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Prevalence and clinical correlations of catatonia in older adults referred to a liaison psychiatry service in a general hospital

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ABSTRACT

Aim: To determine the frequency and clinical correlations of catatonia in older patients referred to a liaison psychiatry service in a general hospital.
Patients and Methods: All patients over 65 years referred to liaison psychiatry were screened for catatonic phenomena with the Bush–Francis Catatonia Screening Instrument (BFCSI) between January and May 2012. Their clinical characteristics and the outcome of treatment were recorded.
Results: One hundred and twelve patients over 65 years were referred. Ten (8.9%) met research diagnostic criteria for catatonia and 7 (6.3%) *Diagnostic and Statistical Manual of Mental Disorders, 4th Edition* criteria for catatonia. All patients presented with the inhibited variant and 5 to 12 catatonic signs. Three patients presented concomitant delirium. The etiology of catatonia was multifactorial, and complications and death were frequent (40% and 20%, respectively). Lorazepam achieved full resolution of catatonia in 50% of patients.
Conclusions: Catatonia in older adults referred to liaison psychiatry in a general hospital is not infrequent and has a multifactorial etiology. The BFCSI is a simple and reliable instrument to detect catatonia in this population. Lorazepam seems to be an effective treatment.

1. Introduction

Catatonia is a complex neuropsychiatric syndrome characterized by a variety of motor, behavioral and autonomic abnormalities that occur in the context of general medical, neurological and psychiatric conditions, as well as associated to a variety of medications and drugs of abuse [1]. Many reports between 1970 and 1990 revealed the presence of this syndrome in various medical and neurological disorders and thus the categories of "organic catatonia" and of "catatonia secondary to a general medical condition" were added to International Classification of Diseases, 10th Edition and the *Diagnostic and Statistical Manual of Mental Disorders, 4th Edition* (*DSM-IV*), respectively [2,3].

The vast majority of studies relating to catatonia have been conducted in populations of adults of working age [1], but in the last few years, there have been more frequent reports relating to this syndrome in pediatric and adolescent populations [4]. Unfortunately, studies of catatonia in older adults are sparse despite the observation that this age group presents with a higher risk of serious complications with undetected and/or untreated catatonia [5].

In order to ascertain the frequency of catatonia and its clinical correlates in older patients, we describe the clinical characteristics, symptom duration, underlying conditions, response to treatment and progress in 10 cases of catatonia in patients older than 65 years of age who were detected over a period of 4 months by a liaison psychiatry service at a general hospital.

2. Methods

2.1. Subjects

All patients over the age of 65 referred to the liaison/consultation psychiatry service at the Complejo Hospitalario de Navarra (CHN), Pamplona, Spain, were assessed between January 19 and May 18, 2012. They were all screened for signs of catatonia using the Bush–Francis Catatonia Screening Instrument (BFCSI) [6]. This instrument had been incorporated into the routine assessment of patients referred to the service by a new senior member of the medical staff. Participating patients were those who presented with two or more catatonic phenomena in the above instrument. CHN is a general university hospital providing secondary and tertiary healthcare to a population of circa 650,000 in the Navarra region, Spain. It has 1100 beds and all medical and surgical specialties. Two liaison psychiatry specialists and a senior resident in psychiatry provide medical input to the liaison/consultation psychiatry service at the hospital.

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2.2. Clinical information

For all patients referred, the following information was collected: sociodemographic data, past medical, psychiatric and drug history, findings of the clinical evaluation, diagnosis, treatment, progress, complications/outcome and results of blood investigations, electroencephalogram (EEG), brain computed tomography (CT) scan and head MRI scan. Any psychiatric diagnosis associated with catatonia was made according to *DSM-IV* criteria [3].

2.3. Evaluation of motor abnormalities

Those patients in whom two or more catatonic symptoms were detected using the BFCSI were further assessed for symptom severity with the Bush–Francis Catatonia Rating Scale (BFCRS) [6]. The BFCSI screens for the 14 most common catatonic signs (excitement, immobility/stupor, mutism, staring gaze, posturing/catalepsy, grimacing, echopraxia/echolalia, stereotypies, mannerisms, verbigeration, rigidity, negativism, waxy flexibility and withdrawal) [1,6,7]. Two or more signs of catatonia need to be present for at least 24 h [6]. The BFCRS comprises the 14 items of the BFCSI plus 9 other signs (impulsivity, automatic obedience, Mitgehen, Gegenhalten, ambitendency, grasp reflex, perseveration, combativeness and autonomic abnormality). In this scale, the 14 plus 9 items are given a score of 0 to 3 to reflect their severity [6,7]. The BFCRS has demonstrated to be reliable in its use in different populations susceptible to catatonia, and it is preferred for its routine use given its validity, reliability and ease of administration [8]. The BFCRS has been proven to be a useful instrument for the detection of catatonia [6] and to have a high sensitivity to detect response to treatment [7].

In addition, for each subject, the duration of catatonic signs was recorded and classified as acute if they had been present for less than 10 days or subacute/chronic for sign duration higher than 10 days. The diagnosis of catatonia was also made using *DSM-IV* [3] diagnostic criteria and also using the diagnostic criteria proposed by Fink and Taylor [1].

The presence of delirium was assessed with the Confusion Assesment Method (CAM) [9].

2.4. Treatment

Treatment with benzodiazepines was initiated in those patients with two or more catatonic signs on the BFCSI except in those with delirium. Lorazepam orally was used and/or clorazepate i.m. for those unable to take medication orally. Parenteral lorazepam is not available in Spain. The treatment regime was modeled in that proposed by Rosebush and Mazurek [10]. Catatonic phenomena were reevaluated daily using the BFCRS until their complete resolution. The total dose of benzodiazepines that was effective in resolving catatonia was then continued until the satisfactory resolution of the underlying cause. This was also treated concomitantly by the referring medical teams. In patients with delirium, the underlying cause was also treated, and catatonic signs were monitored daily using the BFCRS. In all cases, measures to prevent complications of catatonia and also the active treatment of any of them present were also implemented [11].

3. Results

During the 4 months of the study, a total of 112 referrals of patients older than 65 were received by the consultation/liaison psychiatry team. Ten patients presented with two or more signs of catatonia on the BFCSI. All cases met diagnostic criteria for catatonia as devised by Fink and Taylor [1] (8.9% of the whole sample), and 7 (6.3%) also met *DSM-IV* diagnostic criteria for catatonia [3]. Three patients simultaneously met *DSM-IV* diagnostic criteria for delirium [3]. During the same period of time and using the same methodology described above and the *DSM-IV* and Fink and Taylor criteria, the frequency of catatonia in patients referred who were younger than 65 years of age was 2.4% (3 cases of a total of 124 referrals). Combining patients older than and younger than 65, the frequency of catatonia was 5.5% (13 out of 236 cases referred to consultation/liaison psychiatry). Thus, patients over the age of 65 were 3.95 times more at risk of developing catatonia than patients who were younger than 65 years of age (odds ratio: 3.95, 95% confidence interval: 1.06–14.75).

Of the 10 older patients with catatonia, 5 were men and 5 women. Mean age was 81.1 +/− 6.2 (69–90). Five referrals came from internal medicine, two from neurology and one from neurosurgery, cardiology and cardiac surgery, respectively. All patients presented with the inhibited variant of catatonia and between 5 and 12 catatonic signs (mean: 8.8). The total severity score on the BFCRS fell between 10 and 26. All patients presented with immobility/stupor and staring gaze, 90% presented with rigidity and 80% with mutism and withdrawal. Seventy percent presented with negativism and posturing/catalepsy, 60% with echophenomena and automatic obedience and 40% with stereotypies. Grimacing, Mitgehen and Gegenhalten were found in 30% of cases and waxy flexibility and combativeness in 20%. In 10% of cases there were verbigeration, impulsivity, perseveration and autonomic abnormalities. Excitement, mannerisms and ambitendency were not observed in any case.

Four patients had a medical diagnosis that was felt to be related to their catatonia. Case 7 had neurological pathology (subacute right thalamic infarct), Case 2 metabolic abnormalities (moderate hyponatremia, with sodium values between 120 and 128 mmol/l), and Case 3 had both metabolic and neurological abnormalities (postsurgical sequelae of meningioma and moderate–severe hyponatremia, with sodium values between 118 and 125 mmol/l) and the fourth had been exposed to antipsychotic medication. This patient, Case 10, had been exposed to risperidone, haloperidol and tiapride 72 h prior to admission as a result of an episode of agitation and aggressive behavior. Two patients became catatonic following extubation (Cases 1 and 4) (one following surgery for an aortic valve replacement, without any intra- and postoperative complications, and another following severe respiratory failure secondary to pneumonia). These two patients had a history of depression, one severe with psychotic symptoms, and the other had an episode that resolved completely. Both patients were taking antidepressants (fluoxetine and venlafaxine, respectively) and stable doses of atypical antipsychotics (see Table 1). These two patients, at the time of presentation of the catatonic syndrome, did not present with any other major physical health problem or with any abnormalities in blood investigations or neuroimaging.

Cases 5 and 8 were admitted for assessment of progressive cognitive impairment, and no other causes were found to explain the presence of catatonia. All patients showed chronic, subacute or acute central nervous system lesions on CT brain or head MRI scans. Nine patients had some degree of cortical atrophy and four patients also had chronic vascular lesions in the area of the basal ganglia. Two patients presented with acute/subacute lesions; Case 3 a right occipitoparietal epidural and supratentorial empyema without meningitis and Case 7 a subacute right thalamic infarct. Spinal fluid analysis results of Patient 3 were abnormal and in keeping with the presence of the epidural empyema. In Patients 5, 7 and 8, the results of this test were normal. Three patients also underwent an EEG; Cases 4 and 5 showing diffuse slowing and Case 8 with a normal tracing. Four patients (Cases 3, 5, 6 and 8) suffered from complications secondary to the catatonic syndrome. These patients were also those who had a longer duration of the catatonia (>10 days). Patients 3 and 5 died as a result. The complications were malnutrition, dehydration, hyponatremia and those associated with immobility, such as pressure ulcers, acute coronary syndrome and urinary retention.

Seven of the 10 patients received treatment with lorazepam (dosages between 1 and 10 mg/day). None of the patients required the use of i.m. clorazepate. In three patients, a total remission of the