Diagnosis and management of Parkinson’s disease in adults

STEVE CHAPLIN

In July 2017, NICE updated its 2006 guideline on Parkinson’s disease in adults, with major revisions to its recommendations on pharmacological and non-pharmacological management of motor and non-motor symptoms. This article provides a summary of the new guidance.

Although many of the treatment recommendations have changed, the overall structure of the new guideline on Parkinson’s disease in adults (NG71) is similar to the 2006 version. Advice on communicating with patients and how – and how not to – diagnose the disorder precede the sections on drug therapy that make up the bulk of the guideline. However, unlike in 2006, the 2017 guidance is primarily symptom-led rather than focusing on classes of drugs. Non-pharmacological interventions, therapies for advanced disease, and an expanded section on palliative care conclude the guideline.

Communicating with patients and families

The advice in this section is unchanged from 2006. The underlying philosophy is to empower patients and their families so they can participate in treatment decisions and to do so in a way that provides “a balance between providing honest, realistic information about the condition and promoting a feeling of optimism.” Communications must be tailored to the abilities of the patient and family to understand, inform them of their entitlement to care support, and set out a care plan and contact details for health professionals. The DVLA must be informed of a diagnosis of Parkinson’s disease.

Diagnosis

Although the new guideline suggests that many statements have been updated, little advice about diagnosis has changed. The red flag signs are tremor, stiffness, slowness, balance problems and/or gait disorders, and a suspicion of Parkinson’s disease warrants prompt referral to a specialist with suitable expertise before initiating treatment. The diagnosis is clinical, based on the UK Parkinson’s Disease Society Brain Bank Clinical Diagnostic Criteria, and should be reviewed every 6–12 months in case atypical features emerge. Of the various imaging technologies available, the only ones recommended for clinical use are 123I-FP-CIT single photon emission computed tomography (SPECT; to differentiate essential tremor from Parkinson’s disease) and structural MRI (in the differential diagnosis of parkinsonian syndromes).
Pharmacological management
Recommendations on drug treatment are divided into three main sections: the management of motor symptoms, managing and monitoring impulse control disorders induced by dopaminergic therapy and the management of non-motor symptoms. A fourth section consists entirely of NICE’s ‘Do not do’ advice on prescribing neuroprotection, which advises not to use vitamin E nor (unless within a clinical trial) co-enzyme Q10, dopamine agonists or monoamine oxidase B (MAO-B) inhibitors as neuroprotective therapy.

Management of motor symptoms
Before prescribing treatment for motor symptoms, clinicians should discuss with patients how their medication can be tailored to their needs. This should cover the person’s particular symptoms, co-morbidities and risks from poly-pharmacy; their lifestyle circumstances, preferences, needs and goals; and the potential benefits and harms of the different drug classes. NICE includes a helpful table comparing the effects of the major drug classes on symptoms and their adverse effects (see Table 1).

The precautions against sudden changes in medication survive from the 2006 guidance. These state that sudden interruptions and drug holidays (which aim to reduce the risk of motor complications) should be avoided because they may provoke neuroleptic malignant syndrome or acute akinesia. Consequently, doses should be taken at the right time and no changes should be made without advice from a specialist.

The choice of first-line treatment in early Parkinson’s disease depends on the impact of symptoms. For those whose motor symptoms affect their quality of life, the drug of choice is levodopa. Where they have no such impact, there is a choice between levodopa, dopamine agonists (but not ergot-derived agents such as cabergoline, pergolide or bromocriptine because of the risk of cardiac fibrosis) and MAO-B inhibitors. Patients, families and carers should be informed about the risks of treatment, including impulse control disorders and psychotic symptoms (and the higher risk with dopamine agonists) as well as excessive sleepiness and sudden

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<th>Levodopa</th>
<th>Dopamine agonists</th>
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Key: MAO-B = monoamine oxidase B
* Excessive sleepiness, hallucinations and impulse control disorders (see the summary of product characteristics for full information on individual medicines)

The onset of an impulse control disorder is an indication for specialist referral before modifying treatment. Patients, families and carers need to think about how the impulse control disorder is affecting their life, what their options are (reducing or stopping the drug) and the benefits and disadvantages of each choice. If the decision is to modify treatment, the dose of dopamine agonist should initially be reduced slowly, monitoring the impulse control disorder and being vigilant for symptoms of dopamine agonist withdrawal. If this option fails, the next step is specialist cognitive behavioural therapy (CBT) targeted at the disorder.

Managing non-motor symptoms
Parkinson’s disease is much more than a disorder affecting motor function, and drug treatment of its many other symptoms can result in a high level of poly-pharmacy especially if the patient is being treated for other co-morbidities associated with ageing.
Sleep disturbance takes several forms. Daytime sleepiness or sudden-onset sleep should first be addressed by stopping driving and avoiding hazards at work. After specialist advice, it may be possible to modify treatment to reduce the risk but if there is no remedy in adjusting treatment or behaviour, the narcolepsy drug modafinil is an option for excessive daytime sleepiness. This treatment requires annual review by a specialist.

NICE recommends: “Take care to identify and manage restless leg syndrome and rapid eye movement sleep behaviour disorder” in individuals with sleep disturbance. The options for treatment of rapid eye movement sleep behaviour disorder are both medicines not licensed for this indication – clonazepam and melatonin – but they should be considered if no possible pharmacological causes can be found. Nocturnal akinesia should first be treated with levodopa or an oral dopamine agonist and, if the first is not effective, the other should be tried. If both fail, rotigotine may be considered.

Orthostatic hypotension may be caused or exacerbated by medication for co-morbidities and treatment should be reviewed for possible contributors among antihypertensive drugs (including diuretics), dopaminergic or anticholinergic agents, and antidepressants. If this is unhelpful, the sympathomimetic midodrine is the preferred option (though it has many contraindications and its use requires monitoring for hypertension). If that is unsuitable, the next choice is fludrocortisone but NICE notes that it poses a cardiac risk and is associated with the risk of drug interactions.

Strategies other than drug therapy are preferred for drooling of saliva, but if a drug is necessary, the first choice is the poorly-absorbed anticholinergic agent glycopyrronium bromide. This is an unlicensed indication but the risk of adverse cognitive effects with other anticholinergics means that they have limited potential. If they are necessary, topical application should be used if possible. The final pharmacological option is botulinum toxin A, which requires referral to a specialist service.

NICE refers to its 2009 guideline Depression in Adults with a Chronic Physical Health Problem (CG91)² for advice on the management of depression in people with Parkinson’s disease. The possible development of delusions and hallucinations should be checked at every review and any identifiable underlying cause should be treated. There is no need to treat the delusions/hallucinations “if they are well tolerated by the person with Parkinson’s disease and their family members and carers (as appropriate)” but, if advised by a specialist and the disease severity allows, the dose of antiparkinson medication can be reduced. When antipsychotic treatment is needed specifically for delusions/hallucinations and the individual is not cognitively impaired, the first choice is quetiapine and the second choice clozapine. Both are used at lower doses than are required for other indications. Olanzapine is not a recommended option and other antipsychotics, notably the phenothiazines and butyrophenones, may worsen motor symptoms due to their anticholinergic activity.

Recommendations on the care of individuals who have delusions/hallucinations and dementia are provided in the NICE 2006 guideline Dementia: Supporting People with Dementia and their Carers in Health and Social Care (CG42).³ This guideline also covers the management of dementia in people with Parkinson’s disease. A cholinesterase inhibitor should be offered to individuals who develop dementia if they have mild to moderate symptoms and considered for those with severe symptoms. If a cholinesterase inhibitor is not suitable, memantine is an alternative.

Non-pharmacological interventions
This section seems to be an endorsement of the role of the Parkinson’s

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<th>Dopamine agonists</th>
<th>MAO-B inhibitors</th>
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Key: MAO-B = monoamine oxidase B; COMT = catechol-O-methyl transferase

Table 2. Potential benefits and harms of adjuvant medication: dopamine agonists, MAO-B inhibitors, COMT inhibitors and amantadine. From: NICE. Parkinson’s Disease in Adults. NG71. July 2017¹
New from NICE | Parkinson’s disease

Disease nurse specialist, stating that patients should have regular access to clinical monitoring and medicines adjustment; a continuing point of contact for support, including home visits when appropriate; and a reliable source of information about clinical and social matters of concern. However, NICE appears to acknowledge that not everyone has access to this level of care when it notes that these services may be provided by a Parkinson’s disease nurse specialist.

Referral for physiotherapy, occupational therapy, and speech and language therapy should be considered for everyone with early disease but should definitely be offered to those experiencing problems. Training in the Alexander Technique should be considered for individuals having problems with balance or motor functions. Speech and language therapy is also appropriate for people experiencing difficulty with swallowing and should include strategies to improve the safety and efficiency of swallowing to minimise the risk of aspiration, such as expiratory muscle strength training. Needs will change as Parkinson’s disease progresses, when referral for alternative and augmentative communication equipment should be considered.

Specialist dietary advice is recommended only for consideration. A protein redistribution diet (in which most of the daily protein consumption is taken in the last meal of the day) can help individuals with motor fluctuations, and everyone with Parkinson’s disease should be advised to avoid reducing their total daily protein consumption. Vitamin D supplementation is recommended, in line with other NICE guidance (PH56, 2014; CG161, 2013; and CG146, 2012). Creatine supplements should not be offered and over-the-counter dietary supplements should not be taken without the patient first consulting a pharmacist or other healthcare professional.

Treatments for advanced Parkinson’s disease

Optimising medical therapy is fundamental to the management of advanced Parkinson’s disease. The last pharmacological step, in addition to standard medication, is apomorphine, administered by intermittent injection and/or continuous subcutaneous infusion. When best medical therapy no longer controls symptoms, the final option is deep brain stimulation. The guideline does not give recommendations on levodopa–carbidopa intestinal gel, instead suggesting that NHS England reviews its current clinical commissioning policy for this preparation.

Palliative care

As hinted at the outset, coping with a diagnosis of Parkinson’s disease can be difficult. Referral to the palliative care service can be offered at any time to give everyone the chance to talk about what palliative care entails, recognising that patients’ needs may not be the same as those of their family or carers. There should be plenty of opportunities to talk about the prognosis – in ways, NICE recommends, that “promote people’s priorities, shared decision-making and patient-centred care.” This means discussing disease progression, what is available in the way of financial and practical support (care at home, respite care), future treatments, the adverse effects of treatment for advanced disease, and what could happen at the end of life. Advance care planning should cover Advance Decisions to Refuse Treatment (ADRT) and Do Not Attempt Resuscitation (DNACPR) orders, as well as Lasting Power of Attorney for financial matters and/or health and social care.

References


Declaration of interests

None to declare.

Steve Chaplin is a medical writer specialising in therapeutics