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CATATONIC SYNDROME : TREATMENT RESPONSE TO LORAZEPAM

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ABSTRACT

In a prospective open trial, 30 inpatients with catatonic signs were treated systematically with oral lorazepam (dosage ranging between 3 to 8 mg/d) for a period of 5 days and subsequently with ECT if lorazepam trial failed. Outcome was monitored quantitatively during the treatment phase with Bush-Francis catatonia rating scale. In 21 out of 30 patients (70%), catatonic signs resolved with lorazepam trial. The response to lorazepam on Day 1, predicted the final outcome. Demographic variables, severity of catatonia or length of catatonic syndrome prior to treatment did not have any predictive value. Majority of the patients who showed an unfavourable response, did well with electroconvulsive therapy. A short duration lorazepam administration proved to be a safe and effective treatment for the catatonic syndrome.

Key Words : Catatonia, lorazepam, electroconvulsive therapy

The term "catatonia" was first described by Karl Kahlbaum in an 1874 monograph (Levi & Pridon, 1973). In addition to occurring as a part of an affective disorder, schizophrenic disorder, and brief psychotic illnesses, this syndrome can result from multiple organic states. Regardless of its cause, catatonia may be associated with significant morbidity and mortality from medical complications. Hence timely diagnosis and management are of utmost importance. Though ECT remains a powerfully effective and lasting treatment for catalonia in cases where organic causes are ruled out (Bush et al.1996b), many studies have supported the use of benzodiazepines in the management of catatonia.

Fricchione et al. (1983) reported on the benefit of intravenous lorazepam in neuroleptic induced catatonic states including neuroleptic malignant syndrome. Walter-Ryan(1985) used intramuscular lorazepam in three schizophrenic patients with catatonia with significant response. Heuser and Bendorf (1986) reported that single oral doses of lorazepam were successful in short-term alleviation of mutism. Vinogradov and Reiss (1986) successfully employed alternating oral and intramuscular doses of lorazepam in a treatment resistant catatonic bipolar patient. Weltz et al. (1987) reported the therapeutic benefit of lorazepam when given orally to a catatonic woman with recurrent major depression. Salam and Reiss (1988), have reported on successful use of parenteral lorazepam in three of five psychogenic catatonic patients. Menza and Harris (1989), concluded that benzodiazepines trial should be considered in patients with suspected psychogenic catatonia as long as no contraindication exists such as seriously increasing risk of respiratory or hepatic failure. A recent study by Bush et al. (1996b) reported the benefit of lorazepam in amelioration of catatonic signs. Weltz and Benkert (1988), while using both diazepam and lorazepam found a more favourable response with lorazepam.

In India no systematic study has been done to evaluate the role of lorazepam in amelioration of catatonic symptoms. The present study has been designed to study the effectiveness of oral lorazepam in resolving catatonic signs and symptoms as well as look for predicators of response to lorazepam.

MATERIAL AND METHOD

All inpatients admitted to the Psychiatry unit of JIPMER, Pondicherry, were screened for catatonia over a period of 15 months between 1st December 1996 to 31st March 1998. Consecutive admissions were prospectively screened using Bush-Francis Catatonia Screening Instrument (Bush et al., 1996a). This screening instrument has 14 items, out of which at least 2 items should be present to diagnose catatonia. The only exception to this was when stupor was present alone, catatonia was still diagnosed (Benegal et al., 1992). Patients on antipsychotic drugs, those with concurrent medical illnesses like parkinsonism and encephalopathy etc. and those with past history of psychiatric illness were excluded from the study. The cases were evaluated for severity of catatonia using the 23 item Bush-Francis catatonia rating scale following the guidelines outlined in the standardised examination method for catatonia (Bush et al., 1996a). As a part of the routine admission procedure all subjects were given a diagnostic work up including complete physical and neurological examination as well as routine laboratory tests. EEG recording and CT scan examination were done when organicity was suspected. 30 cases of catatonia thus identified comprised the study sample. Owing to their catatonic state the patients had a very limited understanding of the situation and treatment offered to them. Consent was obtained from the patients relatives in accordance with the accepted procedure for stuporous patients (McCall et al., 1992). Following the diagnostic workup, baseline ratings to assess severity of catatonia were done. All the patients were administered tab. lorazepam (oral / via Ryle's tube) 3 mg on day 1, 6 mg on day 2 and if treatment response was inadequate the dose was further increased to 8 mg till day 5. The assessments were repeated on a daily basis for a period of 5 days. Response was defined as reduction of catatonic signs to 1 or none on 14 item BFCSI. Failures were defined as patents who continued to display two or more signs of catatonia after 5 days of treatment with lorazepam, had worsening of clinical or nutritional status due to severe persistent catatonia. All ratings were done during evening hours by two raters (HP and RC) independently. Discrepancies were overcome by adopting a consensus method. The non responders were treated with ECT using modified brief pulse bilateral electrode placement following routine treatment protocol. The mean number of ECTs administered was 6.33 per patient (Range 3-9). Routine administration of neuroleptic were avoided during the lorazepam trial period. Subsequently patients were prescribed drugs according to clinical requirements.

Statistics

The statistical comparison between treatment response and some basic demographic and clinical variable were computed using 2 tailed t test, X^2 test and Man-Whitney U test.

RESULT

The study population consisted of 16 women and 14 men. Their mean age was 25 years (range 16-40 years); mean number of years spent in school was 10.8±2.33 years; all belonged to lower middle socioeconomic status. The final diagnoses according to ICD-10 are given in table 1. The various diagnoses in the study sample were : Acute and transient Psychotic Disorder (N=12), Unspecified Non Organic Psychosis (N=10), Schizophrenia (N=6), Severe Depression (N=2). The distribution frequency of catatonic symptoms in the sample studied are as follows : Mutism (29), Rigidity (28), Negativism (25), Immobility/Stu-

TABLE 1
CLINICAL DIAGNOSIS ACCORDING TO ICD-10

Diagnostic group	No. of Patients	Percentage
Acute and transient psychotic disorders (F 23.0)	12/30	40%
Unspecified non organic psychosis (F 29.0)	10/30	33.3%
Schizophrenia (F 20.0)	6/30	20%
Depressive episode	2/30	6.6%

por (23), Posturing (22), Staring (21), Withdrawal (21), Waxy flexibility (12), Autonomic abnormality (7), Ambitendency (3) and Grimacing (2). Other catatonic signs, echopraxia, excitement, impulsivity, combativeness, gegenhalten occurred in one patient each.

21 patients (70%) were considered as responders and 9 (30%) as non responders after 5 days of lorazepam trial. The characteristics of responders and non responders are given in table 2. The drop in catatonia score by the end of day 1, had a predictive value in differentiating responders from non responders. The severity of catatonia, age, sex, length of illness, duration of catatonia and clinical diagnosis, didn't influence the outcome. 9 out of 30 patients of initial cohort needed ECT as none of them showed further improvement in their catatonic state with lorazepam despite 5 days of treatment. All patients except one, responded to ECT.

DISCUSSION

The data from this study shows that catatonic signs are found to be more frequently associated with acute and transient psychotic disorders (40%). This is closely followed by psychosis NOS (33.3). The psychosis NOS group closely resembles the idiopathic catatonia described by Benegal et al. (1993) where no other psychotic syndrome could be clearly identified after the resolution of catatonia. Earlier studies by Abrams and Taylor (1976), Rosebush et al. (1990), Bush et al. (1996b) showed strong association between affective disorders particularly mania, but our study has not confirmed this association. Depressive episodes were diagnosed in only two cases and mania in none. Another Indian study (Banerjee and Sharma, 1995) reported higher percentage of acute and transient psychotic disorders in their catatonic population. A slightly higher representation of schizophrenic diagnoses was found in our study compared to the earlier studies. This possibly confirms the view of Sartorius et al. (1986) that catatonic subtypes of schizophrenia is more frequently observed in developing

TABLE 2
CLINICAL CHARACTERISTICS : RESPONDERS VS NON RESPONDERS

Characteristics	Responders (N=21)	Non responders (N=9)	Test applied	Significance
Age	24.45±4.1	27.8±3.2	t-test	NS
Gender (women/total)	12	9	Chi square test	NS
Catatonic score (baseline)	15.50 (M.R.)	15.5 (M.R.)	Man-Whitney U test	NS
Duration of catatonia (days)	12.85 (M.R.)	20.80 (M.R.)	Man - Whitney U test	Significance**
% Drop in baseline score	17.83 (M.R.)	10.85 (M.R.)	Man - Whitney U test	Significance**

M.R. = Mean Rank
** =2 tailed $p < 0.05$

countries.

There is an evidence to support the view that lorazepam is useful in alleviating catatonic signs, confirming the findings of the earlier studies (Rosebush, 1990; Ungvari et al., 1994). The study had shown that the drop in BFCRS score at the end of day 1 predicted the final outcome of a five-day treatment with lorazepam. There was no relationship between the severity of catatonia as well as the total number of catatonic signs and the final outcome. This is in agreement with the findings of Abrams and Taylor (1976) and Bush et al. (1996b). Another variable, the duration of catatonia prior to treatment, shown to have a predictive value (Bush et al., 1996b) was not confirmed in this study.

In spite of the shortcomings of this study such as lack of a controlled double blind design and a small sample size, the clinical usefulness of lorazepam has been clearly established in our patients providing varying degrees of instantaneous subjective relief. It certainly alleviates the severity of catatonia and allows the clinician to extend the diagnostic interview, complete the investigations and obtain consent to clear the legal formalities if ECT becomes necessary. Catatonia has not become rare. Short lasting and transient catatonic signs are commonly found in acutely ill psychiatric patients. Lorazepam is safe and effective in alleviating catatonic symptoms. No respiratory problem was encountered in any of the catatonic patients treated with lorazepam. Nevertheless better guidelines need to be established regarding the duration of its use and the dosage range required to produce sustained effects.

REFERENCES

Abrams, R. & Taylor, M.A. (1976) Catatonia : A prospective clinical study. *Archives of General Psychiatry,* 33, 579-581.

Banerjee, A. & Sharma, L.M. (1995) Catatonic incidence in acute psychiatry admission. *Indian Journal of Psychiatry,* 37, 35-40.

Bush, G., Fink, M., Petrides, G., Dowling, F. & Francis, A. (1996a) Catatonia I : rating scale and standardised examination. *Acta Psychiatrica Scandinavica,* 93, 129-136.

Bush, G., Fink, M., Petrides, G., Dowling, F. & Francis, A. (1996b) Catatonia II : Treatment with lorazepam and electroconvulsive therapy. *Acta Psychiatrica Scandinavica,* 93, 137-143.

Benegal, V., Hingorani, S. & Khanna, S. (1993) Idiopathic catatonia : validity of the concept. *Psychopathology,* 26 (1), 41-46.

Benegal, V., Hingorani, S., Khanna, S. & Channabasavanna, S.M. (1992) Is stupor by itself a catatonic symptom ? *Psychopathology,* 25 (5), 229-231.

Fricchione, G.L., Cassem, N.H. & Hooberman, D. (1983) Intravenous lorazepam in neuroleptic induced catatonia. *Journal of Clinical Psychopharmacology,* 3, 338-342.

Levi, Y. & Pridon, T.(1973) Catatonia : Baltimore, M.D., Johns Hopkins University Press.

Heuser, I. & Bendort, O. (1986) Lorazepam for short term alleviation of mutism. *Journal of Clinical Psychopharmacology,* 6, 62.

McCall, W.V., Shelp, F.E. & Darald, W.M. (1992) Controlled investigation of the amobarbital interview for catatonic mutism. *American Journal of Psychiatry,* 149, 202-206.

Menza, M.A. & Harris, D. (1989) Benzodiazepines and catatonia : an overview. *Biological Psychiatry,* 26, 842-846.

Rosebush, P.I., Hilderbrand, A.M., Furlong, B.G. & Mazuret, M.F. (1990) Catatonia syndrome in a general psychiatry inpatient population : frequency, clinical presentation and response to lorazepam. *Journal of Clinical Psychiatry,* 51, 375-382.

Sartorius, N., Jablensky, A., Ernberg, G., Anker, M., Copper, J.E. & Dey, R. (1986) Early manifestation and first contact incidence of schizophrenia in different cultures. *Psychological Medicine,* 16, 909-928.

Salam, S.A. & Reiss, A.L. (1988) Lorazepam treatment of psychogenic catatonia : an update. *Journal of Clinical Psychiatry,* 49 (suppl) 16-21.

Taylor, M.A. & Abrams, R. (1977) Catatonia prevalence and impotence in the manic phase of manic depressive illness. *Archives of General Psy-*

chiatry, 34, 122-301.

Ungvari, G.S., Leang, C.M., Worg, M.K. & Lau, J. (1994) Benzodiazepines in the treatment of catatonic syndrome. *Acta Psychiatrica Scandinavica*, 89, 285-288.

Vinogradov, S. & Reiss, A.L. (1986) Use of lorazapam in treatment resistant catatonia. *Journal of Clinical Psychopharmacology*, 6, 323-324.

Walter-Ryan, W.G. (1985) Treatment of catatonia symptoms with intramuscular lorazepam. *Journal of Clinical Psychopharmacology*, 5, 123-124.

Weltz, H. & Benkert, O. (1988) Lorazepam for treatment of catatonia symptoms and severe psychomotor retardation. *American Journal of Psychiatry*, 14, 1175-1176.

Weltz, H., Heuser, I. & Benkert, O. (1987) Stupor and affective state : alleviation of psychomotor disturbance by lorazepam. *Journal of Nervous and Mental Disease*, 175, 240-242.

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