

Medication for Parkinson Disease

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Approaching Treatment of PD

- Mimic dopamine
- Increase dopamine
- Decrease acetylcholine
 - The dopamine/acetylcholine “see-saw”



Anticholinergic Medications

- Benztropine (Cogentin)
- Trihexyphenidyl (Artane)
- Block acetylcholine, thus increasing dopamine
- May be effective against tremor, drooling; not much benefit for other PD symptoms
- Side effects: dry mouth, urinary retention, constipation
- Not a very good choice for elderly patients



Selegiline (Eldepryl) (Zelapar)

- Makes Sinemet last longer
- Zelapar is an orally disintegrating tablet
- Taken twice a day; Do not take later in day
- Lots of potential for drug interactions
- Useful for fatigue, but can over-stimulate



Rasagiline (Azilect)

- Makes Sinemet last longer
- More selective and more potent than selegiline
- Less drug interactions and side effects
- Once daily dosing



Amantadine (Symmetrel)

- Antiviral discovered by accident to be effective for PD
- May be effective in early PD, but also with Sinemet
- Side effects: dry mouth, urinary retention, constipation, rash on legs, leg swelling
- Use smaller doses for elderly patient



Carbidopa/Levodopa (Sinemet)

- Mainstay of Parkinson therapy since 1960s
- Converted to dopamine in the brain
- Most common side effects are: low blood pressure, dizziness, nausea, hallucinations, abnormal movements



Carbidopa

- Increases effectiveness of levodopa; allows more to get to brain
- Decreases side effects (nausea, low blood pressure)
- At least 75 mg daily is needed for maximum effectiveness



Carbidopa/Levodopa Dosing

- Take prior to meals (30-60 minutes) on empty stomach if possible
- Protein can decrease absorption
- Immediate-release and controlled-release (CR, ER) formulations are not absorbed identically



Carbidopa/Levodopa (Parcopa)

- Rapidly dissolving oral formulation; may work in as little as 5-10 minutes
- Benefits: patients who need early morning dose, have strict dosing schedules, or who have swallowing difficulties, tablets CAN be split
- Contains phenylalanine (artificial sweetener)



Catechol-O-methyltransferase (COMT) Inhibitors

- Tolcapone (Tasmar)
- Entacapone (Comtan)
- Make Sinemet last longer
- Adverse effects: Brownish/orange discoloration of urine, nausea, low blood pressure, abnormal movements, hallucinations, diarrhea



Carbidopa/Levodopa/Entacapone (Stalevo)

- New combination formulation
- Three strengths
 - Stalevo 50: 12.5 mg carbidopa, 50 mg levodopa, 200 mg entacapone
 - Stalevo 100: 25mg/100 mg/200 mg
 - Stalevo 150: 37.5 mg/150 mg/200 mg
- Drawbacks: cost, difficult to adjust doses



Dopamine Agonist Agents

- Looks like dopamine to the brain
- Can use with or instead of Sinemet
- Side Effects: Nausea, confusion, hallucinations, "sleep attacks," low blood pressure
- Problems with impulse control reported, obsessive compulsive behaviors



Dopamine Agonist Agents

- Ergots
 - Bromocriptine (Parlodel)
 - Pergolide (Permax)
 - Not favored as much as newer agents
- Non-ergots
 - Ropinirole (Requip)
 - Pramipexole (Mirapex)
 - Rotigotine (Neupro) Patch



Neupro Patch Recall

- March 21, 2008
- **Neupro® patients - please consult your physician as soon as possible**
- Dear Patient,
- Neupro® (rotigotine transdermal system) patches are being recalled in the United States and will not be available after the end of April 2008. The Neupro® patch is a transdermal delivery system worn on the skin and is used to treat early stage Parkinson's disease. It is made by Schwarz Pharma, a company of the UCB group.
- **You should take the following steps:**
 - **Do not stop taking Neupro without first talking to your doctor**
 - **Consult your physician as soon as possible**
 - Your doctor will instruct you on how to gradually come off Neupro – this may take several days, depending on your current dose.
 - Some Neupro patches have snowflake-like patterns on them. The more snowflakes you see, the less likely it is that the patch will work properly.



Apomorphine (Apokyn)

- Injectable dopamine agonist approved for the acute, intermittent treatment of "off" episodes
- Common side effects: injection site reaction, NAUSEA (SIGNIFICANT), dizziness, sedation, hallucinations, peripheral edema



Night Time Dosing

- If tremor prevents sleep
- Off time is uncomfortable or can't go to bathroom
- Restless leg syndrome
- May need a dose before getting out of bed



Missed Doses

- Take as soon as you remember
- If less than an hour off, can probably resume regular schedule
- Otherwise, may need to spread out the other doses
- If close to bedtime, skip



Overdose?

- Eldepryl and Azilect might present most problems
- Exaggerated side effects
- Most meds last only a short time
- Call the doctor or pharmacist if you are worried



Drug Interactions

- Avoid these anti-nausea drugs: Phenergan, Reglan, Compazine
- Most antipsychotics (used for shizophrenia or Alzheimer's): Haldol, Thorazine, Mellaril, Risperdal, Zyprexa
- Seroquel may be the best antipsychotic if a Parkinson patient needs one



Over-the-Counter Medications

- Most are okay with Parkinson meds
- Cough suppressant (dextromethorphan) might interact with Eldepryl or Azilect
- Best to stick to products that contain only a single ingredient
- Any questions, ask the pharmacist

