Parkinson’s Disease
...in 60 minutes

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Plan of attack

- What causes Parkinson’s disease – brief
- Symptoms/Diagnostic Criteria
- Treatment options – the whole gammut
Parkinson’s Disease
Symptoms
Increasing dyskinesias

Wearing off  Delayed on  Increasing dyskinesias

Mild  Moderate  Advanced

Monotherapy  Monotherapy  Combination tx  Interventional
Treatment
1. Medications for PD
2. Don’t forget the non-motor symptoms
3. Alternative treatments
4. It’s not all about medications
Major Medication Classes

DOPAMINE
- Levodopa-carbidopa/Sinemet
- Levodopa-benserazide/Prolopa

DOPAMINE AGONISTS
- Pramipexole/Mirapex
- Ropinirole/Requip
- Bromocriptine

MAOB-I
- Rasagiline/Azilect
- Selegiline
Add on Medications

Entacapone/Comtan

Trihexiphenidyl/Artane

Amantadine
The levodopa myths
Myth

- **Sinemet accelerates disease progression**

  - **Reality:** *Levodopa has been shown to increase lifespan and dramatically improve quality of life.*
Myth

- **Myth**: Sinemet stops working after 5 years so we need to save it for later

- **Reality**: *Levodopa works for decades.* Levodopa does not treat all of the symptoms of PD, but it dramatically helps many of the most disabling motor symptoms.
Myth

- Sinemet causes dyskinesias so we need to try to delay the use of Sinemet as long as possible.

- Reality: *Treatment related side effects are less with levodopa.*
Myth

- You should wait as long as possible to take the next dose of levodopa.

  - **Reality:** *Levodopa is most effective when taken on time, just before the previous dose wears off.*

  - **Secret:** *A medication timer can help.*
Approach to starting

Younger

- more emphasis on long-term considerations to guide early treatment
- longer life expectancy and are more likely to develop motor fluctuations and dyskinesias

Older, cognitive impairment

- less emphasis is placed on long-term considerations
- focus is on providing adequate symptomatic benefit in the near term, with as few adverse effects as possible
In a nutshell

- levodopa more robust effect
- DA generally more side effects which increase with age (somnolence, hallucinations, peripheral edema, ICD)
- motor complications occur earlier with levodopa
Increasing dyskinesias

- Wearing off
- Delayed on

Mild
- Monotherapy
  - L-dopa
  - MAOB-I
  - DA**

Moderate
- Monotherapy
  - higher dose
  - increased frequency

Advanced
- Combination tx
  - L-dopa
  - DA
  - COMT-I
  - MAOB-I

Interventional
- DBS
- continuous intraduodenal infusion
Deep Brain Stimulation
Duodopa
Recent updates

- Tasigna/Nilotinib – leukemia drug
- Antimalaria drugs (ex: chloroquine)
- Inhaled levodopa
Take home messages

1. Medications for PD
2. Don’t forget the non-motor symptoms
3. Alternative treatments
4. It’s not all about medications
Non-motor symptoms
Unidentified or untreated non-motor symptoms contribute to poorer quality of life and poorer motor function overall.
Urinary, bowel, sexual dysfunction
Postural hypotension

WHY
- Parkinson’s disease
- levodopa/dopamine agonist
- Other comorbid conditions
- Other medications

TREATMENT
- Reduce causative meds
- High salt diet
- Stockings
- Domperidone
- Other meds
Mood

- Not just sad…often irritability
- Be open and aggressive in treating mood disorders
- If mood is left untreated, motor symptoms are difficult to treat
- GREATEST DETERMINANT OF QoL
Cognitive Issues

- Not Alzheimer’s
- Problems: Multi-tasking, visuospatial, executive function
- Requires regular assessment
  - **Cholinesterase inhibitors** are beneficial for select patients
“Off” Non-motor symptoms

- NMS can cycle just as motor symptoms do with OFF times
- Eg: off-anxiety, off-sweating
- Approach is to reduce the off time
Take home messages

1. Medications for PD
2. Don’t forget the non-motor symptoms
3. **Alternative treatments**
4. It’s not all about medications
How many take a non-prescribed drug to help with PD?
Alternative treatments

- Coenzyme Q10
- Creatine
- Vitamin E
- Vitamin D
- Mucuna puriens
- Caffeine
Alternative treatments

- Medical marijuana
  - Anecdotally up to 45% found benefit
  - Few controlled studies
  - Not shown helpful for tremor or dyskinesias
  - S/e
Take home messages

1. Medications for PD
2. Don’t forget the non-motor symptoms
3. Alternative treatments
4. It’s not all about medications
QUESTION

What forms of exercise are good for Parkinson’s disease?

Essentially, all right answers
Drugs aren’t everything
Resources

- **www.parkinson.ca** (Parkinson Society Canada)
- **www.parkinson.bc.ca** (Parkinson Society BC)
- **www.parkinsons.org** (National Parkinson’s Foundation, USA)
- **www.pdf.org** (Parkinson’s disease foundation)
THANK YOU