Patho 2

Disease	Feature	Cause	Sign & Symptoms	Histology & Microscopically	Other
Parkinson Disease (PD)	•Neurodegenerative disease •prominent hypokinetic movement disorder that is caused by loss of dopaminergic neurons from the substantia nigra	•Protein) α-synuclein) aggregation, mitochondrial abnormalities, & neuronal loss in the substantia nigra & elsewhere in the brain •Due to defects in autophagy & lysosomal degradation •Dopaminergic neurons degeneration→ reduction in dopamine in the striatum	•Prominent hypokinetic movement disorder that is caused by loss of dopaminergic neurons from the substantia nigra 1.Triad of (tremor, rigidity & , bradykinesia), in the absence of toxic injury or other etiology. 2.progresses over 10 to 15 years ,eventually producing severe motor slowing→ near immobility. 3.Death usually is the result of aspiration pneumonia or trauma from falls caused by postural instability. 4.Stooped posture 5.Rigidity 6.Masked face 7.Hand tremor (pill rolling tremor) 8.Shuffling gait	1.Neuronal inclusions containing α-synuclein)Lewy bodies)(single or multiple, cytoplasmic, eosinophilic, round inclusions (dense core with pale halo)) 2.At autopsy is pallor of the substantia nigra and locus ceruleus, due loss of pigmented catecholaminergic neurons. 3. gliosis 	•Parkinsonism: a clinical syndrome characterized by diminished facial expression (masked facies), stooped posture, slowness of voluntary movement, festinating gait (progressively shortened, accelerated steps), rigidity, & a "pill-rolling" tremor . • seen in a range of diseases that damage dopaminergic neurons, which a project from the substantia nigra to the striatum and are involved in control of motor activity. •(سببه مرض ثاني او عرض جانبي لاحد الادوية) •Diagnosis : clinical
Huntington Disease (HD)	•Autosomal dominant disease of progressive movement disorders & dementia caused by degeneration of the striatal neurons •involuntary jerky movements (dystonic sometimes) of all parts of the body→ Chorea.	•Accumulation of Huntington protein •CAG trinucleotide repeat expansions in a gene on ch. , 4 encodes the protein Huntingtin •A strong genotype-phenotype correlation → larger numbers of repeats resulting in earlier-onset disease.(average (50 -40 •Repeats occur during spermatogenesis → paternal transmission is associated with earlier onset in the next generation → anticipation.	•Involuntary jerky movements (dystonic sometimes) of all parts of the body→ Chorea.	•The brain is small and shows striking atrophy of the caudate nucleus and the putamen. •The lateral and third ventricles are dilated.	•30-50years •Death after an average 15 years. •No sporadic form .
Amyotrophic Lateral Sclerosis (ALS)	•The most common neurodegenerative disease •affecting the motor system •A progressive disorder of loss of upper motor neurons in the cerebral cortex (Betz cells) and lower motor neurons in the SC and brainstem	•Mutations in the superoxide dismutase gene, SOD21chr. , on 1 •Abnormal misfolded forms of the SOD1 protein are generated→ trigger 'unfolded protein response' in cells → apoptosis. 1.Death of upper motor neurons, causes degeneration of the descending corticospinal tracts. 2.Death of anterior horn cells (lower motor neurons) with loss of innervation causes atrophy of skeletal muscles.	•Early symptoms include asymmetric weakness of the hands •Later, muscle strength & bulk diminish & involuntary contractions of individual motor units)fasciculations) occur. •Eventual respiratory muscles involvement cause recurrent pulmonary infection, which is the usual cause of death .	•Loss of the upper motor neurons leads to degeneration of the corticospinal tracts, resulting in volume loss and absence of myelinated fibers •Segment of spinal cord showing attenuation of anterior (motor) roots compared with posterior (sensory) roots.	•Male •5th decade & later. •Sporadic 80% more common than familial.