

Case report

Prolonged delirium in a tertiary care psychiatry unit in Sri Lanka

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Introduction

Delirium is defined as a neurocognitive disorder with an acute onset and a fluctuating course¹. It presents with disturbances of multiple cognitive domains such as consciousness, attention, orientation, memory, thought, perception and behaviour¹. Delirium presents in different forms such as hyperactive, hypoactive or mixed forms². Many with pre-existing dementia may present with delirium³.

In most patients delirium is transient¹. Patients may achieve complete recovery when the cause is self-limiting or is found and treated promptly. However among elderly hospital inpatients the prognosis is found to be poor⁴. Delirium in the elderly is associated with cognitive impairment and functional disability⁵. Having delirium predicts high rates of institutionalisation and mortality⁶.

Poor prognosis of delirium among older hospital patients may be due to persistence of delirium, rather than the occurrence of an episode of delirium per-se⁷. This has important implications for clinical practice and outcome of patients suffering from delirium. Cole et al. have defined persistent or prolonged delirium as 'a cognitive disorder that met accepted diagnostic criteria for delirium at admission and continued to meet criteria for delirium at the time of discharge or beyond'⁷. According to a systematic review of patients diagnosed with delirium the proportions with prolonged delirium at discharge, 1, 3 and 6 months were 44%, 33%, 26% and 21% respectively⁷.

The published medical evidence on prolonged delirium is limited worldwide. Even though there has been a systematic review on persistent delirium, the presented data is insufficient to draw significant conclusions⁷. We could not find any published studies on prolonged delirium for Sri Lanka. Considering the Western data it is likely that this clinical entity is present in Sri Lanka as well. Therefore it would be prudent to assume that prolonged delirium might be unrecognized in our patients.

In this article we provide clinical details of two inpatients treated at the University inpatient Psychiatry Unit at the Colombo North Teaching Hospital, Ragama. Informed written consent was obtained from both clients and their family members when recovered for inclusion of their clinical details in this publication.

First Patient

A 56 year old male presented with poor sleep, irritability and disorientation of time of two weeks duration. He had developed epilepsy following a traumatic subdural haematoma two

years back. He was on carbamazepine with questionable adherence. The last seizure was a day prior to admission. After admission the neurologist optimized his anticonvulsant treatment by adding phenytoin sodium. He did not develop further seizures. He had fluctuating consciousness and agitation accompanied by emotional lability and intermittent physical aggressiveness over the 4 weeks of inpatient care.

On assessment this male patient had features of inattention with inability in focusing and sustaining attention. These symptoms occurred within a day according to the family members. On mental state assessment the patient appeared perplexed with impairment of short and long term memory. He was disoriented in time, place and person from time to time. There were no psychotic features or perceptual disturbances. He was diagnosed with delirium according to the diagnostic and statistical manual of mental disorders 5th edition (DSM 5) of the American Psychiatric Association¹.

There was evidence of urinary tract infection in his urine full report (UFR) done at admission. Even though he was treated with oral antibiotics and subsequent UFR and culture was negative, he remained delirious. His renal, liver, cardiac, respiratory, thyroid investigations were normal. His electroencephalogram (EEG) showed features of early encephalopathy and plain computed tomography scan of the brain was normal, other than for the past evidence of cranial surgery. He continued to have some residual symptoms on discharge in the form of fluctuating consciousness especially towards the afternoon and impaired attention as tested by the digit span and serial sevens test.

An extended cognitive assessment with lobar functions was done one week after admission, on discharge (four weeks after admission) and on first clinic visit (seven weeks from the onset of symptoms and one week after discharge). In relevance to the frontal lobe functions, the assessment was based on the frontal assessment battery (FAB)⁸. In the initial cognitive assessments done at one week after admission and at discharge it was difficult to quantify the cognitive functions as many of his general cognitive domains such as attention and orientation were affected. In the cognitive assessment done one week after discharge (seven weeks from the onset of symptoms) using structured assessment tools validated to Sri Lanka in the form of the mini mental state examination (MMSE) and the Montreal cognitive assessment (MOCA)⁹ and clinical examination, the inattention and orientation had improved and there was no evidence of mild or major neurocognitive disorder according to the DSM 5 criteria. His detailed cognitive assessment returned to the accepted level for his age only seven weeks after the beginning of symptoms. The patient did not have any further seizures during this period.

Second Patient

A 58 year old male was admitted with suspiciousness towards his spouse. There was related physical aggression towards the spouse. The patient had been drowsy for a day prior to admission. He met criteria for alcohol dependence and had stopped alcohol abruptly three days before. He had fluctuating levels of consciousness, disorientation in time and place, and poor attention span.

The onset of these symptoms occurred over days according to information from the family. On mental state assessment the patient appeared drowsy with impairment of short and long term memory. This patient was disoriented in time, place and person intermittently. No psychotic features or perceptual disturbances were found. This middle aged man was diagnosed with delirium clinically according to the DSM 5¹.

His assessment revealed the presence of severe withdrawal state according to the clinical institute withdrawal assessment scale revised version (CIWA-Ar)¹¹. He was treated with titrating doses of long acting benzodiazepines and high dose parenteral thiamine. At the end of two weeks' inpatient stay there was no clinical features of alcohol withdrawal and the CIWA scores were not significant for alcohol withdrawal.

His delirium persisted for more than four weeks after admission. He had breathlessness and bilateral lung crepitations on clinical examination. He had evidence of lung infection on chest radiograph on both lungs. There was hyponatraemia on serum investigations and the initial serum sodium value was 126 mEq/L. The management of the above conditions were done in liaison with the medical team. His clinical status improved significantly with treatment of the above medical problems. On discharge his repeat chest radiograph showed resolving of features of lower respiratory tract infection and his serum sodium values were in normal range. In addition his renal, liver, cardiac and thyroid investigations were normal.

An extended cognitive assessment with lobar functions was done one week after admission, on discharge and on first clinic visit. In the initial cognitive assessments it was difficult to quantify the cognitive functions as many of his general cognitive domains such as attention and orientation were affected. In relevance to the frontal lobe functions the assessment was based on the FAB⁸.

On discharge at 4 weeks inpatient stay he remained to have residual cognitive impairment in the form of impaired attention span as measured by the digit span test and serial sevens test. Furthermore his short term memory was still found to be impaired as tested by the recall of the five item address. Nevertheless the semantic and autobiographical memory appeared to have improved significantly. These impairments persisted despite no clinical and radiological features of lower respiratory tract infection and normal serum sodium levels.

At one week's follow up after discharge, there was no evidence of mild or major neurocognitive disorder according to the DSM 5 criteria using clinical as well as validated assessment tools such as MMSE and MOCA^{9,10}. The cognitive assessment reached the accepted level for his age only after one week from discharge.

Discussion

These case reports highlight the persistence of delirium in vulnerable adults even after correction or treatment of underlying medical co-morbidities. It is important to understand that delirium can take time to resolve completely. Half of the patients seem to improve at three months duration as shown by past prospective studies¹². Clinicians may have to be patient, while ensuring that the medical parameters are stable. Even when the physical parameters have returned to normal levels the changes in cognitive functions may persist.

The exact causation of the prolonged delirium is not known⁷. The aetiological factors in each patient may differ. The persistence of delirium may be related to the initial cause for the symptoms. In these patients the neurobiological changes that occurred with the onset of delirium may have not returned to baseline despite the physical and biochemical investigations reaching normal values.

According to the available evidence, the sooner the patient recovers the better the prognosis¹². The occurrence of prolonged delirium may be higher in patients with complex co-morbidities such as dementia or head injury, as seen in the first patient. In this patient, direct or indirect consequences of his head trauma may have contributed to his presentation although he had been stable for many years after the head injury. Prolonged delirium after

cessation of heavy alcohol consumption is a known clinical entity¹³. There have been reports of delirium tremens persisting for weeks¹⁴. This is a possible cause for the prolonged delirium in the second patient.

Studies have shown that the presence of prolonged delirium leads to functional impairment in patients¹⁵. Therefore this clinical entity adds to the burden of the carers of the affected patient. In addition the increased mortality needs to be considered⁶. Considering these facts, the detection and management of prolonged delirium is of utmost importance in clinical settings. Further studies in Sri Lankan patients would help to improve our understanding of this problem and ultimately improve patient care.

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