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JCIMCR OPEN ACCESS Journal of Clinical Images and Medical Case Reports

ISSN 2766-7820

Case Report

Open Access, Volume 3

A case of catatonia

Doriella Camilleri née Galea[1]*; Malcolm Vella[2]

[1]Saint Vincent de Paul Residence, Malta.

[2]Mater Dei Hospital, Malta.

***Corresponding Author:**

Doriella Camilleri née Galea

Saint Vincent de Paul Residence, Malta.

Email: galeadoriella@gmail.com

Received: Jul 08, 2022

Accepted: Aug 01, 2022

Published: Aug 08, 2022

Archived: www.jcimcr.org

DOI: www.doi.org/10.52768/2766-7820/1987

Abstract

A 67 year old lady presented with increasing lethargy and worsening of performance of activities of daily living. She was haemodynamically stable and investigations were unremarkable except for mild dehydration and high INR. She was admitted for further management. She remained well, until she was noticed to have deteriorated in GCS (responsive to pain). She subsequently suffered from aspiration pneumonia and type I respiratory failure requiring Intensive Care Unit (ICU). Electroencephalography (EEG) showed non-specific slowing, while a magnetic resonance of the head and lumbar puncture were normal. She was reviewed by the psychiatrist and a trial of lorazepam was given with no improvement. Electroconvulsive Therapy (ECT) was performed and patient slowly improved. She required intensive rehabilitation by the interdisciplinary team.

Case description

A 67 year old lady with hypertension, type two diabetes mellitus, hypothyroidism, depression and deep vein thrombosis, independent in activities of daily living who was admitted with one month history of lethargy. She was noted to have deterioration in the activities of daily living, and was complaining of shortness of breath.

She had been recently discharged with a diagnosis of psychogenic dyspnoea following a normal coronary angiogram and negative computed tomography of the pulmonary arteries. On admission she had a GCS of 15, pulse of 65 bpm, blood pressure of 130/67 mmHg, and oxygen saturation of 98% on air and a random glucose of 12.8 mmol/L. Physical examination was unremarkable.

Blood investigations demonstrated a normal full blood count, a slight creatinine rise to 121 mmol/L (from a baseline of 71 mmmol/L). Electrolytes, creatinine kinase and inflammatory markers were normal. She had an INR of 4.2. Arterial blood gases showed a low carbon dioxide with normal oxygen saturation and a lactate of 1.1 mmol/L. Electrocardiogram showed normal sinus rhythm, chest X-ray was normal and Computed Tomography (CT) of the brain was normal.

She was admitted for intravenous hydration and reversal of warfarin therapy. Psychiatrists reviewed the patient and had the impression of hypoactive delirium.

She remained well on the ward until on day 5 she was noted to become drowsy and opened eyes on stimulation. Renal function had improved and INR returned to baseline. She had a neurology review whereby a collateral history confirmed that she had deteriorated over the previous weeks. She had never required hospitalisation for her psychiatric condition. Examination confirmed that she only opened eyes on pain stimulation. She had another psychiatric review and it was advised to treat the underlying organic problem.

On day 6 she was reviewed in view of oxygen saturation of 84% on non rebreather. She was responsive to pain with a random glucose of 32 mmol/L on arterial blood gases. There was no acidosis. Auscultation of the chest was limited in view of poor respiratory effort. Portable chest X-ray confirmed aspiration pneumonia and she was started on intravenous piperacillin

tazobactam and intravenous actrapid pump. Patient was transferred to Intensive Care Unit (ICU) for oxygenation and support.

Patient remained in the same general condition and was tolerating Continuous Positive Airway Pressure (CPAP). Electroencephalography (EEG) showed non-specific slowing, while a magnetic resonance of the head was normal. She was given repeated doses of vitamin K for reversal of warfarin therapy.

On day 10 INR was 1.4. Lumbar puncture was performed and results were unremarkable.

On day 11 psychiatrists reviewed the patient and advised to give a trial of lorazepam 2 mg three times a day. Despite three days of lorazepam, patient did not improve and psychiatrists advised to increase lorazepam to 12 mg daily. The patient's level of consciousness remained the same, and on day 16 the psychiatrist agreed to perform Electroconvulsive Therapy (ECT). A second session of ECT was performed on day 20 and the patient became more responsive, opened eyes spontaneously and moved all four limbs spontaneously. She had a slow yet gradual improvement after a series of ECTs. She was transferred to a medical ward where she was seen by the inter disciplinary team.

She was reviewed by geriatricians who confirmed that she would benefit from rehabilitation.

Patient improved, was able to tolerate food and was verbalising. She also improved from mobility point of view.

Discussion

Catatonia is a state of apparent unresponsiveness to external stimuli in a person who is apparently awake. It may be subdivided into catatonia specifier (associated with mental disorder), catatonia disorder associated with a medical condition and unspecified catatonia [6].

Catatonia is a diagnosis of exclusion and the main differential diagnosis include neuroleptic malignant syndrome, encephalitis, non convulsive status epilepticus and acute psychosis [1].

DSM-5 criteria states that there needs to be three or more features from the following features – stupor, cataplepsy, waxy flexibility, mutism, negativism, posturing, mannerism, stereotyping, agitation, grimacing, echolalia and echopraxia [1,2,10].

Diagnostic tests include laboratory studies including full blood count, electrolytes, fibrin D-dimer, creatinine kinase, liver function tests and serum careuloplasmin. Imaging for such patients would include MR head, CT brain, Single Positron Emission CT (SPECT) and Position Emission Tomography (PET) with Fluorodeoxyglucose (FDG) [1].

The pathophysiology is poorly understood and heterogenous aetiologies have been suggested. Amongst these include deficits in fetal cortical development which may result in schizophrenia and other developmental disorders. Patients with mental retardation, autism or other developmental issues have an increased susceptibility. Imbalances in the excitatory-to-inhibitory ratio may also play a role [1].

International statistics are lacking, and the frequency of this condition is unknown. There are a few published cases; and varying from region to region. Such patients may be undiagnosed in developing countries with poor medical resources. The prevalence of catatonia among inpatients of psychiatric hospitals vary from 16.9% in Spain to 9.6% in Wales. Catatonia is rare in preadolescent children and is mostly reported in adults. There is a female to male ratio of 3:1 for catatonic schizophrenia and a 1:1 ratio for all forms of catatonia [6].

Treatment includes pharmacological measures including benzodiazepines and tricyclic antidepressants [7,8]. ECT also known as "shock therapy" may be used and it involves the induction of seizures in patients. There is lack of clinical efficacy as to this treatment but it is generally acknowledged that it helps patients with drug resistant catatonia [3-5].

Recovery rates vary from 12% to more than 40% regardless of treatment administered. There is a 70% responsive rate to benzodiazepines. High clinical suspicion for catatonia is essential not to delay treatment as any delay is associated with poor prognosis. Patients with any mental condition tend to do worse than those without psychiatric history. Patients with catatonia are apparently at a greater risk of thromboembolic disease. Most patients would require supportive therapy at ICU [9,11].

Conclusion

Catatonia is a complex disorder which requires a high index of suspicion for diagnosis. It is mostly a diagnosis of exclusion and early treatment is important for better outcomes. Catatonia is commoner in patients with psychiatric conditions and these tend to have a poorer prognosis. Little is known about this condition as it is rare and may frequently go undiagnosed.

Learning points

Catatonia is a rare condition which is characterised by a state of apparent unresponsiveness to external stimuli in a person who is apparently awake.

Aetiology is poorly understood; and treatment options include pharmacological as well as Electroconvulsive Therapy (ECT). It is commoner in patients with a psychiatric history; and such patients have a poorer prognosis.

A high index of suspicion is required for early treatment of catatonia.

An inter disciplinary approach is important in the prolonged recovery of these patients.

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