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PARKINSON'S DISEASE (PD) TREATMENT OVERVIEW

GENERAL PRINCIPLES

- Motor symptoms are treated by replacing dopamine. Like the oil can helping the Tin Man in *The Wizard of Oz*, dopamine helps make movements quicker and more fluid.
- Medications improve daily symptoms but do not slow the progression of disease over time.
- Medications are taken daily on a routine schedule to control symptoms.
- Nausea is the most common side effect of dopamine therapy.
- PD meds should NOT be stopped abruptly, as doing so can cause a life-threatening condition. Please consult with your provider on how to properly wean off a medication if it becomes necessary.
- Non-motor symptoms typically do not respond to dopamine and require other treatment strategies.

KEY DEFINITIONS

ON time

- Times when the medications are working well, and PD motor symptoms are well-controlled

OFF time

- Times when the medications are not working, and the PD motor symptoms are poorly controlled

Wearing OFF

- Medication loses its effect before the next dose is due, resulting in an OFF time

Unpredictable OFF

- Occurs randomly and is not related to timing of the dose of medication

Morning OFF

- Severe OFF symptoms are present upon waking, due to an extended time since last dose, and before the morning dose takes effect

Dose failure

- When a dose is taken and does not provide control of movement symptoms, usually due to gastrointestinal issues

Dyskinesia

- An abnormal, excessive, involuntary movement caused by PD medication
- Squirmy, wiggling, or even dance-like movements that can occur anywhere in the body

MAINTINENCE MEDICATION

Levodopa

- This is the most potent medication for controlling PD motor symptoms.
- Levodopa goes into the brain and becomes dopamine.
- Levodopa must be given with carbidopa, which blocks the breakdown of levodopa in the body and allows it to cross the blood-brain barrier and be converted to dopamine.
- There are various forms of carbidopa/levodopa:
    - Sinemet
    - Sinemet CR
    - Stalevo
    - Rytary
- The effect of the dose typically lasts 4-6 hours.
- The medication is taken three times during the most active part of the day.
- If wearing off occurs, the frequency is increased, or a levodopa-extending drug is prescribed.

Levodopa extenders

- These medications block the breakdown of dopamine in the brain, allowing the levodopa to last longer and help prevent wearing off.
- Classes
    - COMT inhibitors
        - Entacapone
        - Opicapone
    - MAO inhibitors
        - Selegiline
        - Rasagiline

Dopamine agonists

- These medications mimic the activity of dopamine but are not as potent as levodopa.
- They can be used initially for treatment or in combination with levodopa.
- Dopamine agonists are:
    - Pramipexole
    - Ropinirole
    - Rotigotine patch
- Rare but serious side effects include:
    - Impulse control disorder
    - Sleep attacks
- Dopamine agonists are used with caution in the elderly because of potential for additional side effects, such as:
    - Confusion
    - Memory loss
    - Hallucinations

MEDICATIONS FOR SPECIAL CIRCUMSTANCES

Rescue medications

- These are on-demand therapies used to treat wearing off, unpredictable off, and early morning off episodes.
- The effects typically take 15-20 minutes to kick in and usually last about 90 minutes.
- Rescue medications are only taken as needed.
- Rescue medications are:
    - Apomorphine injectable and sublingual film
        - Side effects include nausea and drops in blood pressure.
    - Levodopa inhaler
        - Side effects are the same as levodopa tablets, plus cough due to inhaling a very fine powder.

Medications for dyskinesia

- Abnormal, excessive involuntary movements are caused by the PD medications.
- Dyskinesia medications are
    - Gocovri
    - Amantadine
- These medications may cause hallucinations.