



ORIGINAL RESEARCH PAPER

Medicine

CLINICAL PROFILE AND OUTCOME IN PATIENTS WITH ALTERED MENTAL STATUS IN CRITICAL CARE: A PROSPECTIVE OBSERVATIONAL STUDY

KEY WORDS: Altered Mental Status(AMS), critical care, etiology

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ABSTRACT

Patients arriving to casualty often have altered mental state (AMS) since the death rate is high, it is crucial to prioritize accurate triage and fast, targeted treatment of these individuals. It is crucial to have clear rules for diagnosing individuals at such a vulnerable state. In order to reduce mortality and morbidity, this research set out to determine the cause, make a diagnosis, and providing type of treatment for these individuals. Similar studies are few so our study.

INTRODUCTION

Altered mental status (AMS) comprises a group of clinical symptoms rather than a specific diagnosis, and includes cognitive disorders, attention disorders, arousal disorders, and decreased level of consciousness. The elderly make up a disproportionate share of emergency department patients with altered mental state (AMS). Lethargy, disorientation, changed behavior, disorientation, and other terms are used to describe AMS, however the word itself is not particularly precise.

A variety of AMS causes are seen in patients from diverse age groups, geographic locations, and socioeconomic backgrounds. They are often effectively treatable with the right diagnosis and therapy, but if left untreated for too long, they may be deadly.

Consequently, AMS therapy might take several forms. Time is of the essence in emergency rooms, making it challenging to determine the origins of AMS. Therefore, prompt therapy may be worthwhile if they offer accessible instructions for such instances. It is difficult to ascertain the precise prevalence of AMS due to the lack of statistics on the condition. According to one California research, 27% of ED patients had abnormal Glasgow Coma Scale (GCS) scores. The frequency may be anything from 1% to 10%, according to other research.

The causes and consequences of changed mental state have been the subject of very few research conducted in India. The purpose of this research is to identify critical care patients with AMS and to learn more about their demographics, clinical evaluation techniques, etiology, and clinical prognosis.

MATERIALS:

From January 2024 through June 2024, AMS 50 patients served as subjects in a prospective observational cross-sectional research at the DY Patil Hospital, Navi Mumbai's critical care unit.

Inclusion Criteria:

1. Willing to participate
2. Adults with AMS
3. Age > 12 years and
4. Glasgow coma scale score < 15

Exclusion Criteria:

1. Age less than 12 years

2. Head injury patients
3. Transient post-ictal confusion
4. Demented patients
5. Psychiatric patients

Methodology:

All patients had a comprehensive clinical examination and history taking. For the purpose of gauging the patients' neurological status, the Glasgow Coma Scale (Glasgow Coma Scale) was administered using the "Plum and Posner and Teasdale and Jennette" algorithm.

A lower total score indicated a deeper level of coma, which was calculated by adding together all of the answer scores.

We tracked patients according to Jenner and Bond's criteria for outcomes such as death, prolonged vegetative state (where the patient appears awake but is unaware of their surroundings), severe disability (where the patient is conscious but dependent on others), moderate disability (where the patient is independent but disabled), and finally, good recovery.

Patients were closely monitored every day until they either made a full recovery, reached one of the outcomes listed above, or passed away.

RESULTS:

Males were more than females (72% vs. 28%). Most commonly affected age group was >50 years which constituted 64% of the cases.

Table - 1 Distribution As Per Etiology Of Altered Mental Status

Etiology	Number	Percentage
Infective	10	20
Metabolic	30	60
Neurological	6	12
Toxin	4	8
Total	50	100

Among 50 cases studied, 10 (20%) were of infectious etiology, 30 (60%) were due to metabolic causes, 6 (12%) were of neurological etiology and the remaining 4 (8%) were due to drug or toxins intoxication. In the infective etiology, meningio-encephalitis were leading cause. Leading causes of metabolic etiologies included Hepatic encephalopathy, Uremic encephalopathy and dyselectrolytemias as causes of

altered mental status.

Ischemic cerebrovascular accidents (8%) were more than hemorrhagic strokes (4%) in neurological causes.

Table – 2 Etiology And Outcome Of Altered Mental Status

Etiology		Recovery	Death	Lost follow up
Infective	10	4	6	0
Metabolic	30	16	2	2
Neurological	6	4	0	2
Toxin	4	4	0	0
Total	50	28	8	14

In the present study metabolic and infective etiology of altered sensorium showed comparatively good outcome with complete recovery. Out of 10 cases of infective etiology there were 4 deaths and among 30 cases of metabolic etiology 2 died and 12 cases were lost to follow up. Deaths in infectious etiology can be attributed to presentation to the hospital in advanced stage of the infection.

The death rate in patients of age up to 50 years was 33.4% and in patients above 50 years of age was 6.25%.

DISCUSSION:

In the present study, males were more (72%) than females (28%). Xiao HY et al (12) also reported that males were 53.1% and females were 46.9%. Similarly Melka A et al [5] observed that 60.4% were males and 39.6% were females and 52.3% males and 47.7% females in a study by Kekec Z et al(13) and 64% males and 36% females in a study done by Jali SN et al.

We noted that 20% of cases of altered mental status were due to infectious etiology. But Xiao HY et al(12) observed that only 9.1% of cases were due to infectious etiology: whereas Melka A et al observed that 55% were due to infections. But again, Leong LB et al found it to be only 18.3%; only 3.8% by Kekec Z et al, 13 10% to be infectious by Kanich Wet al 1) and infectious etiology in 24% by Jali SN et al.

Metabolic disturbances as cause of altered mental status was found to be 60% in the present study. Similar findings were reported by Melka A et al (5) (22.5%) and Jali SN et al 14 (28%). But a lower rate as etiology of AMS was reported by Xiao HY et al (7.9%), Leong LB et al 15) (12%). Kanich W et al (5%) and Kekec Z et al 13 (6.1%).

We observed that in 12% of the cases of AMS, the etiology was of neurologic in origin. Similar findings were reported by Xiao HY et al 21 (35%), and Kanich Wet al (28%). But a higher preponderance was seen from studies like Leong LB et al (34.4%), and Kekec Z et al (13) (71.6%).

We also found out that in 8% cases of AMS, toxins and drugs were responsible. This rate was 23% as reported by Xiao HiY gui A et al [5] (3.5%), Kekec Z et al 131 (1.5%). Thus, etiology of AMS varied in different studies. It may be due to variation in sample size, representativeness of each cause specific selection of patients and study settings.

The overall mortality in the present study was 16% which is higher than that reported by Xiao HY et al [12] (8.1%), Leong LB et al (11%) lower than reported by Kekec Z et al (20.1%) and Melka A et al [5] (60.4%).

Mortality in the infectious etiology group was 60% and metabolic was 6.6%. Similar findings were reported by Jali SN et al [14] who found that mortality in the infectious etiology group was 24% and in the metabolic group was 28%.

We also found that mortality in the patients with age less than 50 years was more (12%) compared to mortality in patients with age more than 50 years (4%) which differs with findings which were reported by Jali SN et al who found that mortality

in patients above 60 years of age was 62.5 years. Xiao HY et al, also reported that the death rate was significantly more in AMS patients of age more than 60 years (10.8%) compared to patients of age less than 60 years (6.9%). This discrepancy in finding might be a result of significant number of elderly patients been lost to follow up.

CONCLUSION:

Patients with altered mental status were mostly males and older in age. Infectious etiology was the most common etiology of altered mental status in the present study. Overall mortality was 16% and it was affected by age and Glasgow coma score of less than five. Sample size is very small to make any reasonable conclusions. But this study can be a pilot for a largely study which can be undertaken.

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