Catatonia was delineated only as a type of schizophrenia in the many American Psychiatric Association DSM classifications and revisions from 1952 until 1994 when “catatonia secondary to a medical condition” was added. Since the 1970s the diagnosis of catatonia has been clarified as a syndrome of rigidity, posturing, mutism, negativism, and other motor signs of acute onset. It is found in about 10% of psychiatric hospital admissions, in patients with depressed and manic mood states and in toxic states. It is quickly treatable to remission by benzodiazepines and by ECT. The DSM-V revision proposes catatonia in two major diagnostic classes, specifiers for 10 principal diagnoses, and deletion of the designation of schizophrenia, catatonic type. This complex recommendation serves no clinical or research purpose and confuses treatment options. Catatonia is best considered in the proposed ICD revision as a unique syndrome of multiple forms warranting a single unique defined class similar to that of delirium.

Key words: Catatonia, malignant catatonia, neuroleptic malignant syndrome, delirious mania, tourette syndrome, NMDAR encephalitis, barbiturates, benzodiazepines, ECT, ICD, DSM
Ewald Hecker, a colleague at his private sanitarium in East Germany, focused interest on hebephrenia, a single syndrome that he described in 1871 in an essay of 35 pages, with seven illustrative case histories. The clear delineation of a single illness of hebephrenia made it possible for other observers to quickly verify his description and identify clinical cases.

Three years later, Kahlbaum described and named a motor dysregulation syndrome “Die Katatonie” in a 104-page essay with 26 case vignettes. Kahlbaum clustered 17 motor abnormalities into a single syndrome in patients suffering from disorders in mood, psychosis, neurosyphilis, tuberculosis and epilepsy. He described catatonia so well that within a few years his description was repeatedly verified.

Emil Kraepelin was among the authors who recognized both catatonia and hebephrenia in his population of chronically ill. He, too, described his own syndrome that began in adolescence and progressed relentlessly to dementia. He adopted both catatonia and hebephrenia as cornerstones of his scheme of dementia praecox.

Kraepelin next recognized manic-depressive insanity as a disorder of mood with fluctuating life course that did not necessarily progress to dementia. Although he identified catatonia among these patients, he catalogued it as a principal sign of dementia praecox.

By 1908, Eugen Bleuler had recast Kraepelin’s nosology within a framework of the newly fashionable psychodynamic theory. He renamed dementia praecox as “schizophrenia” and accepted catatonia as one of its forms. For the next century, through multiple classification schemes, catatonia remained firmly within schizophrenia. In each era, clinicians applied the popular treatments for this condition. Although catatonia was recognized outside schizophrenia, official formulations did not accept these descriptions. Catatonia meant schizophrenia.

WHAT IS CATATONIA TODAY?

Catatonia is now recognized as a motor and mood dysregulation syndrome that is found among men and women of all ages. We closely follow Kahlbaum’s description. Onsets are often acute, manifested in repetitive behaviors, stupors and frenzied and delirious states. Some forms are malignant, leading to death. Before Kahlbaum named catatonia, a syndrome of catalepsy had been described as muscular rigidity, fixed posturing and insensitivity to pain. Kahlbaum added echophenomena, grimacing, mannerisms, mutism, perseveration, posturing, negativism, rigidity, stereotypies and staring as characteristic motor signs. He saw catatonia as a psychiatric illness.

Kahlbaum had no effective treatment. In 1930, William Bleckwenn in Wisconsin described the immediate relief afforded by high doses of sodium amobarbital. In recent decades, amobarbital has been replaced by the benzodiazepines (mainly lorazepam and diazepam) as effective treatments.

In 1934, Ladislas Meduna in Budapest treated schizophrenia patients by inducing seizures with intramuscular injections of camphor-in-oil and then with intravenous pentylenetetrazol. His first trials were in the patients who were mute, negativistic, posturing, refusing food and requiring tube feeding. These patients met the criteria for the catatonic type of schizophrenia.

Some patients recovered with a few seizures and in 1937, Meduna published “Die Konvulsionstherapie der Schizophrenie,” describing greater than 50% remission rates in 110 patients. At that time, schizophrenia was considered to be an immutable inherited genetic disorder and Meduna’s reports were rejected as fantasy. Clinicians who were faced with the many chronically ill mad persons who filled large sanitariums, however, welcomed an effective treatment. By the early 1940s, the relief afforded the psychoses by induced seizures was verified. An electrical method (electroconvulsive therapy, ECT), a more assured method of seizure induction, quickly replaced chemical inductions of seizures. ECT is the definitive treatment of catatonia today.

INCREASING RECOGNITION OF CATATONIA

Despite the official tie of catatonia to schizophrenia in the classification, in textbooks and in clinical teaching, young clinicians in the 1970s identified catatonia to be common among patients with mood disorders, especially in the excited states of mania. By 1980, the acute onset of fever, rigidity and autonomic signs was recognized as a toxic response to neuroleptics in the “neuroleptic malignant syndrome” (NMS). The syndrome was first related to malignant hyperthermia (MH), but treatments for MH failed to bring relief. Comparisons of NMS to the malignant form of catatonia (MC) found the two to be indistinguishable. When the treatments for MC were applied, NMS resolved. NMS is now considered and treated as a variant of catatonia.

Excited states of delirious mania next met catatonia symptom criteria for which treatments for catatonia are effective. Delirious mania is a catatonia variant.

Children and adolescents with autism spectrum disorders exhibit many signs of catatonia. Their repetitive self-injurious behavior (SIB) is a feature among the negativism, posturing, staring and mutism common to these patients. Although the use of ECT in adolescents, especially those with neurodevelopmental defects, was considered risky and unethical, treatment trials found that the catatonia features,
including SIB, resolved. The latest reports find the children to be very tolerant of benzodiazepines and, for effective treatment, high doses are needed. SIB is considered a sign of catatonia.

Patients with tics diagnosed as suffering from Gilles de la Tourette syndrome meet the criteria for catatonia. These patients respond to ECT, suggesting that systematic studies of catatonia are warranted.

Today, a fashionable syndrome of anti-N-methyl-D-aspartate receptor encephalitis is sweeping the United States today. The detailed descriptions find that more than 70% of the patients meet the criteria for catatonia. Enthusiasts drive the discussion to unproven intravenous immunoglobulin (IVIG) replacement therapy, and to the search for ovarian tumors, but once the association with catatonia is recognized and its effective treatments applied, the syndrome will be seen as a treatable form of catatonia, much as NMS and SIB are now recognized.

**CATATONIA IN THE DSM CLASSIFICATIONS**

In the DSM classifications, psychiatric disorders are identified by cross-sectional symptoms and course of illness. Data from physical examination, laboratory tests and prior treatment responses are not considered. This attitude eliminates a useful criterion for catatonia. When the presence of two or more catatonia signs for more than 24 h points to catatonia, a reduction of 50% or more in catatonia signs after an intravenous dose of a barbiturate or benzodiazepine verifies the syndrome. The test is reported positive in 50–80% of the patients who meet clinical signs of catatonia. Excluding such a test is arbitrary and is equivalent to excluding the findings in an electroencephalogram for a seizure disorder or a serologic test for syphilis.

The 1980 DSM-III classification identified catatonia only as a type of schizophrenia, coded as 295.2. Because “schizophrenia” is the dominant code, neuroleptics are prescribed and the effective treatments for catatonia of barbiturates and ECT are not considered. By 1994, the DSM-IV committees recognized catatonia outside schizophrenia and added “catatonia secondary to a medical disorder” to acknowledge catatonia in neurotoxic syndromes, coded as 293.89. In the interim, catatonia scholars had documented the broader representation of catatonia outside schizophrenia and medical disorders, calling for it to be recognized as a syndrome of its own, similar to delirium and dementia. The proposal called for the recognition of catatonia as a defined syndrome with a single numeric code and with four types for descriptive purposes: an inhibited form described as the Kahlbaum syndrome, an excited form of delirious mania, a malignant form that includes the neuroleptic malignant syndrome and a form associated with systemic illnesses.

The argument for catatonia as an independent syndrome in the DSM-V classification was formally presented in a critique of the Kraepelin formulation. In invited discussions of these views, Rosebush and Mazurek consider the treatment for catatonia to differ significantly from that of schizophrenia, supporting the call for an independent syndrome. Ungvari and his colleagues argue that the position of catatonia within schizophrenia is verified by many studies, and the connection should be maintained. The DSM-V Psychosis Work Group’s hesitancy is described by Heckers, Tandon and Bustillo in the same journal.

**THE DSM-V FORMULATION OF CATATONIA**

The DSM-V recommendations for catatonia proposed by the DSM-V Psychosis Work Group were posted on the website www.dsm5.org on January 18, 2011. Four principal changes are recommended.

1. “Schizophrenia, catatonic type (295.2)” is to be eliminated, ending the direct tie of catatonia with schizophrenia.
2. Catatonia is recognized as a specifier across the 10 principal primary diagnoses of the system, including schizophrenia, major depression and bipolar disorder and their related subtypes. Recognition of the catatonia specifier is to be coded by using a fifth digit (xxx.x5).
3. Catatonia in a general medical condition (293.89) is to be maintained.
4. A new class of catatonia NOS (298.99) is recommended for those cases that exhibit the motor, mood and systemic signs of catatonia, but in whom the underlying pathology cannot be confirmed.

What is the anticipated impact of these proposed changes? Specifiers, including catatonia, were adopted in DSM-IV without numeric codes, discouraging their use in the clinic and in research. Physicians find a single diagnosis sufficient to support the care that they select for each patient. The DSM-V consideration of a fifth digit for the catatonia specifier would be an improvement, but the concept of specifiers for at least 10 principal diagnoses concept serves no clinical purpose and confuses treatment options.

Catatonia secondary to a medical disorder and catatonia NOS will justify the testing and treatment of catatonia as a principal intervention. Because all forms of catatonia are of systemic origin, it is probable that the code 293.89 will have limited use, and the less restrictive “Catatonia NOS” will be applied for all forms of catatonia.

**CONCLUSION**

More than 135 years after its birth, catatonia is now recognized as an identifiable and treatable syndrome. Its characteristics are well defined, a simple test verifies the diagnosis and the treatments for high-dose benzodiazepines
and ECT are remarkably effective and safe. The labels of “not otherwise specified” and “secondary to a medical disorder” and the suggested use as a specifier add unnecessary redundancy and confusion. Catatonia warrants the proposed separation from schizophrenia and establishment as an independent syndrome in the classification of psychiatric illnesses with a single numeric code.

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