

Psychiatric symptoms in Parkinsonism¹

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When James Parkinson described the syndrome since named after him he specifically excluded intellectual changes from his description (Parkinson, 1817). Since then many different types of mental symptoms have been described in patients with Parkinsonism (Mjones, 1949; Pollack and Hornabrook, 1966). It has become generally accepted that Parkinsonism is a syndrome which can be caused by a variety of pathological processes, although there is some disagreement as to whether these should be regarded as a sole and sufficient cause in the absence of genetic or constitutional factors (Denny-Brown, 1954; Walshe, 1955). The physical disabilities are very similar whatever the pathological cause but with considerable variation in severity and rapidity of progression. The present study was designed to allow comparison of the mental changes associated with Parkinsonism of different aetiological types to be made.

MATERIAL AND METHODS

A retrospective study was made of 89 patients with Parkinsonism who had been admitted to the Bethlem Royal and Maudsley Hospitals suffering from a mental illness. Patients were included only if they showed akinesia, tremor, and rigidity, less certain cases being excluded. Personal details, mental and physical symptoms and signs were noted. Disability was assessed according to the scheme used by Pollack and Hornabrook (1966) which uses four grades of disablement based on behavioural criteria. Psychiatric diagnoses were simplified using the 'Standard Diagnoses' as described by Cooper (1967). This scheme divides psychiatric diagnoses into eight broad groups (schizophrenic, affective, neurotic, personality disorder, addictive, senile organic, other organic, miscellaneous) and has been shown to reduce inconsistencies in dealing with retrospective data. The criteria for making the diagnosis of post-encephalitic Parkinsonism and arteriosclerotic Parkinsonism were defined using a scheme derived from Mjones (1949) and Pollack and Hornabrook (1966). The diagnosis of post-encephalitic Parkinsonism was made only where there was a history suggestive of an attack of encephalitis lethargica. The diagnosis of arteriosclerotic Parkinsonism was made where there was good evidence of cerebral vascular

disease, such as a preceding stroke, step-like onset of signs and symptoms, or evidence of involvement of the pyramidal tracts. The diagnosis of paralysis agitans was made where no aetiological cause could be found. In these cases a degenerative process affecting the basal nuclei of the kind described by Hunt (1917) was assumed to be occurring. Symptoms and signs were recorded only when their presence was unequivocally observed and constituted a major part of the clinical picture. Both physical and mental symptoms were assessed at the time of admission and again at the time of discharge and were rated as improved, unchanged, or worse over the period of hospitalization. All these data were collected in a specially compiled item sheet.

A control group was selected from the hospital records by taking the next patient to attend the hospital of the same sex and within five years of the age of each index case. The leading psychiatric 'Standard Diagnosis' was noted for each of these cases.

RESULTS

Of the 89 cases, 19 were diagnosed as suffering from post-encephalitic Parkinsonism, 36 from paralysis agitans, 24 from arteriosclerotic Parkinsonism, and 10 from various other types (carbon monoxide and manganese intoxication, syphilis, trauma, Jacob-Creutzfeldt disease, cerebral palsy, and after rauwolfia and phenothiazine administration). The age distribution of the cases in the three main aetiological groups was very similar to that in Parkinsonian patients generally (Patrick and Levy, 1922; Pollack and Hornabrook, 1966; Hoehn and Yahr, 1967).

In those who were known to have died at the time of the study (21), the average duration of symptoms was 15 years in post-encephalitic Parkinsonism, 9.8 years in paralysis agitans, and 4.7 years in arteriosclerotic Parkinsonism. From a study of the length of illness in all the cases it was clear that post-encephalitic Parkinsonism can lead a benign course, whereas survival for much more than 10 years in the other types was unusual.

The distribution of the psychiatric 'Standard Diagnoses' is shown in Table 1. The most important difference between the index cases and the control group is the high incidence of 'non-senile organic' diagnoses in the former. This difference is statistically

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TABLE 1
PSYCHIATRIC DIAGNOSES IN PARKINSONISM AND CONTROL
GROUP COMPARED

	<i>All cases</i> (89)	<i>Post-encephalitic</i> <i>Parkinsonism</i> (19)	<i>Paralysis</i> <i>agitans</i> (36)	<i>Arteriosclerotic</i> <i>Parkinsonism</i> (24)	<i>Control</i> <i>group</i> (89)
Schizophrenic	2	1	0	1	6
Affective	55	9	26	16	44
Neurotic	24	9	7	5	9
Personality disorder	4	1	1	0	10
Addictive	—	—	—	—	4
Senile organic	—	—	—	—	6
Non-senile organic	31	4	12	8	9
Other	2	—	—	—	1

The differences between the index cases taken together and the control group are statistically significant ($P < 0.001$)

significant ($P < 0.001$). Affective illness occurred with a similar frequency in both index and control groups.

Table 2 shows the frequency of various psychiatric findings in the three main diagnostic groups. It is striking that 90% of cases displayed depressive affect and one-third showed impairment of intellectual function. In many of the patients showing depressive features, depressive illness was not the primary psychiatric diagnosis, other features, such as dementia, overshadowing the affective symptoms. Affective symptoms are of similar frequency in the groups. Memory impairment may be more common in paralysis agitans and arteriosclerotic Parkinsonism as compared with post-encephalitic Parkinsonism but this does not reach the level of statistical significance.

A large proportion of the psychiatric conditions appeared to begin in the same year as symptoms of Parkinsonism or later; this was 88% in depression, 93% in neurotic conditions, and 97% in non-senile organic conditions.

Of the 89 patients, 47 were psychiatrically improved, 27 unchanged, and five became worse. The most disabled patients improved less often and these tended to include the older patients with impairment of intellectual function. The more disabled patients tended to be suffering from paralysis agitans or arteriosclerotic Parkinsonism. These patients tended to be older than the average but age in itself was not a bad prognostic factor for the outcome of psychiatric illness. Physical improvement was seen in 16 patients, 59 showed no change, and four became worse. Of the 16 patients who improved physically,

TABLE 2
FREQUENCY OF MENTAL SYMPTOMS IN DIAGNOSTIC
GROUPS

	<i>All cases</i>	<i>Post-encephalitic</i> <i>Parkinsonism</i>	<i>Paralysis</i> <i>agitans</i>	<i>Arteriosclerotic</i> <i>Parkinsonism</i>
Mania	—	—	—	—
Depression	80	18	32	22
Anxiety	43	7	17	12
Emotional lability	16	4	6	5
Aggression	17	5	5	5
Suicide	1	—	—	1
Memory impairment	29	4	14	9
Disorientation	13	—	7	4
Confusion	17	1	10	5
Personality change	17	1	7	9
Illusions	3	—	1	2
Hallucinations				
Auditory	15	2	7	4
Visual	8	0	4	3
Hypochondriasis	9	2	2	5
Suspiciousness	14	2	6	5
Delusions	26	3	12	10
Obsessive-compulsive phenomena	8	4	2	2
Number of patients	89	19	36	24

15 were diagnosed as suffering from either an affective or a neurotic condition, and only one was suffering from a non-senile organic condition alone. In three cases non-senile organic and affective disorders were associated. Thus a large number of patients improved psychiatrically without physical improvement

DISCUSSION

Although the subdivision of cases of Parkinsonism according to their apparent pathological causes has been criticized, especially with regard to the arteriosclerotic type (Eadie and Sutherland, 1964), in this study it proved possible to divide the cases in this way and allocation to a diagnostic sub-category carried prognostic implications.

The psychiatric findings confirm general clinical impressions and show the relative frequency of mental symptoms in the main types of Parkinsonism. There are no really striking differences between the groups in this respect. Many of the minor differences in the frequency of symptoms can be attributed to differences in the age distribution of patients in these groups. Some of the symptoms occurred too infrequently to allow meaningful comparisons between the groups to be made.

The excessively common occurrence of dementia as compared with the control group and the frequency of depression suggests that both should be regarded as important accompaniments of the syndrome. This is supported by the finding that intellectual impairment occurred in all the more common types of Parkinsonism, although there were minor variations in frequency from group to group. Arteriosclerotic Parkinsonism, and paralysis agitans showed very similar frequencies of the symptoms of dementia. This finding shows the unreliability of using the presence of dementia as a diagnostic criterion in distinguishing arteriosclerotic Parkinsonism from other types.

Wilson (1940) held that the disability associated with Parkinsonism is the cause of the depressive symptoms. The present study supports this view in two ways. In the first place only 12% of the patients had a history of depressive symptoms occurring before the onset of Parkinsonism, and secondly the frequency of depressive symptoms is much higher than that found by Roth (1955) in patients suffering from a dementing illness alone. Nonetheless, an important finding in the treatment of patients with depression and Parkinsonism was that many patients improved in mood even though there was no improvement in their physical condition. This suggests that even though depression may be a consequence of physical disability it may be success-

fully relieved by anti-depressant treatment in a large proportion of cases. This finding has important implications for the management of patients. Often anti-Parkinsonian drugs will have been given a full trial in a particular patient and no further physical improvement can be expected to occur. Improvement in mood by suitable anti-depressant treatment may be the most profitable way of helping such patients. The study suggests that changes in mood should be sought in patients suffering from Parkinsonism, as suitable anti-depressant treatment may help them even when no physical improvement can be expected.

SUMMARY

A retrospective clinical study of 89 cases of Parkinsonism treated in hospital for mental illness is described.

A high incidence of affective symptoms was found, depression occurring in 90% of cases. The frequency of depressive symptoms was similar in the main aetiological types and generally followed the onset of symptoms.

Impairment of intellectual function was found in one-third of cases. This was much more common in the index group than in the control group. Cases of paralysis agitans and arteriosclerotic Parkinsonism showed intellectual impairment with equal frequency but it was less common in the post-encephalitic group.

Depressive symptoms often responded to treatment without an accompanying improvement in the physical state.

It is suggested that changes in mood should be sought in all cases of Parkinsonism as they are likely to respond to anti-depressant treatment.

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