Non motor symptoms of Parkinson’s disease

Dr Adam Sims
Consultant Psychiatrist
Capital and Coast District Health Board
More than just movement

- Parkinson’s Disease is defined in terms of its motor symptoms –
- tremor, slowing and rigidity.

- However, it is much more than a disorder affecting movement:
Common neuropsychiatric symptoms

- depression
- anxiety
- psychosis
- apathy
- impulse control disorders
- mild cognitive impairment
- dementia
- sleep disorders
- obsessive–compulsive phenomena
Psychiatric Symptoms

• It is estimated that up to 70% of patients with Parkinson’s disease will suffer from psychiatric problems at some point during their illness, but unfortunately appropriate diagnosis and management are not always forthcoming.
Common reactions

• Parkinson’s disease represents a serious life change, and it is only natural to worry about the future.

• You will probably have ‘good’ and ‘bad’ days, and feelings of sadness, discouragement, irritability and frustration are all understandable.
A tale of two stars
Dealing with the diagnosis

• Michael J Fox, stayed silent about his 1991 Parkinson's diagnosis for seven years before speaking about it publicly.
• "My first reaction to [the diagnosis] was to start drinking heavily,"
• "I used to drink to party, but now I was drinking alone and ... every day. Once I did that it was then about a year of like a knife fight in a closet, where I just didn't have my tools to deal with it."
video
What is depression?

Signs of Depression

Lethargy
Trouble sleeping
Trouble focusing
Apathy
Sadness
Irritability
Feelings of worthlessness
Detaching from friends
Appetite and weight
Low sex drive
Pain
Recklessness
Alcohol abuse
Drug abuse (prescription or other)
Suicidal tendencies
Depression is serious

• While depression and anxiety can be normal reactions to being diagnosed with a serious disease, clinical depression is real.
• Depression is damaging at best and deadly at worst.
• Depression is not a character flaw.
Depression

- Depression is the most common psychiatric problem in Parkinson’s disease. It occurs in up to 50% of cases (Cummings, 1992).
- The majority of patients suffer from ‘minor’ depression or dysthymia.
- Around 20% suffer from major depressive episodes (Nuti et al, 2004).
Problems with identifying depression

• Overestimation and underestimation
• a lack of awareness in treating physicians
Depression in Parkinson’s disease

Characteristics of depression in Parkinson’s disease include:

• dysphoria
• pessimism
• irritability
• sadness
• suicidal ideation

Symptoms such as guilt, self-blame or reproach, or mood-congruent delusions are seen less frequently
Depressed versus non depressed

What causes depression in PD?

• We do not think that depression in PD is simply a reaction to having a chronic neurological condition.

• It may be due to the underlying changes in brain chemistry and circuitry from the disease itself.

• Evidence includes the fact that depression sometimes starts before patients even develop motor symptoms.
Neurotransmitters

- Serotonin for “emotion”
- Dopamine for “motion”
Medical and Psychiatric overlap

• fatigue
• slowness/psychomotor retardation
• flat facial expression
• problems with concentration
• sleep disturbances, etc.

Surveys also show that patients rarely discuss these symptoms with their doctors (Findley, 2002).
More problems in diagnosis

- Lack of time for consultation in clinics
- Focus on motor disorders in clinic
- Lack of awareness of range of non motor that can be associated with Parkinson’s disease by:
  - patients and caregivers
  - doctors
- Embarrassment (of patients) to discuss some non motor symptoms
- Perception of many that non motor symptoms are inevitable
Problems with diagnosis

• an expectation that patients with Parkinson’s disease will inevitably suffer from low mood, anxiety, hallucinations or cognitive problems as a result of their illness or the effects of its treatment (Starkstein & Merello, 2002).

Depression is not a sign of weakness
it means you have been strong for far too long
Correct diagnosis and treatment or....

- increasing distress in patients and carers
- complications due to inappropriate treatment
- Increased dependency and early institutionalisation
Risk factors

It is important to note that depression and anxiety may precede the onset of motor symptoms of Parkinson’s disease in about 30% of cases (Taylor et al, 1986). Patients more at risk of depression are:

• those with an early-onset form of Parkinson’s disease
• females
• those with prominent right-sided symptoms
• those with more prominent bradykinesia and gait disturbance.
Cause of depression

- Neurochemical
- Psychosocial

"What is depression like?" he whispered.
"It's like drowning. Except you can see everyone around you breathing."
Caregiver burden

• Greatest burden on caregiver is depression.
• A study specifically comparing the effect of motor and non-motor symptoms on the caregiver found that patient’s depression and cognitive impairment had a greater impact on the caregiver’s depression and strain than the patient’s disability.
It's usually the people who have seen you at your lowest that understand you the most.

Chee Vui Yang
A few more ideas

• Stigma
• Weakness
• Depression is a part of the disease and isn’t something that one can ‘will away.’
• Seeking out treatment is a sign of strength:
• People who acknowledge that they are suffering from depression and proactively look to do something about this should be commended. They will likely experience significant relief when their depression is treated.
Associations with depression

• No clear evidence has been established of a correlation between the severity of Parkinson’s disease and the presence and/or severity of depression (Allain et al, 2000).

• Depression in Parkinson’s disease increases functional disability (Weintraub et al, 2004).
What to do?

• Seek help until help is found
• Achieve the best control of movement symptoms you can
• Reduce alcohol intake
• Psychotherapy
• Antidepressant medication
• Mobilise our spiritual supports
• Self-help or internet-based resources
• Join an anxiety or depression group
“What fits your busy schedule better, exercising one hour a day or being dead 24 hours a day?”
What to do?

• Achieve the best general physical health that you can
• Plan your physical activity carefully to link in with your parkinson’s meds, your energy levels, and your planned rests
• Get the best sleep you can
• Use alternative health approaches that make sense to you, but beware of using any herbs, pills or remedies without consulting your doctor
What to do?

• Organise and accept enough practical supports to comfortably get through each week
• Ensure your main supporters / carers have their own support and stress relief
• Plan to take part in activities that are enjoyable but also slightly challenging each week, whether you feel like it or not
• Keep up with your friends and family, whether you feel like it or not
What to do?

• If you need time out from your responsibilities and activities, make an orderly retreat rather than burning out
• Similarly, when worsening motor symptoms threaten our ability to keep up with an activity, make an orderly retreat rather than crash and burn
• Give yourself breaks to look forward to each week and month
• Ensure that you have some meaningful activities to occupy you for part of each day
What to do?

• Pick the right battles rather than fighting for things that don’t matter
• Manage your anger and irritability rather than allowing it to manage you
• Plan for new roles to replace any old ones that are lost due to disability
• Break big jobs down into small achievable steps
• Paroxetine versus Venlafaxine
• We found that both were significantly more effective than a placebo pill in treating depression.
• Hamilton Rating Scale for Depression
• paroxetine 59 percent improvement
• venlafaxine a 52 percent improvement
• placebo only 32 percent.
• medications were well tolerated and participants didn’t experience worsening of their motor symptoms from taking the drugs.
Anxiety

- Sense of dread
- Choking
- Rapid heart beat
- Shaky
- Feel faint
- Wobbly legs
Anxiety

• Up to 40% of patients with Parkinson’s disease suffer from anxiety problems that are often comorbid with depression.

• Generalised anxiety disorder may occur in 11% of patients, and panic disorder in 30% (Ehrt & Aarsland, 2005).
Anxiety

• In some patients, paroxysmal anxiety in the form of panic attacks may occur in anticipation of, or during ‘freezing’ or ‘off’ episodes. Anxiety, as low mood, can fluctuate with the motor state.

• Factors associated with higher risk of anxiety are postural instability, gait dysfunction, on-off dyskinesias and younger age at onset (Dissanayaka, 2010).
What to do?

• Use of other anti-anxiety medicines can be helpful
• Use logic to counteract irrational anxious thoughts
• Use support from trusted others to face anxiety-provoking situations rather than avoiding them, and plan to build up to very scary situations by starting with less stressful ones
• Learn muscle relaxation
• Learn controlled breathing
What to do?

• Use a relaxation tape
• Practise a mindful, zen-like approach to worrying thoughts: “Oh, there goes that worry thought again” rather than buying into them or somehow trying not to think about them
• Aim for management of your anxiety rather than a cure in the first instance
• Reward yourself for success in facing anxieties, but preferably with something positive and enjoyable rather than avoidance of something stressful
Apathy

I DON’T FEEL,
and neither do I care to.

-Apathy
Apathy

- This is a frequent symptom that can also be associated with depression. Lack of motivation relative to previous level of functioning
- Diminished goal-directed behaviour
- Diminished goal-directed cognition
- Diminished concomitants of goal-directed behaviour
- Lack of emotional responsivity (Starkstein, 2000).
Apathy

- Apathy tends to be associated with cognitive impairment, especially with executive dysfunction, and is probably caused by dysfunction of mesocortical dopaminergic pathways (Ring & Serra-Mestres, 2002).
Apathy

• The treatment of apathy is challenging, especially in Parkinson’s disease. In those cases where it is associated with depression, apathy can improve with antidepressant treatment.

• Anticholinesterase inhibitors some evidence
Cognition

• *Cognitive functions* are our brain’s abilities to think well.

• *Cognitive impairment* can develop in one or two areas, or across the board. It can be temporary or more permanent. It can be very mild or very serious.
Psychosis in Parkinson’s disease

• “Psychosis” is a difficult term to define. It includes a collection of symptoms and involves a distorted sense of reality

• *Illusions* – faulty sensory information based on a real external event.

• *Hallucinations* – faulty sensory information arising inside our brain with no external event.

• *Delusions* – fixed false ideas out of keeping with a person’s normal milieu.
Psychosis

• Psychotic phenomena occur in around 30–40% of cases of Parkinson’s disease (Ring & Serra-Mestres, 2002), and are mainly related to treatment with dopaminergic and/or anticholinergic drugs.

• When unrelated to the treatment for Parkinson’s disease, they are generally associated with the onset of cognitive impairment.
When should we be concerned about psychosis or cognitive impairment?

• When it is associated with significant suffering
• When it cause significant impairment in ability to function normally
• When it causes significant risks of harm to the person concerned or to someone else
• When it is associated with significant carer stress
Psychosis

Visual hallucinations are the commonest psychotic phenomena in Parkinson’s disease, occurring in around 20% of cases.

- occur in clear consciousness at night-time
- involve fully formed objects or animals
- be frequently associated with sleep disturbances.
Psychosis causes

• Likely multifactorial
  – Duration and severity of the PD
  – Dementia
  – Depression
  – Sleep disturbance
  – Visual disturbance
Psychosis

- Insight is often lost.
- Benign visual hallucinosis can also occur in clear consciousness and with preservation of insight.
- In patients with sleep disturbances vivid hallucinations may truly represent the intrusion of rapid eye movement (REM) sleep (dreams) into wakefulness.
Delirium

- *Delirium* is temporary cognitive impairment with problems across the board.
  - Sudden onset
  - Fluctuates
  - It is most common when people are unwell with some other problem.
  - Attention and concentration and level of consciousness change,
  - Psychotic symptoms are common, and
  - Emotional upset (especially irritability and anxiety)
  - Delirium is “Acute Brain Failure”.
Treatment

• Treat delirium first.
• Reduce dose of dopaminergic drugs if possible.
• Often difficult to achieve a therapeutic balance and specific treatment for the psychosis will often be required.
Antipsychotics

- Quetiapine
- Clozapine
- Anticholinesterase inhibitors
• Given that the evidence to support these drugs is limited, it has been suggested that non-pharmacological approaches based on person-centered care and cholinesterase inhibitors should be considered as first-line treatments except for cases in which symptoms are extremely severe (Ballard, et al, 2013).”
Sleep

• 'Up to 70% of Parkinson's patients report some type of sleep disturbances' (Barone et al, 2004).
Sleep problems

- Sleep hygiene and sleep patterns
- Turning over in bed
- Akinetic pain
- Nocturia
- Restless legs
- Anxiety, panic, depression
- REM Behaviour Disorder
- Excessive Daytime Sleepiness
REM Behaviour Disorder

• Patients with REM sleep behaviour disorder (RBD) present frequently with periodic limb movements in sleep and restless legs syndrome, and RBD can precede neurodegenerative disorders.

• It is considered that up to 38% of patients with RBD will develop a parkinsonian-spectrum disorder at a mean of 3.7 years after diagnosis of RBD (Schenk et al, 1996).
REM Behaviour Disorder

- loss of skeletal muscular atonia during REM sleep
- prominent motor activity such as thrashing and shouting
- dreams of a nightmare quality.
REM Behaviour Disorder

• Approximately one-third of patients with Parkinson’s disease suffer from RBD ([Gagnon et al, 2002](#)), and it is significantly more frequent in Parkinson’s disease patients who also suffer from hallucinations.
REM Behaviour Disorder

• Clonazepam seems to be quite effective in the management of RBD (Schenk & Mahowald, 1996; Olson et al, 2000, Askenasy, 2003), although the actual mechanism of action remains unknown.

• L-dopa and dopamine agonists (particularly pramipexole) have been shown to be very effective (Brodeur et al, 1998; Montplaisir et al, 1999).
Excessive daytime sleepiness

• Has a remarkable impact on the patient’s quality of life.

• Parkinson’s disease impacts on structures that regulate the sleep-wake cycle (Arnulf et al, 2002)

• Medication-induced sleepiness and sleep fragmentation (Barone et al, 2004).
• All antiparkinsonian medications can be associated with sleepiness, but it is more common with dopamine agonists.

• The effects are reported to be dose related (Paus et al, 2003), although this is not entirely clear (Arnulf et al, 2002).
Managing EDS

• improving sleep hygiene
• modifying dopaminergic drugs and using the lowest effective dose
• discontinuing concomitant sedative or stimulant drugs
• treating comorbid mental illnesses such as depression.
Video
Not a death sentence but a life sentence

• “A Parkinson’s diagnosis, although life-altering, is not a death sentence.

• Symptoms will change over time, as will your attitude; no one should expect, nor should you expect from yourself, that this will be easy to deal with.

• But people with Parkinson’s and others alike should all value and make the most of every day.

• In a best-case scenario, a Parkinson’s diagnosis can become a real wake-up call: a chance to re-examine your priorities, and focus not on what you cannot do, but instead, on what you can.”