

06 - 2. Lewy Body Dementia (DLB)

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© SPMM Course 2. Lewy Body Dementia (DLB)

□ Lewy bodies are weakly eosinophilic, spherical, cytoplasmic inclusions. □ In Parkinson's disease they are confined to substantia nigra; in DLB they are also present in many areas of the cerebrum including the temporal lobe, the cingulate gyrus and the frontal lobes. They may also be found in the dorsal motor nucleus of the vagus. □ Cortical Lewy bodies are less conspicuous, less eosinophilic and lack clear halo compared to those in the substantia nigra. Cortical Lewy bodies take up a homogeneous eosinophilic staining in the cytoplasm, along with a peripheral displacement of the nucleus. □ There is no simple correlation between number of Lewy bodies and cognitive decline. □ Antibody to protease ubiquitin can be used to identify Lewy bodies. □ Lewy bodies--in Parkinson's disease and DLB contain accumulations of alpha-synuclein. Staining with alpha-synuclein antibodies is an excellent tool for detecting both Lewy bodies. DLB is one of the various degenerative synucleopathies. □ Alpha-synuclein accelerates reuptake of dopamine in neurons, and this dopamine overload might be toxic. □ A high proportion of patients with DLB/PDD (about 75%) also have AD-type neuropathological abnormalities. Here the plaque/tangle burden associated with dementia is less than that seen in Alzheimer's disease. □ Lewy neurites—these are nerve cell processes that contain aggregates of -synuclein. These abnormal structures can occur in both DLB/dementia of Parkinson's disease and idiopathic Parkinson's disease and are most numerous in the CA2/3 region of the hippocampus and in the substantia nigra. □ Some patients with DLB show microvacuolation of the cerebral cortex, predominantly in the medial temporal regions. This can mimic a prion disease.

Tauopathies (tau deposits)

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•Alzheimer's dementia •Pick's disease •Progressive supranuclear palsy •Corticobasal degenerations •Frontotemporal dementia with parkinsonism (FTDP17) Synucleopathies (alpha synuclein deposits) Synucleopathies (alpha synuclein deposits) •Parkinson's •DLB •Multisystem

atrophy

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