



A Study on Psychotic Disorder Due to Alcohol Use

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Type of Publication: Original Research Paper

Conflicts of Interest: Nil

Abstract

Introduction: Alcohol induced psychotic disorder occurs in a substantial number of individuals with chronic alcoholism. Studies on the factors associated with the condition are few in the Indian context.

Methodology: Cross sectional study in a case control design comparing individuals with alcohol induced psychotic disorder and alcohol dependence without psychosis. Cases of delirium and late onset psychotic disorders were excluded in accordance with current criteria. The symptom profile of cases with alcohol induced psychotic disorder were noted and its association with socio-demographic, addiction severity measured by Addiction Severity Index (ASI) and family history was studied

Results: Most patients (53.3%) had predominantly hallucinatory symptoms. The mean age of the study group was higher than the control group [35.03 (SD7.92) vs 41.03 (SD 8.07); $p = 0.004$] indicating that alcohol induced psychosis was associated with increased age. Interviewer rating for severity of alcohol use and legal status domains was higher in the study group, indicating that high degree of alcohol dependence is associated with psychotic features. 57% patients in the study group had

first degree relatives with psychiatric symptoms whereas it was just 18% in the control group indicating a strong genetic vulnerability for development of alcohol induced psychotic disorder in individuals with a positive family history.

Conclusion: Alcohol induced psychosis manifests predominantly with hallucinations but other presentations are also common. Older age, greater severity of addiction and family history of psychosis are all associated with alcohol induced psychosis.

KeyWords: Alcohol Induced Psychotic Disorder, Addiction Severity Index, Alcoholic Hallucinosiis.

Introduction: Bleuler (1916) identified perceptual abnormality among alcohol users and termed the syndrome as alcoholic hallucinosis. Hallucinations along with paranoid delusions were found to be seen in chronic alcohol users (Goodwin DW 1971). Experience of psychotic symptoms in alcohol dependents can co-exist with, contribute to or result from psychiatric disorders (Glass IB 1989). The hallucinations or delusions seen during alcohol related psychosis may persist for weeks and the content of hallucinations in alcoholism is not distinct from those noted in schizophrenia or other disorders (Soyka M 1995). But, these symptoms typically

resolve, at least partially within one month and fully within 6 months of abstinence.(Alpert M. 1970, Schuckit MA 1982 & Glass 1989). In ICD – 10, additional manifestations like mood disturbances including mania, depression or mixed states can also be included for making a diagnosis of psychotic disorder due to alcohol use (ICD – 10, 1992).

When psychiatric symptoms occur in alcohol dependent persons, the condition manifests different characteristics ranging from difficulty in maintaining abstinence to attempted or completed suicide. Their utilization of mental health services is different from other alcoholic patients (Helzer and Prezbeck 1988, Kessler et al 1997, Modesto LV and Kranzler HR 1999). Thus, a thorough evaluation of psychiatric complaints and identification of the associated factors becomes essential to reduce the illness severity in these individuals (Scott DF 1969, Cutting 1978).

While there have been many studies conducted to elaborate the symptoms of alcohol induced psychosis, duration of such psychosis and the factors which help the syndrome to be discriminated from other conditions, only a few studies have been conducted to determine the factors associated with the development of alcohol induced psychosis in individuals (Scott DF 1967, Schuckit MA 1982, Tsuang JW 1994). Some of the factors implicated in the emergence of psychosis in alcohol dependents are dependence severity, personality profile of the individual, family history of psychosis (Schuckit MA 1994). This study was undertaken to identify the factors that may be associated with development of psychotic disorder due to alcohol use in the Indian context.

Aim and Objectives: To identify the factors associated with emergence of psychotic disorder in alcohol dependence by comparing patients with alcohol induced psychosis and those with alcohol dependence syndrome but without any psychotic disorder.

Methodology: Case control study of cross sectional design conducted at the Department of Psychiatry, Kilpauk Medical College, Chennai. Ethical committee's approval was obtained from the institution before conducting the study. Consecutive patients admitted in department for treatment and meeting the criteria during the period from July 2017 to December 2017 were recruited. Informed consent was obtained from the patients before including them into any one of the groups. Study group comprised of those suffering from psychotic disorder due to alcohol use and the control group of alcohol dependence syndrome without psychotic features. All diagnoses were made according to ICD 10 criteria. Considerable care was taken to elicit history and detailed examination was done carefully ruling out the diagnosis of affective disorder or schizophrenia in severe cases.

Inclusion Criteria

Study group

1. Age 20 to 60 years
2. Regular alcohol use in the past one year
3. Characteristic dependence syndrome (Presence of any 3 out of 6 criteria defined by ICD-10)
4. Emergence of psychotic features during or immediately after alcohol use in clear sensorium that meets ICD 10 criteria for alcohol induced psychotic disorder

Control group

1. Age 20 to 60 years
2. Regular alcohol use in the past one year
3. Characteristic dependence syndrome (Presence of any 3 out of 6 criteria defined by ICD-10)
4. Absence of any psychotic features

Exclusion Criteria (For both study and control groups)

1. Use of other psychoactive substances like cannabis, heroin or drugs
2. Delirium Tremens
3. Major medical illness

4. Previous history of mental illness, seizures or head injury
5. Late onset psychotic disorder (emergence of psychotic features 2 weeks after discontinuing alcohol use)

Instruments Used

1. Semi structured proforma for recording socio demographic data and for eliciting family history of psychosis
2. Addiction Severity Index (ASI) for measuring the severity of alcohol dependence and other factors related to alcohol dependence. The ASI by AT McLellan et al, is an interviewer rated structured 30minute clinical research interview designed to assess problem severity in seven areas commonly affected in substance abusers viz. medical condition, employment, drug and alcohol use, legal problems, family/social relations and psychiatric status (McLellan AT 1985). The patient also supplies a subjective report which can be used to produce a composite score. The ASI is a reliable and valid instrument (McDermott PA et al. 1996, Leonhard C et al. 2000) and can be even used in severely mentally ill patients (Corse SJ 1995, Carey KB 1997)

All assessments were completed in a single session. In those suffering from psychotic disorder due to alcohol use, the questionnaire and other instruments were administered after 5 but not later than the 15 days of admission and the information obtained was verified with a relative. For the control group, the questionnaire and other instruments were administered within 5 days of admission.

Observations and Results: 35 patients qualified for the study group (alcohol induced psychotic disorder). 3 patients left the study before becoming stable and amenable for administering the questionnaire. For one patient, the diagnosis was revised to late onset psychotic disorder and hence was excluded from analysis. One lone female was also excluded from data analysis to avoid

possible confounding effects and the final number of patients included into study group for analysis was 30. For the control group, (alcohol dependence syndrome), all the patients included were closely observed for emergence of any psychotic features during the period of withdrawal (up to 14 days) as it would shift the patient from control group to study group. 32 consecutive subjects were selected for the control group and further recruitment was stopped to keep both groups comparable by number

Symptom Profile of Alcohol Induced Psychotic Disorder

Table 1 shows the profile of patients with alcohol induced psychotic disorder. Most patients (53.3%) had predominantly hallucinatory symptoms. Comparatively fewer cases had delusional (13.3%) or schizophrenia like (6.6%) symptoms. There were no cases with predominantly depressive symptoms.

Table 1: Profile of Alcohol Induced Psychotic Disorder (n= 30)

Socio Demographic Factors

A comparison of socio-demographic factors in study group and control group does not show any differences between both groups in any variable except for age. Most of the patients in control group (87.5%) fell within the age

| Diagnosis | Frequency | Percentage |
|------------------------------|-----------|------------|
| Schizophrenia like Psychosis | 2 | 6.6 |
| Predominantly Delusional | 4 | 13.3 |
| Predominantly Hallucinatory | 16 | 53.3 |
| Predominantly Polymorphic | 0 | 0 |
| Predominantly Depressive | 0 | 0 |
| Predominantly Manic | 1 | 3.3 |
| Mixed Symptoms | 7 | 23.3 |
| Total | 30 | 100 |

group of 20 to 40 years whereas more than half of the

study group fell in the age group of 40 to 50. This difference between the two groups was statistically significant. (Table 2). The mean age of the study group was also higher than the control group [35.03 (SD7.92) vs 41.03 (SD 8.07); $p = 0.004$] indicating that alcohol induced psychosis was associated with increased age. However, there was no difference between the groups in the duration of alcohol use (mean duration in years 13.38 vs 15.79; $p = 0.22$).

Table 2: Comparison of Socio Demographic Factors in Individuals with Alcohol Induced Psychotic Disorder (study group) vs Alcohol Dependence (control group)

| Socio Demographic Variable | Alcohol Dependence n=32 (%) | Alcohol Induced Psychosis n=30 (%) | Pearson Chi-Square | | |
|----------------------------|--------------------------------|---------------------------------------|--------------------|----|------|
| | | | t | df | p |
| Age | | | | | |
| 20 - 30 | 12 (37.5) | 4 (13.3) | 17.51 | 3 | 0.01 |
| 30 - 40 | 16 (50.0) | 8 (26.7) | | | |
| 40 - 50 | 2 (6.3) | 16 (53.3) | | | |
| 50 - 60 | 2 (6.3) | 2 (6.7) | | | |
| Education | | | | | |
| Primary | 10(31.3) | 8 (26.7) | 0.52 | 2 | 0.77 |
| Secondary | 20 (62.5) | 21(70.0) | | | |
| College | 2 (6.3) | 1 (3.3) | | | |
| Occupation | | | | | |
| Unskilled | 13(40.6) | 10 (33.3) | 1.80 | 3 | 0.62 |
| Skilled | 15 (46.9) | 18 (60.0) | | | |
| Clerical | 1(3.1) | 0 (0) | | | |
| Business | 3 (9.4) | 2 (6.7) | | | |
| Income | | | | | |
| Salary | 7 (21.9) | 9 (30.0) | 2.82 | 3 | 0.42 |
| Wages | 17 (53.1) | 18 (60.0) | | | |
| Business | 7 (21.9) | 3 (10.0) | | | |
| Others | 1 (3.1) | 0 (0) | | | |
| Marital Status | | | | | |
| Married | 20(62.5) | 26 (86.7) | 5.12 | 3 | 0.16 |
| Separated | 4(12.5) | 1(3.3) | | | |
| Divorce | 1(3.1) | 0 (0) | | | |
| Single | 7(21.9) | 3(10.0) | | | |
| Family Type | | | | | |
| Joint | 8(25.0) | 6(20.0) | 0.22 | 1 | 0.64 |
| Nuclear | 24 (75.0) | 24(80.0) | | | |
| Religion | | | | | |
| Hindu | 25 (78.1) | 26 (86.7) | 1.36 | 2 | 0.51 |
| Muslim | 1 (3.1) | 0 (0) | | | |
| Christian | 6 (18.8) | 4 (13.3) | | | |

Addiction Severity

Patients in the study group scored above the control group in all domains of the interviewer rated ASI but statistically significant difference was noted only in domains for drug& alcohol status and legal status (Table 3). The difference in scores on drug and alcohol status was lost when composite scores that also included patient rated severity were analyzed (mean of 2.20 for control group vs 2.29 for study group; $p = 0.37$, data not shown). The difference in the domain for psychiatric status is redundant as it was the basis on which both groups were formed. Total severity rating was calculated by adding up severity of dependence in all domains. The mean of the total severity was also significantly higher in the study group (28.17 in study group vs 18.66 in controls; $p 0.01$) indicating that alcohol induced psychosis was associated with severity of alcoholism.

Table 3: Comparison of Addiction Severity Index Domains in Individuals with Alcohol Induced Psychotic Disorder (study group) vs Alcohol Dependence (control group)

| Addiction Severity Index Domain | Alcohol Dependence N (%) | | Alcohol Induced Psychosis N (%) | | t | p |
|---------------------------------|--------------------------|------|---------------------------------|------|--------|-------------|
| | Mean | S D | Mean | S D | | |
| Medical Status | 2.16 | 2.26 | 3.00 | 2.75 | -1.32 | 0.19 |
| Educational status | 4.31 | 2.79 | 5.30 | 2.52 | -1.46 | 0.15 |
| Drug / Alcohol Status | 6.09 | 1.61 | 7.07 | 0.78 | -2.99 | 0.01 |
| Legal Status | 0.09 | 0.30 | 0.87 | 1.83 | -2.35 | 0.02 |
| Social/ Family Status | 4.47 | 1.88 | 5.23 | 2.11 | -1.51 | 0.14 |
| Psychiatry Status | 1.53 | 1.78 | 6.70 | 1.47 | -12.44 | 0.00 |
| Total Severity | 18.65 | 7.01 | 28.17 | 6.85 | -5.40 | 0.01 |

Family History

Greater number of individuals in the alcohol induced psychosis group had relatives with history of psychosis than controls. In case of the study group, about 77% of them had either a first-degree or a second-degree relative suffering from psychiatric illness whereas in the control

group 43% had relatives with psychiatric illness. 57% patients in the study group had first degree relatives manifesting psychiatric symptoms whereas it was just 18% in the control group. The differences found between the two groups were statistically significant, using chi-square test (Table 4)

Table 4: Comparison of Family History in Individuals with Alcohol Induced Psychotic Disorder (study group) vs Alcohol Dependence (control group)

| Socio Demographic Variable | Alcohol Dependence N (%) | Alcohol Induced Psychosis N (%) | Pearson Chi-Square | | |
|----------------------------|-----------------------------|------------------------------------|--------------------|----|------|
| | | | t | df | p |
| No relative | 18 (56.3) | 7 (23.30) | 10.33 | 2 | 0.01 |
| First Degree | 6 (18.8) | 17 (56.7) | | | |
| Second Degree | 8 (25.0) | 6 (20.0) | | | |

Discussion

The concept of psychotic disorder due to alcohol has evolved and is defined better now and thus the older studies in this population are less useful. While earlier studies have spoken exclusively of hallucinosis, recent research indicates a schizophrenia like picture in some cases and this is in line with our findings. The absence of any patient in our sample with a predominantly depressive presentation could be the result of relying on a hospital sample. It is reasonable to assume that individuals with a predominantly depressive presentation did not seek care and are underdiagnosed. This finding is significant as alcohol induced depression and psychosis are significantly associated with suicide in other studies (Pompili M et al. 2010).

Many studies have reported a younger age at onset of alcoholism in alcohol induced psychosis (Schuckit MA 1982, Tsuang et al. 1994). This finding is not supported by

our study which indicates significant difference in mean age but no statistically significant difference in mean duration of alcohol use. However, another Indian study has also suggested that there is no association between age of onset of alcohol use and alcoholic hallucinations (BojirPermeet, 2003).

ASI score of interviewer severity rating in the study group was high in alcohol use and legal status domains indicating that high degree of alcohol dependence may predispose an individual to develop psychotic features. However, patient rating of severity measured by composite scores on ASI do not reveal significant differences indicating that minimization by patients may play a part in patient ratings. Alternately they may also reflect interviewer bias while rating participants from the study group.

Some studies have pointed out the association between alcohol induced psychosis and problems in occupation, homelessness, poor family support and legal issues (Schuckit MA 1982, Caton LMC et al. 2005). The present study found out significant difference in legal areas which partially agrees with previous findings. The presence of better family support in the Indian context could explain the lack of differences in social and educational domains.

The association between family history of psychosis and alcohol induced psychosis is strongly evident in this study. This is in line with research that indicates that family psychopathology may predispose the individual for development of psychiatric features once they become established alcohol dependents (Hrubec Z 1981).

Conclusion: Alcohol induced psychosis manifests predominantly with hallucinations but other presentations are also common. Older age, greater severity of addiction and family history of psychosis are all associated with alcohol induced psychosis. Longitudinal studies may throw greater light on the clinical aspects and outcome of alcohol induced psychosis.

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