HERPC

Hull & East Riding Prescribing Committee

Prescribing Framework for **Apomorphine in Neurology**

Patient's Name:……..… NHS Number: ……

Patient's Address:……..……(Use addressograph sticker)

GP's Name:……..……..

Communication

We agree to treat this patient within this Prescribing Framework

Specialist Prescriber's Name…… Prof Reg. No. ……

Specialist Prescriber's Signature…… Date:…….

Where prescriber is <u>not</u> a consultant,:

Consultant's Name: …… GMC No ……..

Consultant's Signature ……..... ……. Date:…….

GP's Signature:…… Date:……..

GP's Name (if different from listed above)……..

The front page of this form should be completed by the specialist and the form sent to the patient's general practitioner.

The patient's GP should sign and **send back to specialist**, to confirm agreement to enter into shared care arrangement. If the General Practitioner is **<u>unwilling</u>** to accept prescribing responsibility for the above patient the specialist should be informed within two weeks of receipt of this framework and specialist's letter.

Full copy of framework can also be found at: http://www.hey.nhs.uk/amber.htm

1. BACKGROUND

Parkinson's disease is a slowly progressive neurodegenerative disorder caused by damaged or dead dopamine-neurons in the *substantia nigra*. The four primary symptoms of Parkinson's disease often appear gradually but increase in severity with time. They are:

- Tremor or trembling in hands, arms, legs, jaw, and face
- Rigidity or stiffness of the limbs and trunk
- Slowness of motor movements
- Postural instability or impaired balance and coordination

Treatment is aimed at temporarily replenishing or mimicking dopamine's actions. These drugs - levodopa and the dopamine agonists (ropinirole, pramipexole, rotigotine and ergot derived dopamine agonists including carbergoline and pergolide) - reduce muscle rigidity, improve speed and coordination of movement, and relieve tremor.

Levodopa (in combination with a peripheral dopa-decarboxylase inhibitor) is the cornerstone of symptomatic therapy in Parkinson's Disease. Unfortunately, within 3-5 years of initiating treatment at least 50% of patients develop fluctuations with dyskinesia and end-of-dose akinesia or "wearing-off". Dopamine agonists are used as adjuncts to levodopa in such patients.

Apomorphine is a potent stimulator of D1 and D2 receptors. It has a fast onset and short duration of action and can be helpful as a "rescue" treatment to stabilise patients who experience severe, unpredictable "off" periods. Used chronically, it can reduce dyskinesias. It also causes nausea and must be given with domperidone. The domperidone should be titrated to the lowest effective dose as soon as possible after treatment initiation. Domperidone increases the risk of QT prolongation.

The National Institute for Health and Clinical Excellence (NICE) produced updated National guidelines for Parkinson's disease management in adults(NG71) in June 2017 and these state when different treatments for Parkinson's disease are to be initiated, including apomorphine. The NICE guideline recommends that intermittent injections of apomorphine may be used in patients with severe motor complications to reduce 'off' time and continuous subcutaneous infusions of apomorphine can be used in patients with severe motor complications to reduce 'off' time and dyskinesia.

These guidelines aim to provide a framework for the prescribing of Apomorphine by GPs and to set out the associated responsibilities of GPs and hospital specialists who enter into the shared care arrangements.

The guidelines should be read in conjunction with the general guidance on prescribing matters given in EL (91)127 "Responsibility for prescribing between hospitals and GPs".

2. INDICATION

Apomorphine is licensed for the management of refractory motor fluctuations in Parkinson's disease; i.e. patients with disabling fluctuations in motor performance

(off episodes) which are inadequately controlled by levodopa or other dopamine agonists.

3. DOSE

Apomorphine is administered by intermittent subcutaneous injection in patients with "off" periods of less than 60 minutes duration and less than 10 such episodes per day. It is given at the first sign of an "off" period and may be repeated after 20 minutes. The maximum single dose is 10mg, ensuring that 100mg daily dose is not exceeded.

Continuous subcutaneous infusion is used in patients requiring frequent administration, where "off" episodes last longer than 60 minutes or occurs more frequently than 10 times per day. It is given by an appropriate pump (depending on brand prescribed) during waking hours usually. The starting rate is 1mg/hour, increased according to response. Very infrequently, some individuals may require some infusions at night.

Apomorphine is initiated in hospital, after at least three days of domperidone pre-treatment. After initiation usual dose is 3-30mg daily in divided doses. Subcutaneous infusion may be preferable for those requiring more than 10 divided doses daily

4. DURATION OF TREATMENT

Advice will be given to the GP on duration of treatment and dose changes for each individual patient.

5. ADVERSE EFFECTS

Dyskinesias during "on" periods, postural instability and falls, increasing cognitive impairment, personality changes, nausea and vomiting, confusions and hallucinations, sedation, somnolence, postural hypotension, euphoria, haemolytic anaemia with levodopa, rarely eosinophilia, local reactions at injection site

6. INTERACTIONS

Antipsychotics – antagonism of effect of apomorphine
Entacapone – effect of apomorphine possibly enhanced
Antihypertensives – Apomorphine may potentiate the effects of other antihypertensives.

Details of contraindications, cautions, drug interactions and adverse effects listed above are not exhaustive. For further information always check with BNF www.bnf.org.uk or SPC (www.medicines.org.uk).

7. CONTRA-INDICATIONS

Contra indications include respiratory and CNS depression, neuropsychiatric problems or dementia, hypersensitivity to opioids, pregnancy and breastfeeding

8. DRUG MONITORING

Hepatic, haemopoietic, renal and cardiovascular monitoring
If used in conjunction with levodopa, monitor every 6 months for haemolytic anaemia

9. INFORMATION TO PATIENT

Full training in administering apomorphine should be given to patient or carer. Patients should be informed of the side effects.

Products available

Brand	Product	Pack size
Apo-go®	10mg/ml pre-filled pen	5x3ml
Apo-go® PFS	5mg/ml pre-filled syringe	5x10ml
Dacepton®	10mg/ml cartridge (for D-mine pen)	5x3ml
Dacepton®	5mg/ml vial	5x20ml

10. RESPONSIBILITIES OF CLINICIANS INVOLVED

Stage of Treatment	**Hospital Specialist**	**General Practitioner**
Initiation	To determine suitability of patient for treatment with apomorphine and evaluate risk of QT prolongation with domperidone. To perform ECG prior to treatment and in treatment initiation phase. To initiate treatment in hospital including pre-treatment with domperidone To titrate dose of apomorphine until required response is seen To teach patient/carer in administration of drug To supply suitable verbal and written information to patient/carer regarding treatment. Select appropriate brand for patient and issue patient with initial script and pump.	Prescribe as brand name and product requested by neurology team on FP10.
Maintenance	To provide GP with appropriate written documentation and liase closely with him/her, advising on response to treatment and any dose modifications To agree dates for regular review of treatment with GP, Specialist Nurse and patient/carer	To monitor patient for clinical response To monitor patient for adverse effects To inform Consultant and Specialist nurse if patient's risk factors for QT prolongation change if on domperidone. To carry out full blood count every six months (to check for haemolytic anaemia) To review the treatment with the patient, Consultant and Specialist Nurse at regular intervals, as mutually agreed

Contact details for specialist team:

During office hours:

Parkinson's Disease Specialist Nurses

Katie Harrison	(01482) 676438
Natalie Preston	(01482) 676438
Anne-Marie Jackson	(01482) 676438

Neurology specialist pharmacist

Jane Morgan	01482 674411

Consultant neurologist

As per clinic letter	Via switchboard

Out of hours: contact on call registrar for neurology via switchboard

APPROVAL PROCESS

Written by:	**Jane Morgan, Medicines Information Pharmacist, HEY Reviewed December 2013, May 17, June 19**
Consultation process:	**Dr Ming, Consultant Neurologist, HEY; Parkinsons disease specialist nurses HEY**
Approved by:	**Medicines Management Interface Group June**
Ratified by:	***HERPC July 2010 Updated September 2019***
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