MedicinesUpdateExtra

NHS Greater Glasgow and Clyde

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PARKINSON'S DISEASE IN ACUTE CARE

- It is CRUCIAL NOT TO STOP Parkinson's Disease (PD) DRUGS for any significant length of time as there is a risk of Neuroleptic Malignant Like Syndrome (Parkinsonism Hyperpyrexia Syndrome) which may be fatal, as well as causing significant exacerbation of symptoms and patient distress.
- Where a patient does not have an individual supply of medicine, access should be made via the pharmacy/ Out of hours pharmacist/ local main holding areas of PD medications across NHSGGC. See Staffnet - clinical guideline electronic resource directory, Central Nervous System, search for Parkinson's Disease Medication Stocklist, Acute Hospitals
- "NIL BY MOUTH" patients-alternative routes need to be considered as appropriate. Seek advice from a PD specialist, clinical pharmacist, or medicines information. Refer to NHSGGC PD nil by mouth guidance when PD specialists are unavailable e.g. out of hours
- Ensure early referral to the local PD team so medicine administration problems can be prevented before missed doses occur.

When should a PD patient be referred to a PD specialist for assessment and review?

All patients with a diagnosis of PD should be referred to the local PD nurse specialist on admission to hospital. If unavailable, a member of the medical team or the PD nurse specialist (PDNS) on another GGC site should be contacted for advice. For planned admissions this should be done in advance where possible. Early referral should allow any problems with medication administration to be identified early and avoid missed doses whilst in hospital.

How should PD medicines be prescribed and administered?

PD medications should be administered at exact times. This should be clearly annotated on the prescription chart. Ward staff should ensure a system is in place to make sure the patient receives their medicines at the correct times.

When might medication need adjusting?

The usual medication may need adjustment where:

- The patient is nil by mouth due to absorption, swallowing difficulties, or requirements around surgery. This requires consideration of alternative routes
- Side-effects such as hallucinations are exacerbated by the patient's clinical condition (e.g. intercurrent infection). This often requires a dose reduction (but *not* omission of antiparkinson treatment). Advice from the Parkinson's nurse is appropriate.

In cases where a patient is nil by mouth, alternative routes need to be considered as appropriate. The following section aims to provide some practical guidance to commonly asked questions for patients unable to take their medications orally.

What questions should I ask to establish the patient's nil by mouth status?

As an initial guide:

- Can the patient swallow their usual tablets?
- Can the patient swallow other formulations e.g. liquids or dispersible tablets?
- Does the patient have a nasogastric (NG) tube or would it be appropriate to insert one for the purpose of administering medicines?
- Is there any reason why the patient must not be given any oral medications (E.g. in some cases peri-operatively)
- Is the patient experiencing effects such as hallucinations that may require medication review?

What issues should be considered when administering medicines via an NG tube?

Always seek advice from a Parkinson's disease specialist on when NG administration would be appropriate and from a pharmacist around suitable medicines for NG administration.

Not all medicines are suitable for NG administration.

Dispersible forms of medications or liquids may be used. Some (but not all) tablets may be crushed and dispersed in water. This is unlicensed. This is NOT suitable for controlled release formulations.

How do you switch from standard release preparations to dispersible levodopa?

Dispersible formulations of levodopa may have a faster onset and shorter duration of action than standard release tablets or capsules.[1] The priority is to ensure that the patient continues to receive the medicine even if the dose regimen is slightly different. Dispersible formulations of levodopa offer a good alternative. The following are a few examples:

- Co-beneldopa (benserazide/levodopa) capsules – use dispersible co-beneldopa tablets at equivalent dose.[1,2]
- Co-careldopa (carbidopa/levodopa) – ordinary tablets can be dispersed in water or switch to co-beneldopa dispersible tablets, ensuring the equivalent levodopa dose.[1,2]
- Controlled release formulations – do not crush. Consider changing to normal release formulations. A reduction in the daily levodopa dosage of about 30% may be necessary when switching from modified release to dispersible co-beneldopa.[3,4,5] Smaller but more frequent doses may be required. As with all changes to PD medication, close monitoring of the patient is needed.[3, 4, 5]

Which PD medications can be given to patients with no oral or NG access?

In patients with no oral or NG access the following can be considered where appropriate:

- Rotigotine transdermal patch
- Apomorphine subcutaneous infusion

When would it be appropriate to start a rotigotine patch?

Rotigotine is a dopamine agonist, available in a transdermal patch formulation. It offers an alternative way to administer PD medication if the oral/NG route is unavailable, and where the patient has no specific contra-indications to rotigotine. Some points to consider include:

- Neuropsychiatric side-effects – dopamine agonists tend to cause more neuro-psychiatric side-effects than levodopa. This also needs to be viewed in context of overall clinical status of the patient e.g. intercurrent infection may also cause hallucinations so this effect may be exacerbated. Previous history on dopamine agonists should also be considered.
- Skin rash – this is experienced by some patients with the patch and would normally be a contra-indication to further treatment
- Impulse control disorders or other serious side-effects. This should be considered in patients who have previously required withdrawal of a dopamine agonist.

All of the above have to be balanced with risk of serious side-effects and deterioration of PD symptoms control.

Who should the rotigotine patch be started by?

The specialist PD team are best placed to assess patient history and clinical status to decide if a rotigotine patch is appropriate and advise on appropriate initial doses. If PD specialist advice is not available, e.g. out of hours, rotigotine patch can be started by the acute care team, in cases where the oral/ NG route is unsuitable, as explained below.

What dose conversions should be used to convert patients to rotigotine patch?

There are two main groups of dopaminergic medicines used in PD – levodopa (co-careldopa, co-beneldopa) and dopamine agonist (ropinirole, pramipexole). Additional medicines with weaker effects include selegiline, rasagiline, entacapone. Various calculations to work out equivalent doses have been suggested.[6] NHSGGC PD nil by mouth guideline includes guidance for converting oral PD medicines to a rotigotine patch. For patients who usually take an oral dopamine agonist an equivalent dose can be relatively straight forward to work out (See NHSGGC PD nil by mouth guidance, conversion table 2). For patients previously taking levodopa, an initial fixed dose (4 mg/24hr) of rotigotine patch is recommended regardless of the previous levodopa dose. The patient should then be monitored for response and side effects (See NHSGGC PD nil by mouth guidance).

As mentioned above, rotigotine patch should normally only be initiated by a PD specialist and therefore, the specialist would advise on a suitable dose. NHSGGC PD nil by mouth guidance gives basic starter advice on how to convert patients to a rotigotine patch. This is to be used only where PD specialist advice is not available eg Out of hours

Can apomorphine be used in patients who have no oral or NG access as an alternative route?

Yes, but this would only ever be on the advice of the PD specialist team. This would be unusual unless the patient was already on apomorphine (eg if skin allergy contraindicates rotigotine, as all the other contraindications to rotigotine would normally also contraindicate apomorphine too).

Who should I contact for advice out of hours?

The on-call pharmacist can provide advice on the appropriateness of using dispersible, liquid or crushable forms of PD medications in patients with swallowing difficulties. See NHSGGC PD nil by mouth guidance for further information.

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