Alcohol related Delirium in the ICU patients

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Abstract: Abstract-Background- Delirium, a concept of liaison Psychiatry is the highly prevalent form of acute cortical dysfunction seen in ICU settings. Patients with alcohol related delirium are associated with considerable burden in terms of morbidity and mortality due to prolonged hospitalization and cognitive impairment and can be prevented in most patients. Aim- To study the clinical profile of alcohol related delirium in the ICU patients in the background of their underlying illness and risk factors. Methods- The present study was conducted in the medical ICU at Government Stanley Hospital, involving 100 consecutive patients who fulfilled criteria for delirium under DSM-IV-TR. They were further assessed using Delirium rating scale Revised 98. Based on the history and presentation, patients were segregated as those with alcohol use disorder and those without alcohol use either in the present or past. Results- Of the 100 patients studied, 77 were males, 23 females. No case of delirium with AUD among females. Patients presenting with delirium with alcohol use disorder were 66 while 34 patients had no history of alcohol. Delirium patients with AUD belonging to 20-40 years age (young) were 56.1, while 40-60 years (old) were 43.9. Among young alcohol users hyperactive delirium was 81.1, hypoactive delirium-8.1, mixed type-10.8 whereas hyperactive delirium was 46.4, hypoactive type-14.3, mixed type was 39.3 among old alcohol users. Illusions were common in both the age groups (43.2, 42.9) compared to frank hallucinations (27.2, 17.9). No significant difference in severity scores with respect to type of delirium among alcohol users. Conclusion- Early diagnosis of delirium in alcohol use disorder patients in the ICU and assessment of severity using validated scales and identification of the risk factors and perpetuating factors pave way for shorter ICU stays and decrease in morbidity and mortality in such high risk groups. 

Keyword: Delirium, liaison, subtype

1. INTRODUCTION

Delirium is the most common psychiatric syndrome found in the general hospital setting. Its prevalence in certain patient populations is extremely high. Delirium involves a constellation of symptoms reflecting a widespread disruption of higher cortical functions that characteristically occur with an acute onset and fluctuating course[1]. Research data of this etiologically nonspecific neuropsychiatric problem in Indian subcontinent is relatively less as most of the patients are treated in intensive care settings.
namely altered consciousness, attention; cognitive symptoms being orientation, memory, language-comprehension, thought process. Non-cognitive symptoms being sleep-wake cycle disturbances, lability of mood; onset, fluctuating course and their severity. The evaluation focuses on the clinical features and its attribution to alcohol use disorder and other underlying illnesses and risk factors as in the semi structured pro-forma.

2.2 Design Study group of 100 patients with delirium were evaluated for Socio-demographic details like age, gender, educational status, occupation, socio economic status, alcohol use, underlying illness. Patients were assessed using Delirium rating scale Revised98, 16 items scale comprising of 13 severity items and 3 diagnostic items. This scale has high inter-rater reliability, sensitivity and specificity for hospital populations. Each severity item was rated from 0-3, diagnostic item of onset of symptoms 0-3, course and underlying illness rated 0-2 each. It has severity score (totaling all severity item scores) of 0-39 and total score(diagnostic item scores + severity scores) of 0-46. Higher severity scores correspond with more severe delirium. All sources of available information were used to rate the patient-family, visitors, hospital staffs, doctors, patients medical charts, etc. Sub-typing of delirium as hyperactive based on the presence of features like hypervigilance, restlessness, fast/loud speech, irritability, combativeness, impatience, swearing, singing, euphoria, wandering, easy startle, fast motor responses, distractability, tangentiality, nightmares. Hypoactive delirium manifested as unawareness, decreased alertness, lethargy, slowed movements, staring, apathy. Mixed subtype had alternating features of both[14]

2.3 Inclusion criteria: Age between 20-60 years, of both sexes

2.4 Exclusion criteria: Duration more than one week since time of onset of symptoms.

2.5 Consent: After Ethical committee approval the study details were explained to patients and their relatives and due informed consent was obtained.

2.6 Statistical analysis: Statistical analyses was conducted using the Statistical Package for the Social Sciences version-17. Demographic and rating scale data were expressed as means and standard deviation. Alcohol related delirium patients were further sorted as young and old and comparisons made and chi square test used for test of significance.

3. RESULTS:
Of the 100 patients studied, 77 were males, 23 females. No case of delirium with AUD among females. Patients presenting with delirium with alcohol use disorder were 66 while 34 patients had no history of alcohol.
Clinical Profile of Alcohol related Delirium:
85.8% of males had alcohol use disorder. Alcohol users were segregated as young (20-40yrs) and old (40-60yrs); 37 belonged to young group and 29 to old group. Subtyping of delirium as hyperactive, hypoactive delirium or Mixed subtype [14].

Among young alcohol users hyperactive delirium was in the range of 81.1%, hypoactive delirium 8.1% and mixed was 10.8% whereas hyperactive delirium was 46.4%, hypoactive delirium was 14.3% and mixed type was 39.3%. Among old alcohol users, hyperactive delirium was 46.4%, hypoactive delirium was 14.3% and mixed type was 39.3%. Among 20-40 year old AUD patients presenting with delirium, neurological causes in the form of seizure disorders and CNS infections contributed to 41% of underlying physical illness. 8 of 37 young alcohol related delirium patients did not show previous physical illness.

Perceptual changes in delirium patients were graded as 0-no perceptual disturbance (5.4% in young AUD patients, 7.1% in old AUD patients), 1-mild perceptual disturbance in the form of depersonalizations/derealization (24.3%, 42.9%), 2-moderate, seen in patients as fleeting hallucinations or illusions (43.2%, 32.1%), 3-severe-frank hallucinations (27%, 17.9%).

Perceptual changes-young Perceptual changes in old

Illusions were common in both groups than frank hallucinatory behavior.

MEDICAL ILLNESSES IN AUD DELIRIUM PATIENTS
Fever occurred in 56.8% in young alcoholics and 53.6% in old alcohol users and it was not significantly associated with the type of the delirium. Delirium following alcohol intoxication, withdrawal or intake previously was noted in both the age groups. In the 20-40 yrs age patients 56.25% were intoxicated with alcohol. Of which 55% were seen with suicidal attempt. Among the 7 of 16 (43.25%), old patients with alcohol intoxication 2 each presented with seizures and stroke and 1 case of suicide.

Alcohol withdrawal delirium patients among the young were 63.16%, old were 36.84%. Young group (20.8%) presented with seizures during alcohol WD delirium. Patients with previous consumption of alcohol presenting with delirium were 66.7% among old, 33.3% in the young group. In this study, there was 1 case of recurrent delirium tremens in a young man. 4. Discussion:

This study evaluated delirium patients in the IMCU setting with one or more underlying illness. DRS-R98 is the instrument used for the detailed phenomenological and neuro-psychological evaluation of delirium patients. The data collected from authentic sources as per the research criteria were rated as per the scale. The patients preceding 24 hours period for the symptoms, onset, fluctuating course, and presence of physical illness were rated.

Previous studies based on other scales had grouped the cognitive symptoms. But in our study, DRS-R98 [22] was helpful in rating each symptom of delirium separately and this was useful in clearly quantifying the variable with respect to etiology. Sub typing of delirium as hyperactive, hypoactive, mixed was based on the criteria for phenomenological subtypes of delirium adapted from Liptzin & Levkoff, 1992.
Out of 100 patients, 77 were males, 23 females. Males being more dominant in the the study may be due to more agitation and disruptive behavior seen than females. Another reason is that alcohol use seen commonly in medically ill patients contributes to over representation of males with delirium. This study proved useful to compare the clinical profiles in alcohol related patients, among the young and the old groups. Based on the presentation of delirium, all patients had attention deficits with illusions dominating in alcohol delirium than frank hallucinatory behavior.

Most of the young alcohol users presented with hyperactive delirium (61.1%) than old alcohol users (46.4%) contrary to the expectation of more hyperactive delirium among old users considering the duration and co-morbid metabolic factors. Previous study by Oliver Pogarell and Evangelos Karamatskos [23] point to the increased occurrence of epileptic seizures or accidents with traumatic brain injuries following alcohol intoxication. The present study also shows high frequency for seizures, suicide and trauma in alcohol intoxicated patients with delirium.

Brower et al. [24] demonstrated that elderly patients suffered from significantly more severe and longer lasting AW symptoms than younger patients due to the presence of other medical conditions, cognitive impairment and higher sensitivity to alcohol. Present study showed all the AUD patients with one or the other underlying medical illnesses though the delirium severity scores did not show any difference in the the two age groups.

As in the previous study by Wojnar [24] this study also points to the greater occurrence of withdrawal seizures and prior detoxification as significant in the younger group. Young patients have mostly neurological causes like seizure disorder, meningitis, trauma predisposing them to delirium either in the intoxicated or withdrawal state. The 40-60 years group of delirium have moderate to severe liver disorder with alcohol dependence as a cause in all the 9 of 29 old alcohol related delirium patients. Fever, though seen in many patients with alcohol related delirium was not a significant variable as it was not feasible to differentiate whether it was an associated or an independent or incidental factor in this study.

There is no significant correlation with reference to other cognitive profiles, course, and the fl utuation of symptoms. It is easy to identify hyperactive delirium but for confirming hypoaactive and mixed delirium, we need diagnostic instruments with good validity like Delirium Rating Scale Revised. Delirium is associated with poor clinical outcomes in critically ill patient, routine monitoring using valid and reliable delirium diagnosis instruments is recommended in all ICUs so that the prognostic significance of delirium does not go unnoticed. Our finding of more hyperactive delirium among youngsters paves way for substantiating with the pattern of abuse, quantity profile, genetic loading and typing of alcoholism in our future studies.

STUDY LIMITATIONS: The sample selected for study in conditions like delirium requires more numbers to improve the validity about types of delirium and symptomatology and a follow up on their cognitive state. Secondly, as patients are seen in delirium, exact history of amount of alcohol taken for pattern and heavy drinking was difficult to procure.

4. CONCLUSION: Alcohol as such increases the risk of delirium in medical settings. Alcohol use disorder presenting with delirium based on age and other predisposing factors poses higher risk for patients and is a challenge to the liaison team involved in its management. Future studies on delirium are expected to throw light on the role played by individual risk factors like sudden metabolic derangements, seizures etc in triggering the final common pathway culminating in alcohol related delirium. References: