SHARED CARE GUIDELINES FOR PRESCRIBING AMANTADINE IN PARKINSON'S DISEASE

INDICATION

Amantadine is a weak dopamine agonist with modest antiparkinsonian effects and may be used for dyskinesias in advanced disease. NICE NG71 states "If dyskinesia is not adequately managed by modifying existing therapy, consider amantadine"

AREAS OF RESPONSIBILITY FOR SHARED CARE

This shared care agreement outlines ways in which the responsibilities for managing the prescribing of amantadine can be shared between the specialist and general practitioner (GP). GPs are invited to participate. If the GP is not confident to undertake these roles, then he or she is under no obligation to do so. In such an event, the total clinical responsibility for the patient for the diagnosed condition remains with the specialist. If a specialist asks the GP to prescribe this drug, the GP should reply to this request as soon as practicable.

Sharing of care assumes communication between the specialist, GP and patient. The intention to share care is usually explained to the patient by the doctor initiating treatment. It is important that patients are consulted about treatment and are in agreement with it.

The doctor who prescribes the medication legally assumes clinical responsibility for the drug and the consequences of its use.

REFERRAL AND INITIATION

The diagnosis of Parkinson's disease will be undertaken by a consultant and their team. Pharmacological measures should not be initiated prior to specialist referral. In some cases, it may not be appropriate to initiate therapy with amantadine when the patient is seen by the specialist team. It may therefore be necessary for GPs to initiate therapy where a delay in initiation is required.

Specialist Responsibilities	
1	To assess the patient and establish the diagnosis, determine a management strategy and ensure appropriate follow-up in conjunction with the GP.
2	Where appropriate: ○ to initiate and stabilise treatment; ○ obtain consent from the patient's GP to continue prescribing once treatment has been stabilised (usually after 4 weeks) or if a delay in initiation is required to obtain their consent to start treatment when indicated, ○ monitor the patient and their therapy at six monthly intervals.
3	To provide the GP with appropriate prescribing information and any additional information requested.
4	To be available for advice if the patient's condition changes.
5	To ensure that procedures are in place for the rapid re-referral of the patient by the GP.
6	To ensure the patient has given informed consent to their treatment.
7	To liaise with the GP on any suggested changes in prescribed therapy.

General Practitioner Responsibilities	
1	Initially, to refer the patient for specialist advice.
2	Where appropriate to continue to prescribe amantadine as part of a shared care arrangement (usually after 4 weeks). If a decision has been made to delay initiation GPs may initiate therapy in accordance with the specialist's instructions.
3	To deal with general health issues of the patient.
4	Monitor concordance with therapy

Patient's role (or that of carer)	
1	Report to the specialist or GP if he or she does not have a clear understanding of the treatment.
2	Attend appropriate GP and other follow up appointments
3	Share any concerns in relation to treatment with the amantadine
4	Use written and other information on the medication.
5	Seek help urgently if suspect side effects, or otherwise unwell.

SUPPORTING INFORMATION

Dosage and Administration
100mg once daily increased after one week to 100mg twice daily, usually in conjunction with other treatment. Some patients may require higher doses. Maximum daily dose: 400mg.

Monitoring
No specific monitoring is required.

Contraindications
- Known hypersensitivity to amantadine or any of the excipients of the preparation.
- Individuals subject to convulsions.
- A history of gastric ulceration.
- Severe renal disease.
- Pregnancy or breastfeeding.

Special Warnings
Amantadine withdrawal should be gradual, e.g. halve the dose at weekly intervals. Abrupt discontinuation may exacerbate Parkinsonism, regardless of the patient's response to therapy. Any anti-parkinson drug already in use should be continued during initial amantadine treatment. It may then be possible to reduce the other drug gradually. If increased side effects occur, the dosage should be reduced more quickly. In patients receiving large doses of anticholinergic agents or levodopa, the initial phase of amantadine treatment should be extended to 15 days.

In patients with **renal impairment***:* the dose of amantadine should be reduced. This can be achieved by either reducing the total daily dose, or by increasing the dosage interval in accordance with the creatinine clearance. Amantadine should be avoided if eGFR is less than 15mL/minute/1.73m2

Amantadine should be used with caution in patients with congestive heart failure as it may worsen oedema. It should also be used with caution in patients with hepatic impairment, those in confused or hallucinatory states and the elderly.

Patients should be warned of the potential hazards of driving or operating machinery if they experience side effects such as dizziness or blurred vision.

Common Side Effects
Anorexia, anxiety, dizziness, dry mouth, gastro-intestinal disturbances, hallucinations, headache, impaired concentration, insomnia, lethargy, livedo reticularis, mood changes, myalgia, palpitation, peripheral oedema, postural hypotension, slurred speech, sweating.

Drug Interactions
Concurrent administration of amantadine and anticholinergic agents or levodopa may increase confusion, hallucinations, nightmares, gastro-intestinal disturbances, or other

atropine-like side effects. Psychotic reactions have been observed in patients receiving amantadine and levodopa. In isolated cases, worsening of psychotic symptoms has been reported in patients receiving amantadine and concomitant neuroleptic medication.

Concurrent administration of amantadine and drugs or substances (e.g. alcohol) acting on the CNS may result in additive CNS toxicity. Close observation is recommended.

There have been isolated reports of a suspected interaction between amantadine and combination diuretics (hydrochlorothiazide + potassium sparing diuretics). One or both components apparently reduce the clearance of amantadine, leading to higher plasma concentrations and toxic effects (confusion, hallucinations, ataxia, myoclonus).

Annual drug cost at 100mg bd = £534.46 (DT March 2018)

The manufacturer's summary of product characteristics (SPC) and the most current edition of the British National Formulary should be consulted for full information on contra-indications, warnings, side-effects and drug interactions.

References

1. NICE NG71 Parkinson's disease in adults.
2. MHRA SPC Amantadine 100mg capsules.
3. BNF 74 Sept 2017-March 2018.
4. Pharmacological management of Parkinson's disease. Updated by Dorset Medicines Advisory Group March 2018

Written By	**Parkinson's Disease Working Group**	**May 2010**
Approved By	**Bournemouth, Dorset and Poole Prescribing Forum**	**June 2010**
Reviewed by	**Neurology working group**	**March 2018**
Approved by	**Dorset Medicines Advisory Group**	**May 2018**

Review Date	**May 2020 or before, in the light of new evidence and/or recommendations**