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Case Report

Bipolar disorder in a patient with Huntington disease: a case report

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We report a case of a 50-year-old female patient with Huntington disease (HD). This patient was first diagnosed with bipolar disorder and underwent treatment for several years. However, the outcome was unsatisfactory and jerky involuntary movements of the right shoulder and gait impairment with frequent falls developed, which caused her much distress. During home care visits to this patient, typical chorea in the upper limbs was observed in her elder brother. Genetic testing was conducted and this patient and her elder brother were both confirmed to have HD. Therefore, HD was diagnosed in this patient based on family history, genetic testing, and home visits. Regarding treatment, we established an interdisciplinary team to address her broad physical and psychosocial needs. Bipolar disorder symptoms progressively improved and she received holistic care for HD. To diagnose HD early, it is necessary to pay attention to patients with psychiatric disease, as psychiatric symptoms often occur before the onset of involuntary movements, and to conduct comprehensive surveys including family history and, if possible, home care visits. Holistic care of patients with HD requires the implementation of multidisciplinary management methods and suicide prevention efforts to optimize quality of life.

Keywords: Huntington disease, chorea, bipolar disorder, suicide.

1. Introduction

Huntington disease (HD) is an inherited, progressive, and disabling neurodegenerative disorder characterized by involuntary movements (such as chorea, jerky movements, and motor impersistence), psychiatric problems, and dementia. Patients with HD may first present with neuropsychiatric symptoms and disrupted psychosocial functioning, which may precede the classic motor symptoms by several years [1]. As motor symptoms are easily neglected, there may be delayed diagnosis of HD in some patients. We present a patient with a confirmed diagnosis of HD who exhibited symptoms of psychiatric disease prior to the onset of involuntary movements. HD diagnosis was made based on family history discovered during home care visits and genetic test. We provided multidisciplinary care and implemented suicide prevention efforts to optimize her quality of life.

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2. Case report

A 50-year-old female patient had a history of bipolar disorder with episodes of depression and mania since the age of 34. She received treatment for

her symptoms at local clinics on an irregular basis, which was unsuccessful, and her condition led to the loss of employment and divorce.

From the age of 40, she experienced continuous jerky involuntary movements of the right shoulder, gait impairment, and frequent falls. She visited local clinics and hospitals, but received no definite diagnosis. The outcome of treatment for bipolar disorder was unsatisfactory and the above-mentioned somatic problems caused her much distress.

At the age of 49, she came to our clinic and was initially treated for bipolar disorder. Owing to poor social support and drug compliance, our medical team made home care visits. During these visits, typical chorea in the upper limbs, visual hallucinations, and strange behavior were observed in her elder brother, who was living with her. Moreover, it was noted that he often stayed in bed for long periods of time. Due to his typical chorea and her involuntary movements of the right shoulder, it was suspected that they were both suffering from HD. Genetic test results confirmed this.

At the age of 50, she was admitted to our acute psychiatric ward with the chief complaints of depressive episodes with low mood, anxiety, decreased sense of pleasure, poor sleep quality, inadequate intake, and reduced weight. She also exhibited negative views, suicidal ideation with previous suicide attempt (walked into a pond), vague auditory hallucinations, feelings of guilt (due to the burden on her family caused by her illness), weakness, social withdrawal, and exacerbated psychosocial functioning. In addition, she demonstrated worsened involuntary movements of the right shoulder, with gait impairment inducing frequent falls, and depressive symptoms. During hospitalization, we provided multidisciplinary care. For the involuntary movements of the right shoulder and gait impairment, she was given tetrabenazine (Xenaxine) 25-50mg daily, as antichorea therapy, based on the suggestion of a neurologist. She also took a second-generation antipsychotic drug, quetiapine 25mg daily. These symptoms gradually improved after four weeks.

To stabilize her mood, valproic acid 400 mg daily, mirtazapine 30mg daily, and quetiapine 25mg daily were prescribed. Her depressive symptoms improved markedly three weeks later. In addition, she underwent physical therapy to strengthen her limbs, with the aim of reducing gait impairment and preventing falls, and occupational therapy to better perform daily life tasks. Moreover, she received individualized supportive psychotherapy from our clinical psychologists and nursing staff. Our social workers helped her to apply for financial aid to reduce her financial stress. After discharge from the acute psychiatric ward, we continued home care visits to maintain regular drug therapy and manage any new issues that arose during long-term follow-up. At home, she also received rehabilitation therapy and other home care services from a long-term community care unit. Serving as an environmental protection volunteer helped to reduce her social isolation.

After a period of holistic care, there were gradual improvements in her bipolar disorder symptoms and mood, as well as reduced jerky involuntary movements of the right shoulder and gait impairment. Frequency of suicidal thoughts also decreased after comprehensive treatments for both bipolar disorder and HD. In this case, symptomatic treatment of HD, with multidisciplinary and biopsychosocial care, was effective for optimizing quality of life.

3. Discussion

In this case, we suspected HD based on her family history which was discovered during home care visits. It is worth noting that this patient had bipolar disorder before the onset of involuntary movements. We provided holistic care for this HD patient with comorbid bipolar disorder. In general, neuropsychiatric symptoms may precede motor symptoms of HD by years or decades [1]. According to a study by Folstein et al. [2], the overall prevalence rate of major affective disorders in patients with HD is 41%, while the prevalence rates of unipolar disorder (major depressive disorder) and bipolar disorder are 32% and 9%, respectively. This patient with HD suffered from bipolar disorder and disrupted social relationships several years before the emergence of motor symptoms of HD. This is similar to the findings of a report by Kirkwood et al. [1].

The diagnosis of HD is based on the presence of typical clinical features (usually chorea), a family

history of the disease, and genetic confirmation. In this patient, jerky involuntary movements of the right shoulder were not typical of chorea or tardive dyskinesia. We did not initially think about HD and instead focused on management of her bipolar disorder. From observations of her brother's typical chorea and her jerky involuntary movements of the right shoulder, we suspected that they both had HD. They underwent genetic testing for HD and the results confirmed our suspicions.

Anti-chorea drugs deplete dopamine from the vesicles, thereby reducing dopamine transmission and controlling mild forms of chorea in patients with HD [3,4]. This case had mild to moderate jerky involuntary movements of the right shoulder which improved after taking tetrabenazine 25-50mg daily. Antipsychotics have the benefit of treating both chorea and bipolar disorder. This patient was prescribed quetiapine 25mg daily (which has fewer side effects). Chorea may exacerbate anxiety, depression, and stress [5]. Therefore, it is important to provide a calm, friendly, and structured environment during treatment.

HD is highly associated with increased risk of suicide for both patients with HD and their at-risk family members. The suicide rate of affected individuals is 7% [6], while the rate of suicidal ideation among HD mutation carriers is up to 20% [7,8]. Risk factors for suicidality in patients with HD include depression, bipolar disorder, anxiety, substance abuse, antidepressant or anxiolytic use, and prior suicide attempts [7, 8, 9]. This patient made at least one suicide attempt and harbored significant suicide intent, which was related to HD, bipolar disorder, anxiety, neuroticism, prior suicide attempt, and lack of family support. Her suicidal ideation was remarkedly reduced after comprehensive treatment for both bipolar disorder and HD. This case report and other studies suggest that psychiatric comorbidities in HD are predictive of suicidal risk, pointing to the necessity of implementation of suicide prevention efforts.

For early diagnosis of HD, it is necessary to pay close attention to patients with psychiatric disorders before the onset of involuntary movements, check family histories, and even conduct home care visits. Multidisciplinary treatment methods and suicide prevention efforts can optimize the quality of life of patients with HD.

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