

Assessment of characteristics of patient with delirium tremens

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ABSTRACT

Delirium tremens is the severe form of alcohol withdrawal. It carries a certain degree of mortality and there has been an advancement in the understanding of pathophysiology and risk factors for the development of the condition. This prospective study is carried out to study the characteristic of the patient of delirium tremens in our setting using ICD-10 diagnostic criteria. Thirty seven cases of delirium tremens with majority of males and of all hill origin people were identified. Patients with delirium tremens has been using alcohol for average of 24.8 years with an average intake of around 2.2 litres per day. Most of the patient has seizure and similar episodes in past and using alcohol from morning time.

Keyword: Alcohol, delirium tremens, risk factor.

INTRODUCTION

Alcohol is the one of the most abused substance.¹ Not all people who use it develop withdrawal symptoms. Alcohol withdrawal symptoms is seen in those person who stops or decrease the intake following prolonged and heavy consumption. The severest of alcohol withdrawal is delirium tremens. Signs and symptoms of alcohol withdrawal develops usually after 6 to 24 hours of last intake.^{2,3} The hyperadrenergic syndrome, delirium tremens, is a medical emergency. The clinical features of delirium tremens were described almost 200 years ago; it is manifested by altered mental status (global confusion) and sympathetic overdrive (autonomic hyperactivity), which can progress to cardiovascular collapse. During withdrawal from alcohol, the loss of GABA-A receptor stimulation causes a reduction in chloride flux and is associated with tremors, diaphoresis, tachycardia, anxiety, and seizures. In addition, the lack of inhibition of the NMDA receptors may lead to seizures and delirium. The mortality is around 15% in untreated sample. There has been improvement in understanding in pathophysiology of the delirium tremens in last few decades. Low serum values for amino acid glycine, glutamic acid decarboxylase, higher activity for creatine kinase has been described.^{4,5} Certain factors like seizure, temperature and raised blood pressure are important in the development of the conditions.⁶ Previous history of DT, concurrent acute medical illness, number of days since last intake is also important.⁷ Even studies have shown link between thrombocytopenia and development of delirium tremens.⁸ Lower serum potassium value, a lower platelet count and prevalence of structural brain

lesions also predisposes to the development of delirium tremens.⁹

In this part of the country there alcohol use is the one of the common social problem. The prevalence of alcohol dependence in the eastern part of the country was found to be around 25.8% with peak age in group 45-54 years.¹⁰ The condition delirium tremens has been described in a child as young as 9 years.¹¹

There is dearth of study in delirium tremens in our country. In this part of city there is great number of local population constitute of hilly origin and most of them are engaged in daily wage job. The alcohol is wide spreadly used in these population. And this study is an attempt to determine the characteristic and drinking history of the patient with the diagnosis of delirium tremens.

MATERIALS AND METHODS

This is a prospective study and all the consecutive cases of alcohol dependence syndrome currently in delirium tremens admitted in de-addiction ward psychiatry department, Nepal Medical College Teaching Hospital (NMCTH) from January 2011 to September 2011 were taken. Diagnosis was done using ICD-10 diagnostic criteria.¹² Socio demographic profile of patient and alcohol use history were recorded into a proforma developed by the department of psychiatry. That data collected were analyzed using SPSS 11 version.

RESULTS

The total numbers of patient during study period was thirty seven. Table-1 shows the demographic characteristic of patients. Males were predominant in our

study. There were thirty four males and three females. The average age of male patient was 45.9 years and belongs to 40 to 59 age group. Two females were of 20 to 39 age group and one was from 40 to 59 age group. Most of them were married and with primary level of education. Only eight patients have college level of education. Twenty patient were employed (all most of them were in carpet industry as weavers). Eleven were unemployed and six were farmers. All patients were of hilly origin.

Table-1: Demographic characteristic of patient with Delirium Tremens
Age in years

| Demographic variables | 20-39 | 40-59 | 60-79 | Total |
|-----------------------|-------|-------|-------|-------|
| Gender | | | | |
| Male | 9 | 22 | 3 | 34 |
| Female | 2 | 1 | 3 | 3 |
| Marital status | | | | |
| Married | 9 | 20 | 2 | 31 |
| Unmarried | 1 | 2 | 1 | 4 |
| Widow/divorce | 1 | 1 | | 2 |
| Education | | | | |
| Primary | 8 | 15 | 1 | 24 |
| Secondary | 1 | 3 | 1 | 5 |
| College | 2 | 5 | 1 | 8 |
| Occupation | | | | |
| Employed | 5 | 14 | 120 | 20 |
| Unemployed | 4 | 5 | 211 | 11 |
| Farming | 2 | 4 | | 6 |

Table 2 shows the drinking history of patients. The average duration of alcohol use was 24.8 years. Average amount of alcohol consumption was 2.2 l per day. Locally brewed alcohol was the commonly consumed one. Morning drinking was present in all patient. Twenty four patient had episodes of delirium tremens in past. Twenty seven patient gave history of seizures in past. There was attempt to abstinent in past by 11 patients.

Table-2: Drinking history
Variable

| | |
|---------------------------|------------|
| Duration of alcohol use | 24.8 years |
| Daily amount of use | 2.2 l |
| Morning drinking | 37 |
| Similar episode in past | 24 |
| History of seizure | 27 |
| Abstinent attempt in past | 11 |

DISCUSSION

Alcohol withdrawal symptoms range from minor tremulousness and insomnia to withdrawal seizures and delirium tremens.¹³ DT is differentiated from less severe form of alcohol withdrawal by altered sensorium and autonomic instability. Confusion, obtundation and delirium are the hallmark of delirium tremens. Other findings include severe agitation, hyperpyrexia, tachycardia, hypertension, and diaphoresis. Chronic intake of alcohol affects several neurotransmitter systems in the brain including GABA, Glutamate, endogenous opioids etc. Alcohol withdrawal leads to changes in these neurotransmitter systems. The clinical manifestations of alcohol withdrawal are due to the combination of effects on the GABA and NMDA receptors.

Delirium tremens carries a higher mortality risks and may requires high level of monitoring and intensive care unit treatment.¹⁴ However, proper recognition and prompt treatment can reduce the mortality from 1 to 5 percent to zero percent in different treatment settings.¹⁵

There has been dramatic decline in mortality from delirium tremens (from 35% to 5%) that can be attributed to an improved understanding of pathophysiology and advances in the approach to management.¹⁶⁻¹⁸ The prevalence of delirium tremens in admitted patient with alcohol dependence syndrome varies from 3% to 33%.^{8,19,20}

It is well known that traditionally men and women belonging to hilly origin use alcohol regularly. Our study shows the average age of patient was 45.9 years old, and males predominate and which is similar to a study, where most of the patient were males and average age was 47.9 years.¹⁹ Similar finding was reported in another study, where majority were male and average age was 48 years.²¹ The average duration of alcohol intake was 24.8 years and with an average consumption of around 2.2 litres per day. Traditionally alcohol has been brewed domestically and this makes easy for consumption in terms of timing, duration and amount and availability. People tend to neglect or does not think about the long term consequences of alcohol abuse. The culture and societies of hill origin people allow females to take alcohol. There has been increased reports of alcohol abuse by females in recent times.

In our study twenty four out of thirty seven patient gave history of similar episodes in past, 27 out of patient 37 patient gave history of seizure attack. In an study the occurrence of similar episode in past and seizure is a risk factor for current development of the condition.^{6,19} Because of lack awareness, poor economic status and low level of education people tend to ignore or cannot

assess the gravity of situation. The condition delirium tremens carries a certain risk of mortality, which can be minimized if risk factors can be recognized early and proper intervention implemented as soon as possible. The limitation of our study is number of patient is less and more broader aspect of alcohol use should be covered in future.

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