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Tragedy of a Catatonia Preceding and Complicating a Neuroleptic Malignant Syndrome

J. Salim[1*], W. Mansouri[1], Y. Amara[1], K. Benallel[1], K. Mouhadi[1], M. Kadiri[1]

[1]Psychiatry Department, Mohammed V Military Teaching Hospital, Rabat

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***Corresponding author:** J. Salim
Psychiatry Department, Mohammed V Military Teaching Hospital, Rabat

Abstract **Case Report**

Catatonia is a complex psychomotor syndrome characterized by a range of motor, behavioral, and autonomic abnormalities. While commonly associated with psychiatric disorders, particularly schizophrenia, catatonia can also result from non-psychiatric etiologies. Malignant catatonia is a rare and life-threatening form of the syndrome that can overlap clinically with neuroleptic malignant syndrome (NMS), particularly when precipitated by antipsychotic treatment. We present the case of an 18-year-old male with no psychiatric history who developed catatonic symptoms and was mistakenly treated with antipsychotics, leading to the onset of NMS. After stabilization in intensive care, he was diagnosed with catatonia and treated with benzodiazepines and Amisulpride but ultimately succumbed after 15 days of hospitalization. This case highlights the diagnostic challenges in distinguishing between malignant catatonia and NMS, as both conditions may share clinical features and may respond to similar treatments such as benzodiazepines and electroconvulsive therapy (ECT). The case underscores the critical importance of early recognition and appropriate intervention to prevent fatal outcomes. Delayed or inappropriate treatment significantly increases the risk of complications including thromboembolism, dehydration, and organ failure. ECT, when administered early, is associated with better prognosis. Our case reinforces the need for heightened clinical awareness and prompt multidisciplinary management.

Keywords: Malignant catatonia, Neuroleptic malignant syndrome, Electroconvulsive therapy, Antipsychotics, Psychomotor syndrome, Psychiatric emergency.

1. INTRODUCTION

Catatonia is a psychomotor syndrome described by Kahlbaum in 1874 and characterized by motor, behavioral and neurovegetative signs [1]. The definition of catatonic syndrome has recently been clarified in the DSM 5 [2], and is characterized by 12 specific signs: stupor, catalepsy, waxy flexibility, mutism, negativism, posturing, mannerism, stereotypies, agitation, grimacing facial expression, echolalia, echopraxia [3, 4]. The presence of 3 of these signs allows the diagnosis to be made. The prevalence of this syndrome remains significant today, estimated at around 9-10% of patients treated for an acute psychiatric disorder. A recent meta-analysis targeting studies from 1935 to 2017 found a current prevalence of the syndrome estimated at 9.2% and noted that it remained globally stable throughout the period studied [5]. Catatonia has long been associated exclusively with schizophrenia, but its etiologies are now recognized as plural, psychiatric (about 70% of situations) or not (neurological, metabolic, inflammatory, iatrogenic, etc.) [5, 6]. In the absence of diagnosis and therefore of appropriate management, this syndrome can be responsible for numerous complications (bedsores, dehydration, malnutrition, thromboembolic complications, etc.) [7], which can lead to death, particularly in the case of malignant catatonia, where the mortality rate can be as high as 50% in the absence of treatment [8]. Once the diagnosis has been made, effective treatments are available, often allowing complete remission: benzodiazepines and electroconvulsive therapy (ECT) [9, 10].

2. CASE REPORT

A 18 years old mal patient, with no personal history of mental illness, addictive behaviors or other medical or surgical pathologies, besides a psychotic brother. The onset of the symptoms was brutal due to a bizarre behavior. The patient would have taken an attitude of opposition to any request from his entourage with a mutism. On day 3, the patient would be brought back by the family to a psychiatrist who would have put him on neuroleptics, and three days later the patient

would have presented a disorder of consciousness then admitted into intensive care. A psychiatric opinion was requested and the diagnosis of a neuroleptic malignant syndrome was made in the face of CPK levels of 2257 IU/l, a fever of 38.7°C, extrapyramidal rigidity, altered consciousness, diaphoresis, and hyperleukocytosis of 14500/mm3. After one week and in view of the normalization of the CPK and leukocytes, and the disappearance of the fever, the patient was transferred to the psychiatric ward. The psychiatric examination came back in favor of a cataotnic syndrome. Biological profile and hemodynamic constants were reassuring and the patient was then administered injectable BZD and was given a nasogastric tube to deliver food and Solian. We started with 400mg/d of Solian and then on day 7 of hospitalization we increased to 600mg/d.

3. DISCUSSION

General catatonia is relatively common, with a prevalence of 7 to 18% among psychiatric inpatients. In contrast, malignant catatonia occurs less frequently, and although epidemiological data are scarce, the incidence of malignant catatonia in psychiatric inpatients has been estimated at 0.07-0.23% [11].

Our patient presented a pre-catatonic state complicated by a neuroleptic malignant syndrome and then catatonia following the intake of Haloperidol. However, the distinction between these two entities is not always easy and in the literature we find two opposing views, The first is that catatonia and neuroleptic malignant syndrome are two disorders belonging to the same spectrum. This is the most supported point of view represented in the literature and considers that catatonia is a risk factor for neuroleptic malignant syndrome. The second point of view, which is in the minority, even though it is supported by history, considers catatonia and neuroleptic malignant syndrome as two distinct entities, in consideration of the fact that the description of catatonia by Kahlbaum in 1874 was well before the invention of neuroleptics, which makes it difficult to relate it directly to neuroleptic malignant syndrome [12-15].

However, subjects responding to the diagnosis of malignant syndrome also respond to the diagnosis of catatonia. The possible occurrence of catatonia after treatment with neuroleptics has frequently caused doubt about the diagnosis, and the possible response of the malignant syndrome to benzodiazepines described by some authors adds to the confusion between the two entities [12-15].

On admission to our department, the patient refused to eat or drink with catalepsy and negativism, symptoms that are encountered in most cases of malignant catatonia [1-14].

Malignant catatonia is a life-threatening condition, any delay in diagnosis or treatment increases morbidity and mortality, which implies intensive care unit management and stabilization with collaborative psychiatric management [13-15]. Malignant catatonia is a potentially fatal condition, any delay in diagnosis or treatment increases morbidity and mortality, which implies intensive care unit management and stabilization with collaborative psychiatric management [13-15]. In general, the risk of death is related to complications if not recognized or treated. Indeed, prolonged immobilization predisposes to the risk of tromboembolism, contractures and stress ulcers, and the refusal to eat and drink can cause dehydration with weight loss and electrolyte disorders [16].

In the case illustrated here, the patient was initially treated with intramuscular benzodiazepines (Diazepam) and subsequently Amisulprid was associated and the patient died after 15 days of hospitalization in our department. In the literature, the treatment of malignant catatonia is based on the association of Benzodiazepines (BZD) and electroconvulsive therapy (ECT) which gives good results with a remission rate of 76.7% and 0 deaths. On the other hand, mortality increases with BZD alone (8.3%) or ECT alone (17.4%) and can reach 37.5% [11], to 70% [13], with antipsychotics alone. Other authors advocate treatment with BZDs alone in the first line and recourse to ECT if therapeutic failure occurs [14-16], however, ECT seems to be effective only if it is initiated before a severe progression of the symptoms of malignant catatonia. Sedvic [17], pointed out that the onset of coma or temperature above 41°C predicts a poor response even to ECT. Arnold and Stepan [18], found that of 19 patients who started ECT within 5 days of the onset of hyperthermia, 16 survived, whereas in 14 patients who started treatment after that time, ECT had no effect on survival.

4. CONCLUSION

Malignant catatonia is a rare but potentially fatal disease, it is a condition requiring immediate medical intervention, as it is associated with multiple complications that can be life threatening if not recognized or not managed properly. Prolonged bed rest increases the risk of thromboembolism and contractures. In addition, limited fluid intake and nutrition increase the risk of dehydration, electrolyte disorders and weight loss. Neuroleptic malignant syndrome (NMS) must be excluded because there is a similarity of symptoms and some authors consider NMS as a variant of malignant catatonia or drug-induced catatonia.

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