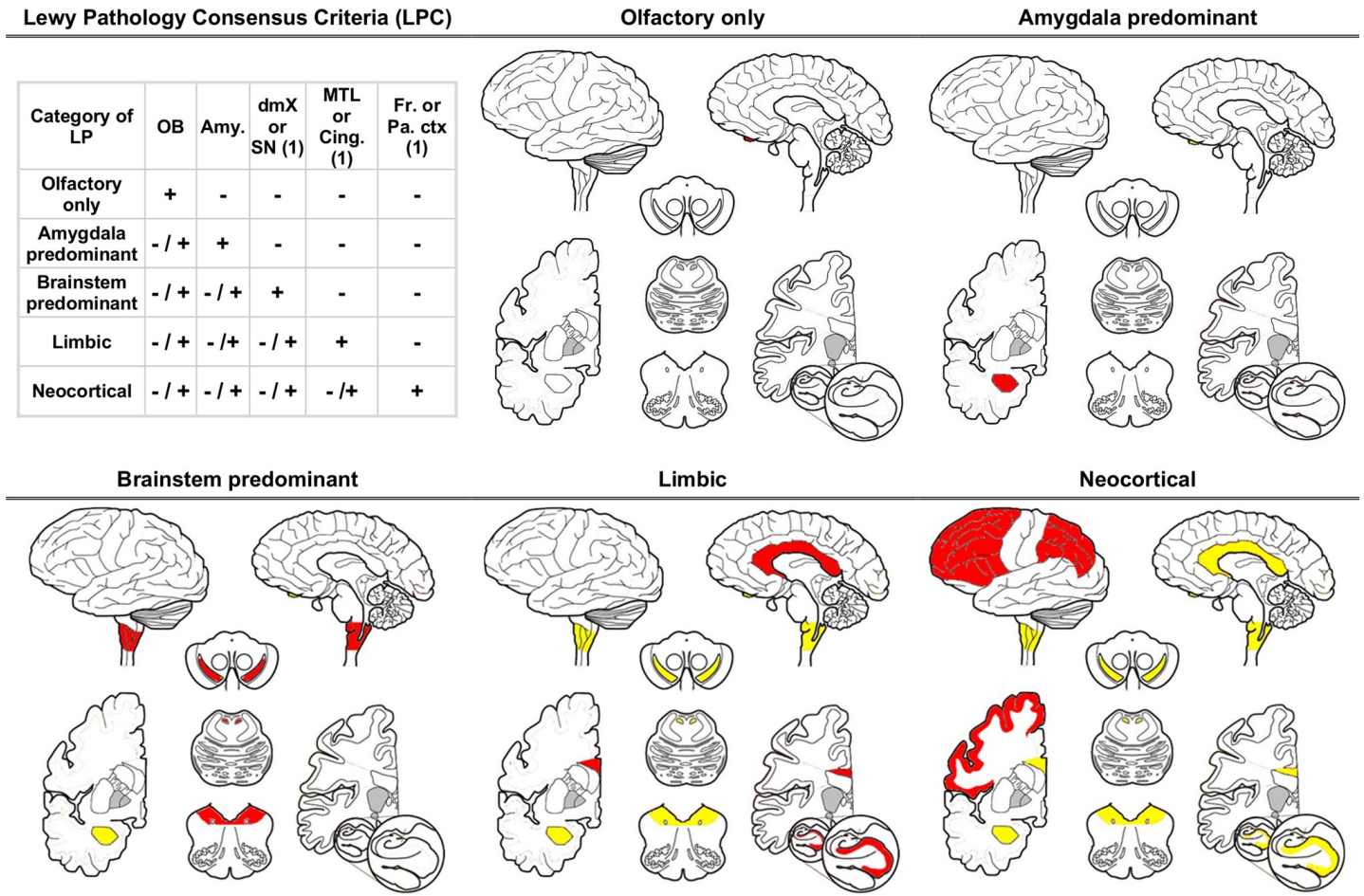
McKeith et al Neurology 2017

Neuropathological consensus criteria for the evaluation of Lewy pathology in post-mortem brains: a multi-centre study

Johannes Attems……Ian G. McKeith 2021

Lewy Pathology Consensus Criteria (LPC)

Category of LP	OB	Amy.	dmX or SN (1)	MTL or Cing. (1)	Fr. or Pa. ctx (1)
Olfactory only	+	-	-	-	-
Amygdala predominant	- / +	+	-	-	-
Brainstem predominant	- / +	- / +	+	-	-
Limbic	- / +	- /+	- / +	+	-
Neocortical	- / +	- / +	- / +	- /+	+



Pharmacological treatment of DLB

Symptom domain	Treatment option	Evidence
Cognition	Cholinesterase inhibitors: Memantine, Rivastigmin	Level 1 Inconsistent
Hallucinations	Antipsychotics: Clozapine Cholinesterase inhibitors, Pimavanserin	PD: Clozapine, pimavanserin: Level 1 DLB/PDD: Insufficient evidence, (Sugawara Kikuchi Y 2019)
Depression	SSRI, SNRI, NRI	PD: Level 1 DLB/PDD: insufficient evidence
REM sleep behaviour	Melatonin, clonazepam	Insufficient evidence
Daytime sleepiness	Modafinil	Insufficient evidence
Parkinsonism	L-dopa	Insufficient evidence in DLB
Autonomic disorders	Increase blood pressure; medications against constipation: macrogol	No systematic evidence

Mod from: Walker Z et al. Lancet 2015

References

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