

can then be added at a dose of 0.1 mg in the morning, increasing if necessary up to 0.5 mg in the morning. If these measures are ineffective, the alpha agonist midodrine 10–20 mg four hourly can be useful but it is experimental and only available via the Special Access Scheme. Patients treated for postural hypotension need to have electrolytes, renal function and supine blood pressures closely monitored.

Parkinsonian psychosis, depression and dementia

Psychotic symptoms such as visual hallucinations and persecutory delusions occur most commonly in the setting of dementia, which may be mild and therefore easily missed. Most drugs for Parkinson's disease make these symptoms worse. Depression is also common and requires treatment in its own right.

Occasional visual hallucinations with retained insight do not require treatment. Acute psychosis is a medical emergency. It can be triggered by a change of environment, treatment or intercurrent illness. Apart from levodopa all the drugs for Parkinson's disease should be ceased. If possible stop the drugs over a few days rather than abruptly to avoid provoking neuroleptic malignant syndrome from dopaminergic withdrawal, or a cholinergic crisis from withdrawal of anticholinergics.

If psychotic symptoms persist it may be necessary to introduce a neuroleptic drug. This is always a difficult decision because neuroleptics are dopamine antagonists which can cause profound worsening of parkinsonism. The role of the new atypical neuroleptic drugs, including clozapine, olanzapine, quetiapine and risperidone, is still being assessed.² At present they have only been approved in Australia for the treatment of schizophrenia. If the patient is aggressive and potentially violent, the most suitable way to achieve immediate control is

to withhold one to two doses of levodopa until control is achieved. Sometimes benzodiazepines, orally or parenterally, may be required. This will sedate the patient and allow oral neuroleptic medication to be given if needed.

Summary

For patients moderately affected by Parkinson's disease the first-line treatment is levodopa with a peripheral dopa decarboxylase inhibitor. A dopamine agonist may be added to minimise the dose of levodopa. Anticholinergic drugs may help patients with tremor. Physical therapy is an important adjunct to drugs. Patients with more severe disease may require injections of apomorphine. All the drugs have unpleasant adverse effects, so therapy should aim to minimise the complications of treatment.

REFERENCES

1. Hely MA, Fung VSC, Morris JGL. Treatment of Parkinson's disease. *J Clin Neurosci* 2000;7:484-94.
2. Friedman JH, Factor SA. Atypical antipsychotics in the treatment of drug-induced psychosis in Parkinson's disease. *Mov Disord* 2000;15:201-11.

Self-test questions

The following statements are either true or false (answers on page 103)

7. Metoclopramide is the drug of choice for treating the nausea caused by levodopa.
8. If levodopa has failed to benefit the patient they are unlikely to respond to a dopamine agonist.

Parkinson's disease: a personal experience

Editor's note:

Kay Messiter is a 47-year-old single mother who has had Parkinson's disease for 13 years.

AP: *When did you develop Parkinson's disease?*

KM: It was around Christmas 1987 that I noticed a tremor in the top part of my right arm. There was nothing to see at that stage, but I could feel it when I did things like picking up the telephone. The tremor gradually increased.

The neurologists were uncertain of the diagnosis at that stage. There was nothing that could be done anyway because I was three months pregnant. I did not do anything until after my second child was born four years later.

AP: *How was the diagnosis made?*

KM: I diagnosed myself. My general practitioner had mentioned Parkinson's disease as a possible cause of my tremor so I got some information from the Parkinson's Association. As soon as I read that information I knew I had Parkinson's disease.

AP: *How did you react when you realised the diagnosis?*

KM: I remember my flesh beginning to crawl when I read that Parkinson's disease was incurable, but it was a relief to know what I had. I decided I was not going to take tablets so I waited about two years before seeing a neurologist to confirm the diagnosis.

AP: *What treatment were you given?*

KM: I avoided treatment for a few years, but I was having problems with bumping into things, and everyday tasks

like fastening buttons. My first treatment was selegiline. It had just come out and there was talk about it protecting the neurons, so I told my doctor I wanted to be on it.

AP: *Did the treatment work?*

KM: Selegiline held the tremor back enough for me not to need other treatment for about a year. I then started levodopa/carbidopa. I continued the selegiline, but eventually I had to stop it because of side effects. At times I could barely walk and had difficulty eating. These symptoms improved after I stopped selegiline, but it seemed to take months to get it out of my system. I also had to increase my dose of levodopa/carbidopa.

AP: *What other treatments have you had?*

KM: The dose of levodopa quickly increased to 950 mg a day. I was still having periods when I would have to stop what I was doing and lie down. I would have to take a rapid acting tablet levodopa/benserazide and wait for it to switch me on again.

As time progressed walking became a chore and it was difficult to get moving. If I had something important to do I would take amantadine and diazepam. They would keep me pretty normal; they were my 'special occasion' drugs.

During 2000 things became more difficult. I had no energy and I was having to spend more time lying down despite having cabergoline added to my treatment. My nerves were on edge so I was also taking amitriptyline.

AP: *When the medication became less effective what did you do?*

KM: I decided to have surgery. If it worked I would get a number of better years, if it did not, I would just be in a nursing home a few years earlier than expected. It was an option I had to take.

AP: *What was the surgery like?*

KM: It did not worry me. My main concern was having to lie in the MRI scanner with a frame attached to my skull. My anxiety was relieved by the time I eventually had the scan because hospital delays made me wait all day in the ward with this frame stuck on my head.

The surgery was done with a local anaesthetic. Although the surgeon was prodding around in my brain, I did not feel anything. After what seemed like a couple of hours the surgeon was going to give up. As I had kept quiet about having surgery and had got somebody to look after my children, I did not want to have a second operation three months later. I asked the surgeon to have another go and luckily he found the spot.

AP: *How has the pallidotomy helped you?*

KM: So far I have had a good response. I can now go to a restaurant and eat with a knife and fork, walking is a joy and I look normal. I still get off-periods. They are not pleasant, but they are not as bad as they were. I now take entacapone and cabergoline, but I only need a smaller dose of levodopa/carbidopa.

AP: *Do you have any suggestions for how doctors could better help people in your situation?*

KM: Doctors need to listen more to their patients with Parkinson's disease, because we can find it difficult to express ourselves. While it is easy to focus on the physical problems, there is often an internal mental battle going on. I was prone to panic attacks, other people get depressed. Encouraging people to have a positive attitude is important. I am now working for Parkinson's New South Wales and can say to doctors that it will offer good support to people who want to talk about their experiences with other people who have Parkinson's disease.

Patient support organisations

Parkinson's disease

Parkinson's Australia is a not-for-profit community organisation with a branch in every State and Territory. It provides information and support to people living with Parkinson's disease, their carers, families and friends. You can obtain an information kit by calling the toll free number 1800 644 189, or reach the State and Territory branches through the Parkinson's Australia web site www.parkinsons.org.au

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