

Clinical Presentation and Outcome of Patients Presented with Acute Confusional State (ACS) in a Tertiary Care Hospital of Bangladesh

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Abstract

Background: Acute confusional state (ACS) or delirium is a clinical condition categorized by troubled consciousness, cognitive function, or perception. The key to the management of cases of ACS lies in recognizing a cause or other contributing illness and alleviating it. **Objective:** To evaluate the patients of ACS intending to identify the clinical presentation of the ACS along with the outcome evaluation of its prognostic importance. **Materials and method:** A total of 50 patients of ACS fulfilling the DSM-4 criteria were enrolled purposively. It was a hospital-based cross-sectional type of observational study conducted among adult patients of more than 18 years of age for nine months period in the medicine department of Dhaka Medical College Hospital. **Results:** The mean age of patients was 63.18±9.8 years. Majority of the patients (66%) were male. Hypertension was the most common (46%) associated condition followed by obesity (22%). Fever was common in the majority of cases (78%) followed by disorientation (64%). Among the patients with cerebrovascular accidents, 70.59% had multiple infarcts and 29.42% showed hemorrhage in CT scans of the brain. Most of the patient's (76%) recovery was without any sequelae. Only 6% of patients died during the hospital stay. **Conclusion:** Acute confusional state (ACS) is among the most common problems in general medicine. Hence, treatment and further workup should run parallel to avoid the morbidity and mortality related to these circumstances.

Keywords: Acute Confusional State (ACS); Clinical Presentation; Outcome; Tertiary Care Hospital.

Delta Med Col J. Jul 2021;9(2):75-79

Introduction

Acute confusional state (ACS) or delirium is a clinical condition categorized by troubled consciousness, cognitive function, or perception. The delirium usually advances over a short period (usually hours to days) and it inclines to vary during the day. It is often accompanied by serious adverse consequences such as death, dementia,

and the need for long-term patient care.^{1,2} Incidence of an acute confusional state ranges from 6% to 56% in hospitalized patients and nearly 80% in an intensive care unit (ICU).^{3,4} Acute confusional state (ACS) is considered a common cause of mortality and morbidity in older people.

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Delirium may be the consequence of different types of systemic or cerebral disease or drug intoxication or withdrawal. Delirium is an extremely predominant issue with an occurrence rate of 7-42% among adults admitted in medicine department and is related to deprived outcomes, including an increased risk of dementia and functional decline, extended hospital stay high healthcare-related expenses, and even increased death rate.²⁻¹¹ In spite of its clinical consequence delirium often remains undiagnosed by the health care provider. The rate of diagnosis by physicians has been reported as 7-57%¹²⁻¹⁵ and by nurses 26-83%¹⁶⁻¹⁸.

The key to the management of cases of an acute confusional state lies in recognizing a cause or other contributing illness and alleviating it.⁴ This study evaluated the patients of acute confusional state intending to identify the clinical presentation of the acute confusional state along with the outcome evaluation of its prognostic importance.

Materials and method

Total 50 patients of ACS fulfilling the diagnostic criteria i.e., DSM-4 (The Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition) criteria were enrolled purposively to identify the clinical presentation of the acute confusional state along with the outcome evaluation of its prognostic importance. After the patients fulfilled the diagnostic criteria, informed written consent was obtained from patients' attendants before their final inclusion for participation in the study. Patients with a history of trauma and the identifiable psychiatric syndrome were excluded for this study purpose. Approval from the Institutional Research Ethics Committee was obtained. It was a hospital-based cross-sectional type of observational study conducted among adult patients of more than 18 years of age for nine months period in the medicine department of Dhaka Medical College Hospital, a renowned tertiary medical college hospital of Bangladesh. After enrolling the

patients in the study, a thorough collateral history was taken usually from the attendants through an interview-based structured questionnaire, and clinical examination was done and some laboratory investigations (CBC with ESR, LFT, RFT, serum electrolytes, brain imaging, lumbar puncture test) were sent. Collected data were analyzed by IBM SPSS Statistical software version 19 (SPSS, Inc, Chicago, IL).

Results

Throughout the study period, 78 patients of ACS were screened and 28 patients not meeting the inclusion criteria were excluded. Thus, this study comprised 50 patients. The mean age of patients was 63.18 ± 9.8 years. Majority (66%) of the patients was male (Fig. 1). Most of the patients (27, 54%) were from lower-class families (Fig. 2).

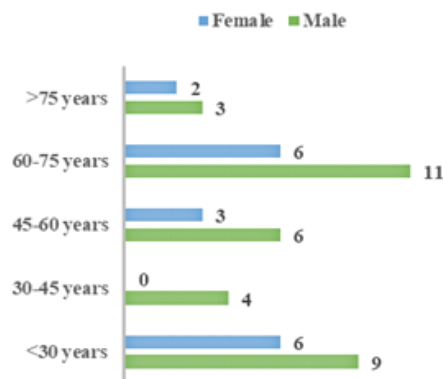


Fig. 1: Age distribution of study participants (N=50)

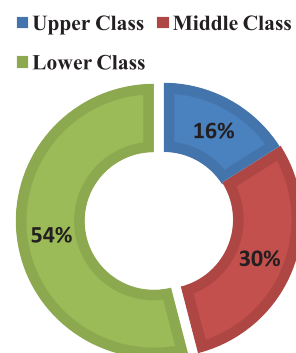


Fig. 2: Socioeconomic status of study participants (N=50)

All patients had a presence of a co-morbid medical condition. Hypertension was the most common (23, 46%) associated condition followed by obesity (11, 22%) (Table I).

Table I: Past medical history and predisposing factors (N=50)

Factors	Frequency	Percentage (%)
Hypertension	23	46
DM	6	12
Old CVD	7	14
CLD	6	12
Smoking	8	16
Substance abuser	3	6
Obesity	11	22

At the time of admission about 38% (19) were alert/conscious followed by semi consciousness (17, 34%) (Fig. 3).

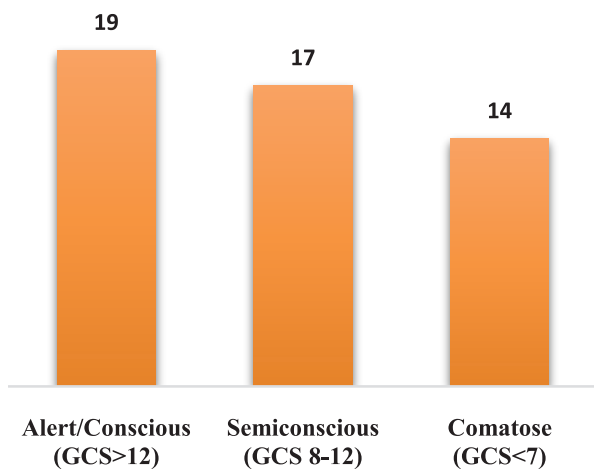


Fig. 3: GCS and level of consciousness (N=50)

Fever was common in the majority of cases (39, 78%) followed by disorientation (32, 64%). Among the clinical signs majority of the patients had tachycardia (17, 34%) and cranial nerve palsy (11, 22%) (Table II).

Table II: Distribution of patients according to physical sign (N=50)

Physical Sign	Frequency	Percentage (%)
Fever	39	78
Disorientation	32	64
Cranial nerve palsy	11	22
Abnormal pupil	9	18
Bradycardia	8	16
Tachycardia	17	34
Cyanosis	3	6
Neck rigidity	6	12
Kerning's sign	5	10
Hypertension	15	30
Hypotension	8	16
Papilloedema	7	14
Planter extensor	10	20

Seventeen (34.0%) patients, with cerebrovascular accidents, had multiple infarcts (12, 70.59%) and showed hemorrhage in CT scan of the brain (5, 29.42%) (Fig. 4).

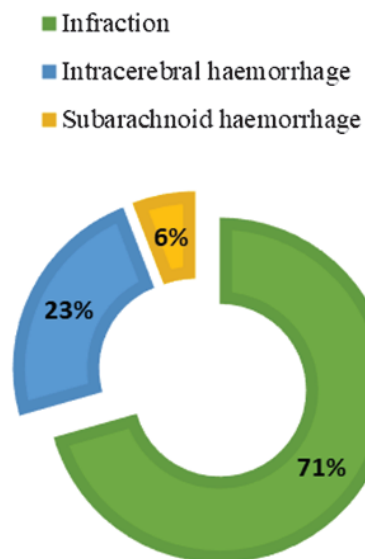


Fig. 4: Pattern of cerebrovascular disease observed in CT scan (n=17)

Meningitis was diagnosed in 6(12%) patients, and 4 out of 6 cases (66.66%) were classified as pyogenic meningitis. All the meningitis patients had neck rigidity followed by Kernig's sign (5/6, 83.33%). The patient's symptoms, degree of

disability or dependence in the daily activities, and the clinical outcome were evaluated and measured by Modified Rankin Scale (MRS). Majority (38, 76%) of the patients' recovery was without sequelae. Only 3(6%) patients died during hospital stay (Table III).

Table III: Outcome and fate of cases (N=50)

Outcome & fate	Frequency	Percentages (%)
Recovery without sequelae	38	76
Recovery with sequelae	9	18
Deceased	3	6

Discussion

This was a hospital-based cross-sectional observational type of prospective study, which was conducted on 50 patients of ACS. This observational study highlights the significance of taking disease history and clinical examination and investigations in the diagnosis and management of ACS and the necessity for initial diagnosis and rapid treatment, as these conditions may have a poor outcome concerning morbidity and mortality. Most patients were in the age group of 61-75 years, mean age was 63.18±9.8 years which was comparable with a study, where most of the patients were in the age group of 61-70 years and mean age was 60±17.80 years.¹⁹ There was a male majority with 66% of males and 34% of females. The similarity was found in a study where 61.5% were males and 38.5% were females.²⁰

Acute confusional state (ACS) was accompanied by one or multiple predisposing factors in all patients. Out of a total of 50 patients, hypertension was the commonest comorbidity (46%) followed by diabetes mellitus in 12% patients. The study findings were similar to that of another study, where increased blood pressure was the most significant risk factor among the 26.9% patients of ACS.²⁰

On clinical examination, patients with ACS were found to have a fever in 78%, disorientation in

64%, slurred speech in 48%, hemiplegia in 30%, drowsiness in 16%, and respiratory difficulties in 4% of the patients. These findings were supported with the findings of a study, where 32% had hemiparesis, 27% had asterixis and 6% had meningeal signs.²¹ Among the patients with ACS, about 10% of patients had an electrolyte imbalance. Hyponatremia was detected in the majority of the patients (4, 80%). Comparable to another study, hyponatremia was the leading metabolic abnormality, present in 37.3% of the patients of ACS.²⁰ Acute poisoning was more common in males (70%). Cerebrovascular disease (CVD) was more common in males (70.59%) also. Similarly, another study showed that major causes among males were poisoning and CVD.²² Overall mortality was 6%, with full recovery without sequelae in 76% of the patients. These findings are comparable to that of another study where 65.9% of patients had recovered and, 6.6% died.²³

Conclusion

ACS is among the most common problems in general medicine. They account for a significant quantity of admissions to emergency wards and are a common cause of distress on all health-care services. This prospective hospital-based cross-sectional study with ACS may not reflect the exact situation of the disease in the community, but its nearness to reality cannot be underestimated. ACS should be treated as an emergency. Hence, treatment and further workup should run parallel to avoid the morbidity and mortality related to these circumstances.

Acknowledgment

We would like to acknowledge and thank the independent physicians from the Departments of Internal Medicine for their guidance and scrutiny and sharing of thoughts. It will be unfair if we don't express my gratitude to all the patients, who were the subjects of this study. Our sincere thanks to them for being our study subjects.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee.

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