Parkinson’s in the older patient

It can be difficult to diagnose PD, as ‘normal’ ageing can mimic parkinsonian features, write Drs Ishfaq Hussain and John G Doherty from the geriatrician’s perspective.

The prevalence of Parkinson’s disease in the UK is approximately 120/100,000 with an additional 18/100,000 new diagnoses yearly. There are some dated Irish figures, but further data is becoming available through work from the European Brain Council. Other European figures are also well established.

If we extrapolate from the UK figures, most large primary care practices in Ireland should expect to diagnose one to two new cases yearly, and to have a prevalence of six to 10 established cases on their client list. The issues around Parkinsonism are complex and would require quite a long paper to provide a state-of-the-art update. In this paper we have selected a number of issues for discussion.

Establishing the diagnosis.

Distinguishing PD from other related conditions can be difficult, but one should try at least to establish if it is idiopathic PD, parkinsonism, or a non-extrapyramidal disorder.

When the diagnosis of Parkinson’s disease is made on purely clinical grounds, precision in the diagnosis can be relatively poor – a 25% error rate for experts in one series.

Even ‘normal’ ageing can mimic parkinsonian features (stooped posture, slowing of movement, intellectual change, absence of emotional expression, reduced stride amplitude, increased sway, stiffness of joints and muscles, and poor exercise tolerance). Conditions commonly giving rise to diagnostic difficulties include essential tremor,
Alzheimer’s disease with extrapyramidal features, and vascular parkinsonism.\(^1\)

Drug-induced parkinsonism is a frequent cause of parkinsonism.\(^7\) Many drugs interfere with the action of dopamine in the brain, either by causing dopamine depletion or by blockade of the dopamine receptors. Relevant drugs include anti-psychotics and anti-emetics including the commonly used prochlorperazine and metoclopramide. Once the causative drugs are removed, recovery from the syndrome is slow and in many cases incomplete.\(^8\)

Essential tremor is common in the elderly (3% of patients >75 years). The tremor is coarser and more rapid than parkinsonian tremor; it becomes accentuated with purposeful movement and lessens at rest. It may often affect the head and neck and is the commonest cause of titubation. Foot tremor can occur and this is unusual in Parkinson’s disease. Diagnostic difficulty occurs when associated ageing features such as stooped posture and slowness of movement occur at the same time as essential tremor.\(^1\)

High-level gait disorders, which can be idiopathic or associated with cerebrovascular disease or normal pressure hydrocephalus may be misdiagnosed as parkinsonism. They have a broad base gait rather than typical narrow base of parkinsonism. Signs such as ophthalmoplegia, pyramidal or cerebellar signs, or marked autonomic dysfunction all point to Parkinson plus syndromes rather than idiopathic PD.\(^5\)

**To whom should the GP refer?**

This may depend on the special interest of the geriatrician or neurologist in the area and the age of onset of disease. Most Irish geriatricians will have done some of their postgraduate training in the UK where almost 70% of parkinsonian patients will have their care supervised in multidisciplinary clinics run by geriatricians.

Parkinson’s disease, even apart from its age of onset, is a classical ‘geriatrician’s disease’, given its sometimes non-specific presentation, autonomic disturbance, associated disability including reduced mobility, postural instability, cognitive impairment, psychiatric symptoms, reduced functional capacity and reduced independence in activities of daily living.\(^1\)

The British Geriatrics Society has a SIG (special interest group) in movement disorders which promotes audit, research and standards of care in this clinical area in the UK (www.bgsmds.org.uk). Most geriatric medicine higher trainees (UK and Ireland) receive specific training and clinical experience in the field of movement disorders. The SIG also provides masterclasses on a regular basis for established consultants, GPs and nurse specialists who wish to further develop their skills.

It would certainly seem reasonable, therefore, to refer all Irish patients in their 60s and upwards to a geriatrician with a declared special interest in movement disorders.

**Young and old – are their differences in management?**

There are a number of interesting papers comparing the natural history of PD in the older and younger or middle-aged patient, but the numbers studied are small.\(^9\) The tremor-predominant sub-type does have an earlier age of onset and a better prognosis in at least one series.\(^9\)

In clinical practice, we have good evidence to support early treatment with dopamine agonists in the younger patient to try and offset the difficulty of motor complications like dyskinesia.\(^12\)

In the older patient on the other hand, psychiatric side-effects such as hallucinations can limit the use of such agents.\(^1\)

Nevertheless, dopamine agonists in the advanced PD patient may be useful agents in the treatment of Levodopa-induced response fluctuations.\(^13\)

It’s worth pointing out the distinction between ergot-derived dopamine agonists (caber-
goline, pergolide, bromocriptine) and non-ergot preparations (pramipexole, ropinirole). The main concern surrounding the ergot-derivatives is the risk of fibrotic reactions such as retroperitoneal fibrosis and cardiovalvulopathy.14

Before starting treatment with these ergot derivatives it may be appropriate to measure the erythrocyte sedimentation rate and serum creatinine and to obtain a chest x-ray. Patients should be monitored for dyspnoea, persistent cough, chest pain, cardiac failure, and abdominal pain or tenderness.

There is evidence to suggest that impulsive behaviour, often expressed as pathological gambling or increased libido including hypersexuality, may be a rare class effect of dopamine agonists. Patients should be warned about these possible side-effects and should be advised to seek help from their doctor if they, their family, or their carer(s) notice unusual behaviour.15

Clinical management guidelines

Algorithms for pharmacological and multidisciplinary care of Parkinson's disease are plentiful in the neurology literature.

The UK NICE guidelines, published in 2006, are available in paper form and online in comprehensive and summarised forms (NICE clinical guideline 35. Parkinson's Disease. Diagnosis and management in primary and secondary care).16

The NICE Parkinson's disease quick reference guide is a 16-page document with a 'key priorities section' emphasising referral to an expert in the differential diagnosis of this condition and that new referrals with later/complex disease should be seen by such an expert within two weeks.

In diagnosis, the guideline points out that the following tests should not be used: PET scans (except in clinical trials); MR volumetry (except in clinical trials); objective smell testing (except in clinical trials); MR spectroscopy; acute levodopa and apomorphine challenge tests.

There are excellent summary tables for initial pharmacotherapy in early PD and a table on adjuvant pharmacotherapy in later PD

Separate advice on interventional procedures for PD including deep brain stimulation are available in the separate NICE document IPG 019.17

There is criticism by one of the leading UK geriatric movement disorders experts of the evidence base on which the NICE guidelines are based (studies supporting treatments have a mean age for participants of 62 years, essentially representing less than a quarter of patients on treatment for PD in the UK – and excluding the frailer elderly patient).18

Non-motor symptoms

Non-motor symptoms (NMS) are increasingly covered in the literature and it is important for the GP to ask about these symptoms which include the following: sensory symptoms (pain, paraesthesia, akathisia), sleepiness/sleep disorders, fatigue, autonomic disturbances (including sweating/constipation/dyspnoea/sexual dysfunction), mood disorders, anxiety, cognitive disorders.

Non-motor symptoms are commonly under-recognised and under-treated in both primary and secondary care settings.19 Having patient-completed diaries of non-motor symptoms is a worthwhile practice.

There is evidence for SSRI therapy in the depression of PD and is increasing evidence for the benefit of pramipexole in mood disorders (including PD-related) given its predilection for D3 receptors which abound in the limbic system.20

Modafinil is increasingly used for the daytime hypersomnolence of PD though there remains some controversy over its benefits in the literature.21

Ancillary healthcare practitioners

There is a growing evidence-base for ancillary health practitioners and for the role of the PD clinical nurse specialist in the specialised rehabilitation literature.

Two Cochrane reviews had suggested that there was insufficient evidence to support or refute physiotherapy in PD or to favour one form over another. Subsequently, there have been
several systematic reviews and randomised controlled trials involving 1,063 patients.

There is now moderate to strong evidence for (a) task-specific training for posture/balance control; (b) gait and related activities; (c) strengthening and endurance training.22-24

Systematic reviews on occupational therapy show that there is insufficient evidence to support or refute the efficacy of this therapy. Two trials showed a positive effect of OT but the numbers were small and the study methodology open to criticism.25,26

Parkinsonian dysarthria shows monotony of speech pitch and volume, imprecise articulation, variations in speed and hypophonia (representing difficulty synchronising speech and breathing). Forms of therapy include the Lee Silverman voice treatment (LSVT) and pitch-limiting voice treatment (PLVT).

Dysphagia increases the risk of aspiration and pneumonia in PD patients and while levodopa improves swallowing speed, pharmacological therapy must be supported by swallowing therapy; therapy aims to render easier and safer swallowing and to limit sialorrhoea.

There are studies confirming a positive benefit of SALT (speech/language therapy) on dysarthria and on swallowing.27,28 One study used a portable metronome brooch to cue swallowing.29

A large RCT was recently commenced to study the efficacy of chin-down posture with thickened liquids; outcomes will include the rate of aspiration pneumonia (CSDRG protocol 201 The Swallowing trial, ongoing study, Logeman et al).

Resources for the GP and patient

Useful reference sources for GPs include the comprehensive publications by Playfer and Handle30 and Wolters, van Laar and Berendse.31

These two texts, while very readable, are very detailed and possibly more suited to the GP with a special interest in movement disorders or specialist registrar/clinical nurse specialist in neurology or geriatrics.

Parkinson’s disease Q&A, edited by Hauser, is a useful handbook and tackles the common problems presenting to GPs including sialorrhoea, constipation, fatigue and depression along with comprehensive but practical pharmacological and therapeutic guidance.32

Patient resources include the Parkinson’s Association of Ireland www.parkinsons.ie and the European Parkinson’s Disease Association www.epda.eu.com (the emblem for which is the PD international symbol – the red tulip). Both of these organisations have websites with excellent reference resources for patients and healthcare providers.

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References on request