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Tardive Dyskinesia in Bipolar Affective Disorder: Relationship to Lithium Therapy

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Forty patients under the age of 60 years with a DSM–III diagnosis of bipolar affective disorder were examined for the presence of tardive dyskinesia. The overall prevalence was 22.5%, with an age-related increase. Patients with and without tardive dyskinesia did not differ in terms of duration of affective illness or exposure to neuroleptics, but those patients with tardive dyskinesia had significantly more psychiatric admissions and were on lithium for significantly greater lengths of time.

Prevalence rates of orofacial dyskinesia in neuroleptic-treated patients vary widely from one study to the next (for review see Kane *et al*, 1984). In a survey of 56 studies a mean prevalence of 20% was found (Kane & Smith, 1982). The most consistently reported risk factor is age, older patients being at greater risk (Waddington & Youssef, 1988). Women are probably at greater risk than men, especially of developing more severe forms of the disorder (Smith *et al*, 1978; Kane & Smith, 1982). Dose–response curves for tardive dyskinesia (TD) have in general not been demonstrated. Waddington & Youssef (1986) could find no relationship between the development of TD and either the duration or vigour of treatment with neuroleptics.

It has been suggested that patients with affective illness are at greater risk of developing TD than are patients with schizophrenia (Kane *et al*, 1980). As a result of this, a monograph published by the American Psychiatric Association recommends that patients with bipolar affective disorder should not be prescribed long-term neuroleptic medication except in rare circumstances (Gardos & Casey, 1984). Lithium, which is widely used in the prophylaxis of bipolar affective disorder, has, however, been reported as effective in the management of TD (Prange *et al*, 1973; Reda *et al*, 1975; Gerlach *et al*, 1975). We decided to examine further the prevalence of tardive dyskinesia in bipolar out-patients, concentrating in particular on differences between patients taking lithium and those for whom it had never been prescribed.

Method

The study population consisted of 40 out-patients aged 30–60 years, all of whom had a DSM–III diagnosis of bipolar affective disorder (American Psychiatric Association, 1980). During the course of their illness, each had been prescribed neuroleptics for at least two months. The diagnosis of bipolar affective disorder was based on an interview with the patient and a perusal of the case notes. Tardive dyskinesia was diagnosed using the research diagnostic criteria of Schooler & Kane (1982), and severity was assessed using the Abnormal Involuntary Movement Scale (AIMS; Guy, 1976).

The following information was recorded from the patient's records: age, length of illness, number of psychiatric admissions, and drug history.

Results

The overall prevalence of TD was 22.5%, with no significant gender difference. Three of 16 males had developed the disorder, and 6 of 24 females. Prevalence of the disorder increased with age (Table I). Six of 11 patients between 50 and 60 years had significant dyskinesia, while only one patient under 40 years showed evidence of the disorder. The mean AIMS score of the patients with TD was 8.6 (s.d. 2.3).

Patients with and without TD did not differ in terms of duration of illness, but those patients with TD had significantly more psychiatric admissions (Mann–Whitney $U=19.5$, $P\leqslant 0.05$). Seven of the nine TD patients were currently on lithium, while 22 of the 32 patients without TD were on lithium (Table II). The two groups differed significantly in terms of duration of lithium therapy, with TD patients on lithium for considerably greater periods of time (Mann–Whitney $U=26.4$, $P\leqslant 0.05$). Groups did not differ in current serum lithium levels, the duration of neuroleptic therapy, or the current neuroleptic dosage.

TABLE I
Age and prevalence of tardive dyskinesia

Age (years)	*Prevalence*
20–30	0/1
30–40	1/14
40–50	2/14
50–60	6/11

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TABLE II
Characteristics of patients with and without tardive dyskinesia (mean ± s.d.)

	Involuntary movements present	*Involuntary movements absent*
Length of illness: years	11.5 ± 4.3	10.8 ± 2.9
Number of psychiatric admissions	13.8 ± 5.5	6.1 ± 3.1*
Duration of neuroleptic therapy: years	8.6 ± 3.8	9.4 ± 5.4
Current neuroleptic dosage: chlorpromazine equivalent; mg/day	250.6 ± 130.8	380 ± 195.8
Duration of lithium therapy: years	9.8 ± 3.7	4.2 ± 2.2*

*$P \leqslant 0.05$.

Discussion

A prevalence of 22.5% TD in bipolar patients would indicate that the disorder is no more common in such patients than it is in schizophrenics. This is in contrast to the findings of Rush *et al* (1982), who found a prevalence of 64% in such patients, and those of Waddington & Youssef (1988), who found a prevalence of 40%. Our low figure may be partly explained by the fact that we excluded patients over 60 years of age, as orofacial dyskinesia even in the absence of neuroleptics is high in this group (Klawans & Barr, 1982). The literature to date tends to include or largely focus on elderly patients, whereas we have focused on younger age groups. Our patients had TD of moderate severity as defined by Gardos *et al* (1987), whose patients with severe TD had a mean total AIMS score of 16.5 (s.d. 4.7). A mean score of 8.6 (s.d. 2.3) in the present study contrasts with the findings of Kane *et al* (1984), who suggest that severe TD is common in bipolar patients.

The clear-cut increase in the prevalence of TD with age is in keeping with previous findings (Kane & Smith, 1982; Waddington *et al*, 1985; Waddington & Youssef, 1988), as is the fact that patients with and without TD do not differ in terms of duration of exposure to neuroleptics or current neuroleptic dosage. It is perhaps surprising that average daily neuroleptic intake is so high in a group of bipolar patients (Table II). We are unable to explain this definitively. The sample is representative of our bipolar affective disorder out-patients, and the relatively high neuroleptic intake may be a reflection of prescribing patterns in the district. The finding that patients with TD tend to have more psychiatric admissions might suggest more virulent forms of affective disorder which are less easily stabilised.

When the pharmacological histories of patients with and without TD are compared, the most obvious difference between the groups is the fact that patients with TD had longer durations of lithium exposure. This may indicate that lithium exposure is one of many variables leading to the genesis of TD in patients with bipolar affective disorder, or alternatively it may indicate that a subgroup of bipolar patients are particularly resistant to treatment and biologically prone to the development of TD. Much of the literature to date would indicate that acute lithium administration transiently improves features of TD (Cole *et al*, 1984). The transient improvement brought about by lithium may simply be due to its potential for augmenting the actions of neuroleptics. The net effect of adding lithium may be the same as increasing the dose of neuroleptic, which has long been noted as producing a temporary improvement (Simpson, 1973). The recommendation by the American Psychiatric Association Task Force on Tardive Dyskinesia (Gardos & Casey, 1984) that, because of the high risk of TD, patients with bipolar affective disorder should not be maintained on long-term neuroleptics but on lithium needs further examination in view of the present findings.

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