



Article

Psychiatry Engagement in The Management of Delirium in General Hospital Patients

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ABSTRACT

Introduction: Delirium is a common and serious problem in patients with medical illnesses. The overall prevalence rate of delirium was 10~31% in-hospital general medical in-patient settings. The purpose of this study is to examine the characteristics of patients with delirium encountered during the consultation of psychiatric departments in other departments of general hospitals as a benefit of consulting a psychiatrist. **Methods:** We reviewed the medical records to collect relevant information. **Results:** The Confusion Assessment Method-Short (CAM-Short) scale was used to evaluate the severities. Twenty patients were recruited. The average age was 73.9-year-old. All the participants presented with hyperactive delirium. The average initial CAM score was 4.5 and then decreased to 2 after the follow-up. Most suggestions of treatment (19 in 20) or examinations (18 in 20) were accepted by consultees. In our study, the psychiatric department's consultation services have specific assistance to patients with delirium. **Conclusion:** The consulting physician should still track the follow-up status of the case and discuss the treatment of delirium with other physicians at an appropriate time.

Introduction

Delirium is a common and serious problem in patients with medical illness. Delirium is caused by a series of complicated pathophysiological mechanisms, and its core feature is a change in consciousness. According to the diagnostic criteria from the Diagnostic and Statistical Manual of Mental Disorders, fifth edition (DSM-5), the main characteristics of delirium include (1) attention and perception are disturbed; (2) this disturbance is acute in a short period of time; (3) the disturbance fluctuates easily during the day; and (4) cognitive distress is accompanied [1]. There are 3 recognized motor subtypes: hyperactivity, hypoactivity, and mixed [2].

Due to difficulties in performing studies in patients with cognitive impairment, high-level evidence of management of delirium is still limited. Prevention strategies remain the most important management. Basic principles include (1) avoiding factors known to cause or aggravate delirium, (2) identifying the underlying acute illness and providing appropriate treatments, (3) preventing further cognitive and physical decline with supportive and restorative care, and (4) low-dose, short-acting pharmacologic agents used only to control disruptive and risky behaviors [3–6].

Although delirium may be associated with a higher mortality rate [7], it is still often undiagnosed. The overall prevalence rate of delirium was 10~31% in hospital general medical in-patient settings [8]. A local study revealed lower rates of detection (44.9%) and treatment despite a high prevalence (46.9%) among terminal cancer inpatients. The same study also mentioned that hypoactive subtype delirium was significantly underdiagnosed compared to the hyperactive/mixed subtype,

with detection rates of 20.5% and 95.7-100% ($P < 0.0001$) [9].

Efforts have been made to identify risk factors for delirium. The risk factors mainly included age, chronic pathology such as dementia, acute illness especially involving the central brain system such as coma, and poor physical conditions such as conditions needing emergent surgeries or mechanical ventilation [4–6, 10].

Past research on delirium has aroused. Many experts in internal medicine and surgery are also involved in research in Taiwan [11–13]. However, delirium is the most common condition why psychiatrists were consulted. Although there is consensus to manage delirium by treating underlying diseases, disturbing behaviors and derived risks (e.g. falling) often require additional management (e.g. psychotropic agents). Therefore, it is necessary to re-examine the clinical situation to understand the difference between the management of delirium in the past and the current ward. The purpose of this study is to understand the characteristics of patients with delirium encountered during the consultation of psychiatric departments in other departments of general hospitals, the changes in treatment after the consultation, and the prognosis of treatment.

Method

The study period of this study is from March 2021 to June 2021. The recruiting site is Chi Mei Medical Center, with a total of 1288 beds in this hospital. The period of acceptance is from 2021/3/18 to 2021/5/18, investigating all the patients consulted to the psychiatric department with a diagnosis of delirium.

We reviewed the medical history and recorded the patient information to compare with prior trials: the patient's gender and age; risk factors including chronic neuro-

logical diseases and underlying psychiatric disorders; predisposing factors including acute brain lesions (central nervous system infection, hemorrhage, epilepsy), other site infections, metabolic disorders, indwelling pipelines, whether there was organ failure; type of delirium(hyperactive or hypoactive); admission route(from emergency room or outpatient department); and the unit applying consultation(ordinary ward, intensive care unit or emergency room). To compare the management of the original team and consulting psychiatrist, we also reviewed prescribed psychotropic agents before consultation.

We did a clinical interview to diagnose delirium according to DSM-5 criteria. For convenience, we used the Confusion Assessment Method-Short (CAM-S) scale to evaluate the severities, in which higher scores indicate higher disease severity. The Confusion Assessment Method (CAM) is now suggested as a standardized evidence-based tool for either psychiatrically or non-psychiatrically trained clinicians to effectively assess delirium in both research and clinical settings. Adapted from CAM, the Confusion Assessment Method for the Intensive Care Unit (CAM-ICU) is also widely used to detect delirium and assess severity in clinical settings. In our hospital, CAM-ICU was routinely performed among ICU patients. The validity and specificity of CAM-S were examined and proven [14].

We replied the consultation with standard forms for treatment suggestions including (1) laboratory test such as electroencephalography or brain image; (2) pharmacological treatment including adjusting doses of psychotropic agents and did tapering drugs such as benzodiazepines(B-ZD) or anticholinergic agents, which may worsen delirium; (3) non-pharmacologi-

cal management such as maintaining circadian rhythms, adequate environmental stimulus; (4) further disposition such as psychiatric outpatient clinic follow-up or psychiatric ward admission. We then contacted the original team for follow-up after 3 days of the consultation. The number of days of continuous treatment with psychiatric drugs after the psychiatric consultation, and whether the psychiatric administration recommendations and arrangements for inspections and hospital stays were also followed. We arranged our data with counting statistics. This study was approved by the IRB ethics review of Chi Mei Medical Center (IRB number: 11008-006).

Result

A total of 22 patients were recruited, and 2 of them were excluded due to incomplete information. Participant characteristics are summarized in Table 1. There were 7 women and 13 men included in the study. The average age was 73.9-year-old. Nineteen patients were admitted through the emergency department, and only 1 was admitted through the outpatient department. Fourteen cases were consulted in the ordinary ward, with 4 in the intensive care unit and 2 in the emergency room. All the participants presented with hyperactive delirium. Analysis of precipitating factors revealed that 4 cases had acute pathology of the brain, 16 had ongoing infection, 16 had metabolic derangements, 12 had indwelling Foley catheters or nasogastric tubes, 13 had chronic pathology of the brain and 8 had systemic organ failure.

The majority of participants were prescribed agents for treating delirium or agitation (15 in 20). The average initial CAM score was 4.5 and then decreased to 2 upon follow-up (Figures 1 & 2). Most

suggestions of treatment (19 in 20) or examinations (18 in 20) were accepted by the original team. The length of stay was 19.45 days on average, with 13 participants taking prescriptions for delirium at home (Table 2).

Table 1. Participant Characteristics of Delirium in General Hospital Patients

Variables	N (%) or Mean (SD)	
Age	73.9 (16.7)	
Gender		
Male	13	(65%)
Female	7	(35%)
Patient admitted from		
Emergency room	19	(95%)
Outpatient department	1	(5%)
Unit of consultation		
Ordinary ward	14	(70%)
Intensive care unit	4	(20%)
Emergency room	2	(10%)
Type of delirium		
Hyperactive	20	(100%)
Hypoactive	0	(0%)
Acute pathology on brain		
CNS infection only	3	(15%)
Hemorrhage only	2	(10%)
Seizure only	1	(5%)
Infection & Hemorrhage	1	(5%)
Hemorrhage & Seizure	1	(5%)
None	16	(80%)
Chronic pathology on brain		
Neurologic disorders only	6	(30%)
Psychiatric disorders only	10	(50%)
Previous brain disease & Psychiatric disorders	4	(20%)
None	8	(40%)
Evidence of infection	16	(80%)
Metabolic derangements	16	(80%)
Catheter indwelling	12	(60%)
Systemic organ failure	8	(40%)
Psychotropic agents before consultation		
Antipsychotics only	14	(70%)
Antidepressant only	9	(45%)
BZDs only	10	(50%)
Antipsychotics & Antidepressant	3	(15%)
Antipsychotics & BZDs	6	(30%)
Antidepressant & BZDs	2	(10%)
Antidepressant & Antipsychotics & BZDs	3	(15%)
None	4	(20%)

Table 2. Outcome Analysis of Delirium in General Hospital Patients

Variables	N (%) or Mean \pm SD	
Initial CAM score	4.5	\pm 1.6
Follow-up CAM score	2	\pm 1.3
Prescription as suggestion		
Accepted	19	(95%)
Modified	1	(5%)
Survey as suggestion		
Yes	18	(90%)
No	2	(10%)
Discharge with prescription drugs		
Yes	14	(70%)

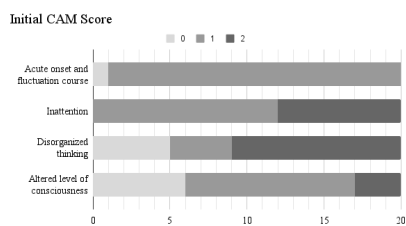


Figure 1. Distribution of CAM-short scores at the initial consultation visit. The vertical axis is the four CAM-short questions. The horizontal axis is the cumulative number of cases. The color is the severity of each symptom.

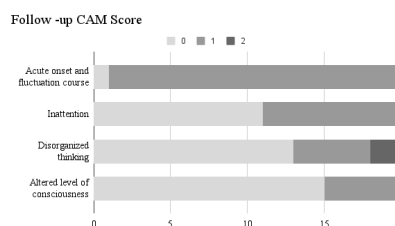


Figure 2. Distribution of CAM-short scores after 3 days of the consultation. The vertical axis is the four CAM-short questions. The horizontal axis is the cumulative number of cases. The color is the severity of each symptom.

Discussion

In this retrospective study, most of the patients were elderly patients, more than half of the patients had chronic brain diseases or organ failure problems, and almost all were admitted through the emergency department. Upon consultation, more than half of the cases were undergoing infections, metabolic imbalances, or indwelling pipelines, indicating that the patients were in poor clinical condition at the time. Prior studies also mentioned these risk factors [4–6, 15–17].

Instead of units where delirium was more likely to occur, such as intensive care units and emergency departments, general wards issued most of the notes. The possible reason was that intensive care units and emergency departments had more experience handling delirium patients [18]. All the noted cases were hyperactivity type delirium. Hypoactivity delirium was not easy to detect and required less additional treatment. The results correspond to previous local studies [9, 19].

Most of the teams had started trying to

treat delirium before the consultation. They called the psychiatric department only when the response was limited. The most commonly used drugs were second-generation antipsychotics. In addition, antidepressants (such as trazodone) or BZDs were also commonly used for sleep aids. This may be because many patients had begun to experience irregular circadian rhythm before obvious agitation or psychotic symptoms appeared. The psychiatrist's recommendations also suggested second-generation antipsychotic drugs as the main line of medication, which is consistent with most current treatment guidelines [20]. Haloperidol given by intramuscular injection was only used for emergencies, for example, when agitation was severe. Such a change is related to the fact that delirium patients, mostly elderly patients, are often under complex clinical conditions that need to consider the risk of side effects (such as extrapyramidal syndrome, QTc prolongation, etc.).

The main difference between the original team's treatment and the psychiatric recommendations was that (1) antipsychotic agents were not used or used at insufficient doses of antipsychotics and (2) anticholinergic agents or BZDs, which may prolong the course of delirium and increase the patient's burden, were still used after the onset of delirium symptoms. This study also found that more than half of the patients still took antipsychotic drugs after being discharged from the hospital. This finding not only indicated the patient's course of illness but may also be the result of original teams failing to assess the timing of drug withdrawal and not consulting again. This highlights the importance of psychiatric professional evaluation, and recommendations for the treatment of delirium cannot be replaced.

The strength of this article is to quantify

the severity of delirium and include almost all patients with delirium for a period of time. The research results are also in line with clinical practice experience. The limitation is that the cases are not randomly distributed at the time of admission, and the influence of the inducing factors is complicated. The results may not correspond to other general hospital situations. Additionally, we only included cases issued for consultation instead of screening generally. Whether the consultation is issued may be affected by the perception of the original team and cannot represent the common phenomenon of all inpatients. In addition, the impact of other drugs used in combination was not included. In this study, for efficiency, only the CAM-short scale was used for evaluation.

Conclusion and Suggestions

From a clinical point of view, psychiatric consultation services have great help to patients with delirium. The consulting physician should still track the follow-up status of the case and discuss the treatment of delirium with other physicians at an appropriate time. In terms of research development, we can try to use psychiatric diagnostic interviews or more complete scales for more comprehensive assessments in the future.

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