

1. Dopamine Synthesis Agents
MOA: Increase Synthesis of Dopamine within the CNS
Levodopa - Dopamine precursor
Carbidopa - Peripheral DOPA decarboxylase Inhibitor - Does not cross the BBB
USE: Parkinson's, Lewy Body Disease
SE: Wearing off effect (TX: Carbidopa, Entacapone), Psychosis, Dyskinesias, postural hypotension, Dark sweat/urine (melanin), agitation, anxiety, arrhythmia
CI: High protein meal - AA transporter saturated, History of Melanoma, psychosis

2. Dopamine Agonists
MOA: Bind and activate Dopamine receptors
Pramipexole - RLS
Rolipinerol - RLS
Rotigotine - Patch
Bromocriptine - Ergot
Carbergoline - Ergot
Apomorphine - rescue wearing off effect
USE: Parkinson's, Lewy Body Disease, Restless leg
SE: Psychosis, postural hypotension,
CI: Abrupt discontinuation - Parkinsonism
 Hyperpyrexia - Tx- dopamine agonists/levodopa

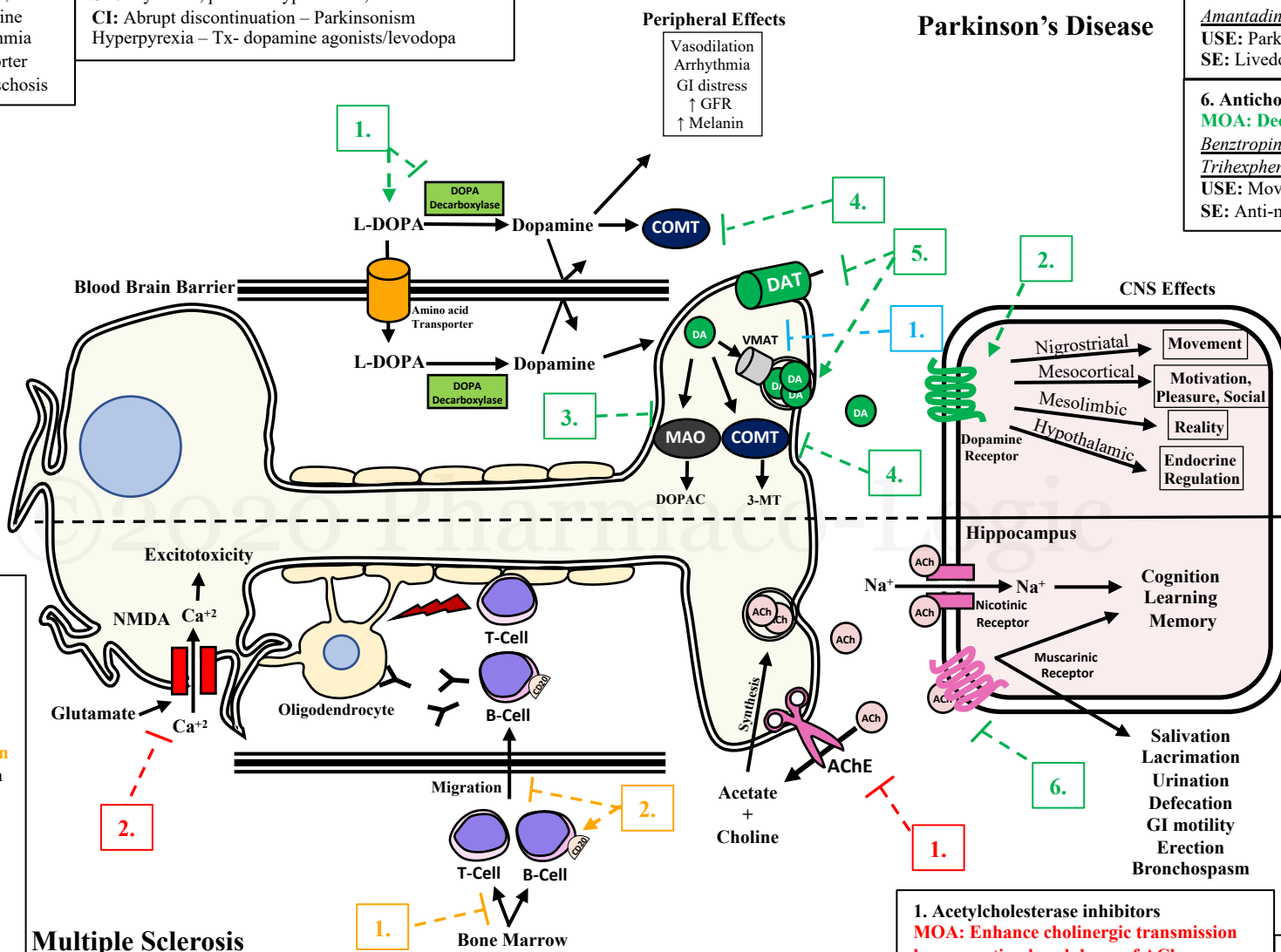
3. MAO-B Inhibitors
MOA: Prevent breakdown of Dopamine in the CNS
Selegiline - Transdermal patch
Rasagiline
Safinamide
USE: Parkinson's, Lewy Body Disease, Depression
SE: Hypertensive crisis, ANS dysfunction, Sexual dysfunction,
CI: SSRIs, Tyramine rich foods

4. COMT Inhibitors
MOA: Prevent breakdown of Dopamine/L-DOPA in the CNS and periphery
Entacapone - Peripheral COMT only
Tolcapone
USE: Parkinson's, Lewy Body Disease
SE: Nausea/vomiting, dyskinesias

5. Dopamine releasing agents
MOA: Increase and prolong Dopamine release
Amantadine
USE: Parkinson's, Lewy Body Disease
SE: Livedo reticularis, pedal edema, Psychosis

6. Anticholinergic Agents
MOA: Decrease cholinergic receptor activation
Benztropine
Trihexphenidyl
USE: Movement disorders, anti-psychotic EPS
SE: Anti-muscarinic toxidrome, - Dry as a bone, red ...

Neurodegenerative Pharmacology



1. Disease Modifying Drugs
Inhibit T-cell proliferation, anti-inflammation
Interferon Beta - IM
SE: hepatotoxicity, flu-like syndrome, Myelosuppression
Glatiramer Acetate - IM - **MOA:** Inhibit immune response to Myelin
SE: Flushing, dyspnea, Flu-like sym
Dimethyl Fumerate - Oral - **MOA:** activate Nrf2 pathway, anti-inflamm
SE: Anaphylaxis, leukopenia, PML
Teriflunomide - Oral - **MOA:** Inhibit pyrimidine synthesis
SE: Headache, diarrhea
Fingolimod - Oral
Siponimod - Oral - **MOA:** Sphingosine phosphate receptor modulator - Prevent Lymphocyte Mobilization
SE: Bradycardia (fingolimod), hypertension (siponimod)

Multiple Sclerosis

2. Biologic Disease Modifying Agents
MOA: Mixed Mechanism
Ocrelizumab **MOA:** Bind to CD20 on B-cells
Rituximab **MOA:** Bind to CD20 on B-cells
Natalizumab - Prevent Immune cell migration to the CNS
SE: Anaphylaxis, infections (ocrelizumab), PML (Nataliz)

Peripheral Effects
 Vasodilation
 Arrhythmia
 GI distress
 ↑ GFR
 ↑ Melanin

Parkinson's Disease

1. VMAT inhibitors
MOA: Block vesicular transport of Dopamine
Risperpine
Valbenazine - VMAT2 selective
Tetrabenazine
Deutetabenazine - Blocks DA receptors
USE: Huntington's disease, Tourettes, Tardive dyskinesia
SE: Parkinsonism, Hyperprolactinemia

1. Acetylcholinesterase inhibitors
MOA: Enhance cholinergic transmission by preventing breakdown of ACh
Donepezil
Galantamine
Rivastigmine
USE: Alzheimer's Disease
SE: Anti-cholinesterase toxidrome
DDI: Anti-cholinergic drugs

Toxidrome - Cholinesterase inhibitor
 DUMBELS - Wet and Wild
 Bradycardia
 Flaccid Paralysis

Alzheimer's Disease

2. NMDA receptor inhibitors
MOA: Block glutamate - NMDA receptors to decrease excitotoxicity
Memantine
USE: Alzheimer's Disease - moderate to severe
SE: Headache, confusion, constipation

