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OBSESSIVE COMPULSIVE SYMPTOMS IN IDIOPATHIC PARKINSON’S DISEASE

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# ABSTRACT

**Objective:** To compare the presence of obsessive compulsive symptoms in patients with Parkinson’s disease (PD) and a normal control group.

**Design:** Case Control Study

**Place & duration of study:** The patients were recruited in a private psychiatric center in Mumbai, India, from January 2005 to October 2007.

**Subjects & Methods:** 48 non demented, non depressed patients with idiopathic PD were administered the Maudsley obsessional-compulsive inventory (MOCI) and the Leyton obsessional inventory (LOI).

**Results:** Patients with severe PD showed greater scores on all the scales compared to the normal controls. Patients with mild PD however did not differ from normal controls in most respects.

**Conclusion:** Obsessive compulsive features may thus be more common in patients with PD and need early detection and treatment.

**Key words:** Parkinson’s Disease, Obsessive Compulsive Symptoms.

# INTRODUCTION

Idiopathic Parkinson’s disease (PD) has a world- wide occurrence being present in 1% of people above the age of 65 years1. There are no uniform Indian large scale nationwide epidemiological studies on the preva- lence of PD, though it is seen regularly in clinical prac- tice here2.

It is known that some patients with PD have ob- sessive compulsive symptoms (OCS) but there is no evidence of increased rates of obsessive compulsive disorder (OCD) in PD3. Few studies however have ex- amined OCS in patients with PD4-6. Structural and func- tional neuroimaging studies have shown that OCS are related to dysfunction of the basal ganglia. The inci- dence of OCS is high when lesions are present in the basal ganglia circuitry7. Patients with PD manifest dys- functions in the frontobasal ganglia circuitry. It has been reported that there is a predominance of left sided PD and OCS suggesting right hemisphere abnormalities8. It has also been reported that patients with PD that under- went pallidotomy have lower OCS9.

The aim of this study was to compare obsessive compulsive symptoms in patients with mild PD, severe PD and a normal control group.

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# SUBJECTS AND METHODS

The patient group consisted of 48 consecutive non demented, non depressed patients with idiopathic PD that attended the out patient clinic at a private psychiat- ric centre in Mumbai, India. The diagnosis was made by a referring neurologist. The diagnosis was made using clinical judgement. The control consisted of 48 subjects without a history of neurological, psychiatric and medi- cal illness. They were mostly the patient’s relatives or spouses recruited when they came with the patient for treatment. A semi structured proforma was used to col- lect demographic data. Depression was ruled out on clinical interview while dementia (cut off below 25) was ruled out using the Mini Mental Status Examination (MMSE)10.

Written informed valid consent was taken from all the patients prior to the study. The study was approved by the Get Well Clinic Ethics Committee prior to its start.

The following scales were used in the study –

1. *The Maudsley obsessional compulsive in- ventory (MOCI)* – this comprises of thirty state- ments which are classified into 4 factors – checking (9 items), cleaning (11 items), doubting (7 items) and slowness (7 items). The subject has to answer true or false. The inventory has both affirmative and negative sentences11. Alpha coefficients for the four subscales are 0.7, 0.8, 0.7

and 0.7 respectively. Good test retest reli- ability has been noted for the scale.

1. The Leyton obsessional inventory (LOI) – It consists of 40 statements and the subjects were asked to make graded responses indicating whether the statement was true for his or her symptoms – never (score 0), rarely (score 1), sometimes (score 2), moderately often (score 3), frequently (score 4) and always (score 5). The scale has good construct validity and test retest validity.12
2. The Hoehn and Yahr scale for severity of parkinsonism (range 0-5 and highest dis- ease severity indicated by 5)13.

# RESULTS

The groups in the study were well matched by age, sex and education. The mean (SD) age of the pa- tients was 61.33 (8.46) years while that of the control group was 62.66 (9.77) years. Though once thought to be a disorder of old age there is an increase in idio- pathic PD in the age group below 6514. Majority of the subjects in both groups were graduates and post graduates. The patient group had 30 males and 18 fe- males while the control group had 26 males and 22 females.

The mean (SD) age of onset of PD in the patients was 50.22 (9.66) years. The mean (SD) duration of the illness was 9.89 (6.43) years while the mean (SD) Hoehn and Yahr stage was 3.23 (1.06).

Table 1

Scores on the Moci and Loi within the Groups

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **SCALES** | **MILD PD (N = 20)** | **SEVERE PD (N = 28)** | **CONTROLS (N = 48)** | **p values** |
| **Mean (SD)** | | | | |
| MOCI Total | 4.32 (3.11) | 7.92 (4.88) | 4.56 (2.59) | p1=0.0002 |
|  |  |  |  | p2=0.7440 |
|  |  |  |  | p3=0.0057 |
| MOCI Checking | 1.42 (1.1) | 2.43 (1.67) | 1.23 (1.34) | p1=0.0010 |
|  |  |  |  | p2=0.5776 |
|  |  |  |  | p3=00226 |
| MOCI Cleaning | 1.33 (0.96) | 1.98 (1.21) | 1.16 (1.76) | p1 = 0.0324 |
|  |  |  |  | p2 = 0.6858 |
|  |  |  |  | p3 = 0.0521 |
| MOCIDoubting | 1.66 (1.21) | 3.19 (1.44) | 2.01 (1.16) | p1 = 0.0002 |
|  |  |  |  | p2 = 0.2670 |
|  |  |  |  | p3 = 0.0003 |
| MOCISlowness | 2.27 (0.87) | 2.54 (1.03) | 2.04 (0.67) | p1 = 0.0124 |
|  |  |  |  | p2 = 0.2428 |
|  |  |  |  | p3 = 0.3453 |
| LOI Total | 48.11 (28.56) | 65.13 (29.22) | 49.12 (24.36) | p1 = 0.0123 |
|  |  |  |  | p2 = 0.8828 |
|  |  |  |  | p3 = 0.0505 |

p1 – comparison between severe PD and normal controls. p2 – comparison between mild PD and normal controls. p3 – comparison between mild PD and severe PD. Statistical analysis done using the t test.

p < 0.05 significant.

Subjects in the PD group were further divided into two – mild PD with Hoehn and Yahr staging less than or equal to 2.5 and severe PD with Hoehn and Yahr stag- ing > 2.5. Out of the 48 subjects, 20 fell under the mild PD group while 28 had severe PD.

The scores between all three groups were com- pared using the paired t test (two groups were com- pared at a time) and two tailed p values were obtained where p < 0.05 was considered significant. Patients with severe PD had higher scores than both normal con- trols (p = 0.0002) and patients with mild PD (p = 0.0057) on the MOCI. Patients with severe PD also had signifi- cantly higher scores on most subscales of the MOCI compared to normal controls and patients with mild PD. The same was true for the total score on the LOI.

# DISCUSSION

Parkinson’s disease has been linked to obses- sive compulsive disorder and symptoms but clear asso- ciations are not founded14. Authors have concluded that obsessive compulsive features may be an important but an unrecognized feature of patients with idiopathic Parkinson’s disease6. Studies have also reported nega- tive results with regard to obsessive compulsive symp- toms in Parkinson’s disease. This may be due to small sample size, early stages of the illness or a varied heterogeneous sample of patients with PD5.

Compared to another similar recent study, major- ity of our patients had severe PD and differed from the normal control group on all subscales of the MOCI as well as the total score. There were no significant differ- ences between the group of mild PD patients and nor- mal controls on all the scales. This may point that obses- sive compulsive symptoms are more common in ad- vanced cases of PD and those with greater severity and higher stages4.

Doubting, checking and slowness scores were greater in the group with severe PD compared to mild PD. Our data lends support to the presence of obsessive compulsive behavior and symptoms in patients with se- vere PD. It also notes that these symptoms are present to a much larger extent than in normal subjects and patients with mild PD.

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