*Please note – this learning resource has been produced by the GUMS Academic Team. It is possible that there are some minor errors in the questions/answers, and other possible answers that are not included below. Make sure to check with other resources.*

72 year old Mr Marty Mcfly, is referred to you by his GP, as recently he has been experiencing a slight tremor in his right hand and his wife has also noticed that his movements are getting slower. On examination you note that he has a resting tremor, of 4-6Hz, in his **right hand only** which subsides when he is actively using his hand. You ask Mr McFly to walk and you notice he has a slight shuffling gait with shorter, more quick steps. You suspect Mr McFly has early stages of Parkinson's Disease.

1. **Explain the pathophysiology behind the motor symptoms in Parkinson’s**
2. **Is it typical of Parkinson’s for Mr McFly to have only noticed a tremor in one hand?**
3. **What other signs might Mr McFly have experienced prior to his tremor and slow movements?**

Mr Mcfly is still quite shocked at his diagnosis and is confused as to why you can’t just give him an injection of Dopamine to fix this issue.

1. **Explain to Mr Mcfly why isn't dopamine itself given to treat Parkinson’s and what are the first line treatments used instead?**

Mr Mcfly says that he is concerned as he has heard that both of these drugs can have dangerous side effects, and he is unsure if he wants to start taking them. He asks you to explain what some of the main risks are for Levodopa and Dopamine and how they can be avoided.

1. **What are the main risks associated with Levodopa and dopamine agonists?**

You decide to put Mr Mcfly on Levodopa/Carbidopa 250/25mg OD (ONCE a day) and also metoclopramide 10mg TDS PRN (three times a day when required) for nausea, as you know antiparkinson medication can cause nausea when first started.

1. **Explain why are benserazide or carbidopa given with levodopa**

He comes back a month later as he notices when he takes the levodopa his symptoms subside but then a couple of hours later he notices his Parkinson symptoms return. He also states if he takes the metoclopramide for nausea his parkinson actually gets worse and he becomes very rigid and has even frozen a few times.

1. **What happening to Mr Mcfly and how should his management change?**
2. **Why did metoclopramide cause his Parkinson's to get worse?**

You decide to put him on a lower but more frequent dosage of Levodopa/Carbidopa 100/25mg TDS (three times a day) to help with the “ONs” and “OFFs” and stop his metoclopramide.

1. **Fill in the table with other drug classes commonly used to treat Parkinson's Disease**

|  |  |  |
| --- | --- | --- |
| **Drug Class** | **Mechanism of action in Parkinsons’** | **Side Effects (not exhaustive - have a general idea don't need to list all)** |
| Monoamine Oxidase (MAO-B) inhibitors   * Selegiline * Rasagiline * Safinamide |  |  |
| Dopamine agonists   * Pramipexole * Ropinirole * rotigotine |  |  |
| catechol-O-methyltransferase (COMT) inhibitors   * Entacapone |  |  |
| Anticholinergics   * Atropine * Benzatropine * Darifenacin |  |  |

# **Qr code Description automatically generatedFeedback – please provide feedback on this PeerBL case here 🡪** [**https://forms.office.com/r/9tYrrG0kKf**](https://forms.office.com/r/9tYrrG0kKf)