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SUCCESSFUL TREATMENT OF A CLINICAL CASE OF CONVERSION DISORDER WITH COMBINED ELECTROCONVULSIVE THERAPY AT MILITARY HOSPITAL 175

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ABSTRACT

Conversion disorder (also known as functional neurological symptom disorder) is classified within the group of somatic symptoms and related disorders. This is a relatively common psychiatric disorder encountered in clinical practice; however, accurate diagnosis and appropriate treatment may be challenging at healthcare facilities lacking specialized psychiatric services.

We report the case of a 20-year-old patient whose condition occurred concurrently with a physical illness and had initially been treated under a different diagnostic orientation. The patient was transferred to Military Hospital 175 due to complete paralysis of the right arm and right leg persisting for several months, and was subsequently diagnosed with conversion disorder. The condition did not respond to conventional treatments, including suggestion therapy, antidepressants, antipsychotics, anxiolytics, and physical rehabilitation therapy. The patient was later successfully treated with combined electroconvulsive therapy.

Keywords: Conversion disorder, functional neurological symptom disorder, electroconvulsive therapy.

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1. INTRODUCTION

According to the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5), conversion disorder (CD) - also known as functional neurological symptom disorder - is classified within the group of somatic symptoms and related disorders [1]. According to ICD-10, this is a relatively common psychiatric disorder encountered in clinical practice [2]. Patients with conversion disorder may present with one or multiple neurological symptoms of various types. Motor symptoms include weakness or paralysis; abnormal movements (tremor, jerking, or dystonic movements); and gait abnormalities. Sensory symptoms include altered, reduced, or absent cutaneous sensation, vision, or hearing. Episodes of unresponsiveness may occur, with or without limb movements resembling epileptic seizures, syncope, or coma. Other symptoms include reduced or absent voice volume; changes in pronunciation, intonation, or speech fluency; sensation of a lump in the throat; and diplopia. The term “conversion” originates from psychoanalytic theory, which proposes that unconscious psychological conflicts are “converted” into physical symptoms [1].

Transient functional neurological symptoms are very common, although the exact prevalence remains undetermined. According to studies conducted in the United States and Northern Europe [1], the annual incidence of persistent functional neurological symptoms is estimated at 4–12 cases per 100,000 individuals. The prevalence in specialized clinics is higher, although available data remain limited (5% of outpatients aged 9-17 years at a psychiatric clinic in Japan and 6% of adult and adolescent inpatients at a psychiatric hospital in Oman were diagnosed with functional neurological disorder).

In this article, we report a case of conversion disorder that was admitted to and successfully treated with combined electroconvulsive therapy at the Department of Mental Health, Military Hospital 175.

2. CASE PRESENTATION

A 20-year-old male patient was admitted due to complete paralysis of the right arm and right leg persisting for several months.

The patient had a relatively complex family background (his biological father was a painter who had three wives and was the second husband of the patient's mother; the patient's parents had been separated for many years). He had a history of normal physical and psychological development, denied substance abuse, and had no family history of psychiatric disorders across three generations. The patient was gentle and quiet, had completed vocational college, and had stable employment. In February 2025, he voluntarily enlisted in military service.

The illness had an abrupt onset approximately one week after enlistment. On the morning of February 20, 2025, the patient developed a high fever of 39°C, dry cough, rhinorrhea, and numbness and spasms of the extremities. At the initial healthcare facility, he received intravenous fluids and antipyretic treatment. The condition progressed with impaired consciousness; the patient was unresponsive to verbal stimulation, although respiratory and cardiovascular status remained stable. He was transferred to a district hospital, where the diagnosis and treatment were unclear. After several hours of treatment, the patient regained consciousness spontaneously but developed mild right hemiparesis, was unable to ambulate independently, and required assistance with all daily activities. He was discharged from the hospital and monitored at the military medical unit for two days. Medical records there documented that the patient was afebrile, without impaired consciousness, but had visual impairment (blurred vision) and progressively worsening right hemiparesis. At 05:00 AM on February 23, 2025, the patient remained conscious and afebrile. However, 1–2 hours later, he again developed impaired consciousness and was transferred to Military Hospital 7A with a diagnosis of suspected viral encephalitis. Two hours after admission, the patient regained consciousness, with stable respiratory and cardiovascular status.

The patient was transferred to the Department of Infectious Diseases, Military Hospital 175 at 8:00 PM on February 23, 2025, in the following condition: was conscious and responsive; Glasgow Coma Scale score of 15; right hemiparesis (muscle strength of the right arm and leg: 1/5, decreased pain sensation on the right side); bilateral decreased visual acuity (visual acuity 5/10). Cerebrospinal fluid analysis was normal; multiplex PCR for HSV-1, HSV-2, VZV, CMV, EBV, HHV7, and HHV6 was negative; tuberculosis testing was negative; direct fungal microscopy was negative. MRI revealed several abnormal white matter signal lesions bilaterally, predominantly on the right side, and in the bilateral centrum semiovale. The left optic nerve showed increased contrast enhancement, and optic neuritis could not be excluded. The patient was diagnosed with acute disseminated encephalomyelitis, suspected to be virus-related. During treatment, the patient remained alert, afebrile, with gradual improvement in bilateral visual acuity, negative meningeal signs, but persistent right hemiplegia and decreased right-sided sensation.

On February 27, 2025, the patient was transferred to the Department of Neurology with a diagnosis of suspected conversion disorder; differential diagnosis included polyneuropathy. During follow-up in the Neurology Department, the patient remained alert; bilateral visual acuity improved to 10/10; no ophthalmoplegia was noted; muscle strength of the left arm and leg was 5/5; the right leg demonstrated muscle contraction whenever the patient attempted to sit up independently; muscle strength of the right arm was 0/5, accompanied by loss of pain sensation on the right side. The sensory deficit gradually improved. Electromyography and electroencephalography tests were normal. The patient was treated with the antidepressant Sertraline and physical rehabilitation therapy; however, the condition did not improve.

On April 18, 2025, the patient was transferred to the Department of Mental Health with a diagnosis of conversion disorder. During follow-up, involuntary kicking movements of the right leg during sleep were observed; the right-hand drop test was negative; Hoover's sign of the right leg was inconclusive. On April 21, 2025, the patient underwent suggestion therapy combined with slow intravenous injection of calcium chloride along with antidepressants and anxiolytics; however, the results were limited and unclear. From April 22 to April 24, 2025, sedative therapy was added, but the condition still did not improve. Beginning April 25, 2025, the patient was indicated for electroconvulsive therapy combined with antidepressant treatment, resulting in marked improvement, with the patient able to walk independently. On April 26, 2025, the patient and family refused further electroconvulsive therapy

because they believed the treatment could cause memory impairment and would provide only temporary benefit. On April 27, 2025, the patient relapsed and returned to the previous paralytic condition. The patient and family agreed to accept only antidepressants, antipsychotics, anxiolytics, and psychotherapy. With this regimen, treatment continued for another month without improvement in motor weakness or paralysis.

On June 17, 2025, the patient was readmitted to Military Hospital 175. The patient and family agreed to treatment according to the recommendations of psychiatric specialists. The patient was treated with the antidepressant Sertraline, the antipsychotic Quetiapine, combined with electroconvulsive therapy. The patient recovered and regained normal ambulation after five sessions of electroconvulsive therapy. On July 10, 2025, the patient's general condition was stable, and he was discharged back to his military unit to continue service duties. After discharge from the hospital, the patient received follow-up examinations and outpatient treatment from a psychiatric specialist, and the military unit processed procedures for discharge from military service according to regulations.

3. DISCUSSION

Conversion disorder (CD) is known to be a condition that can develop at any stage of life. The average onset of nonepileptic seizures peaks between 20 and 29 years of age, while motor symptoms most commonly begin between 30 and 39 years of age. Symptoms may be transient or persistent [1]. In this case, the disease had an abrupt onset at age 20, consistent with the above observations.

The most common motor manifestations of conversion disorder include partial or complete inability to move one or more limbs. Paralysis may vary in severity, ranging from partial motor impairment with weak and slow movements to complete loss of motor function. Various forms or degrees of incoordination (ataxia) may also be prominent, particularly in the lower limbs, leading to abnormal gait or inability to stand or walk. Patients may additionally present with tremors or shaking involving one or more limbs or the entire body. Clinical manifestations may closely resemble nearly all forms of ataxia, abnormal movements, akinesia, aphonia, dysarthria, dyskinesia, or paralysis [2]. Seizures in conversion disorder may resemble motor epileptic seizures; however, tongue biting, severe bruising from falls, and urinary disturbances are uncommon. Patients may not lose consciousness but may exhibit stuporous or trance-like states [2].

Regarding sensory symptoms, areas of hypoesthesia or anesthesia often do not correspond to neuroanatomical distributions but instead reflect the patient's perception of bodily function rather than characteristics of an organic neurological lesion. The severity of sensory disturbances may also differ among sensory modalities and may not correlate with a specific neurological lesion. Sensory loss may be accompanied by paresthesia. In conversion disorder, complete blindness is rare; more commonly reported visual disturbances include reduced visual acuity, blurred vision, diplopia, visual field defects, or tunnel vision. Although patients may complain of decreased or lost vision, their ability to ambulate and perform movements is often relatively preserved [2].

In this case, both motor and sensory symptoms were observed. The motor manifestation was right-sided hemiplegia; however, the severity of paralysis fluctuated, at times being complete and at other times incomplete, with the patient still able to move several fingers. Notably, the patient demonstrated weak movement of the paretic right leg during sleep. This finding is one of the signs suggesting that the paralysis was a functional neurological disorder.

Before military enlistment, the patient's visual acuity in both eyes was documented as 10/10. On the day of symptom onset, medical records noted blurred vision, and ophthalmologic examination confirmed visual acuity of 5/10 in each eye. However, the patient's bilateral visual acuity recovered completely during hospitalization. Regarding sensory disturbances, decreased pain sensation was noted over the right side of the body. This symptom also gradually improved as visual acuity recovered.

Investigation of psychosocial stressors revealed that the patient had a complicated family background and few close friends. Nevertheless, the patient did not appear overly concerned about these issues and did not report significant stress upon entering the new living environment in the military unit.

The patient fully met the DSM-5 diagnostic criteria for conversion disorder [1], including:

A. One or more symptoms of altered voluntary motor or sensory function.

B. Clinical findings provide evidence of incompatibility between the symptom and recognized neurological or medical conditions.

C. The symptom or deficit cannot be better explained by another pathological or mental disorder.

D. The symptom or deficit causes clinically significant distress or impairment in social, occupational, or other important areas of functioning, or warrants medical evaluation.

One of the challenges in definitively diagnosing conversion disorder in this case was completely ruling out any physical causes in the early post-admission period. The patient initially presented with fever, upper respiratory tract symptoms, and impaired consciousness, while history taking revealed no previous psychiatric disorder or systemic disease affecting brain function. Medical conditions outside the psychiatric spectrum may coexist in patients diagnosed with conversion disorder. A study by B. J. Sadock [3] reported that 18–64% of patients had evidence of current or previous neurological disease or systemic illness affecting brain function. In addition, approximately 25–50% of patients diagnosed with conversion disorder had previously been diagnosed with neurological or non-psychiatric disorders that could have accounted for the initial symptoms. Therefore, in all suspected cases of conversion disorder, comprehensive medical and neurological evaluations are essential.

During the evaluation and treatment process, several differential diagnoses were excluded, including hemiplegia secondary to neurological disease (central nervous system infections, vascular disorders, and intracranial or spinal masses); factitious disorder and malingering (in which symptoms are intentionally produced); body dysmorphic disorder; and depressive disorder (patients may complain of generalized heaviness).

Electroconvulsive therapy (ECT) is a noninvasive neurostimulation treatment that was first used for neuropsychiatric disorders [4]. Recent studies have attempted to evaluate the effectiveness of ECT in treating somatic symptoms and related disorders (SSD). Several symptom groups have shown responsiveness to ECT protocols, including pseudoneurological symptoms, pain symptoms, cardiopulmonary symptoms, and gastrointestinal symptoms [9]. The therapeutic mechanism of ECT in patients with SSD remains unclear. ECT is believed to induce long-term structural changes in the limbic system and prefrontal cortex [5] and may affect regional cerebral blood flow or cerebral metabolic rates [6]. Several animal studies have demonstrated increased neurogenesis and synaptic plasticity in the hippocampus, which plays an important role in emotional regulation in many psychiatric disorders [7], through neuroimmune mechanisms such as modulation of prolonged stress responses and cytokines, as well as reduction of tumor necrosis factors [8].

In the study by KaWai Leong and colleagues [9], 18 of 21 patients with pseudoneurological symptoms (gait disturbances, muscle weakness or paralysis, decreased vision, etc.) reported significant subjective improvement after treatment. A. Gaillard [10] reported the case of a 33-year-old patient with quadriplegia for three years who had failed other treatment modalities but regained the ability to move all four limbs and walk after ECT treatment. However, the therapeutic effect was partial and fluctuating, with symptom recurrence, although symptoms remained improved compared to baseline. E. J. Giovanoli [11] reported a successful case of ECT in a 61-year-old male patient with severe conversion disorder presenting with numbness and paralysis of the hand leading to corresponding muscle atrophy.

4. CONCLUSION

The above case fully met the diagnostic criteria for conversion disorder. However, the initial diagnostic process was challenging because the disorder occurred concomitantly with a physical illness. Once conversion disorder has been definitively diagnosed and the condition fails to respond to conventional treatments (suggestion therapy, antidepressants, antipsychotics, anxiolytics, and physical rehabilitation therapy), combined electroconvulsive therapy (ECT) may be a useful therapeutic option that should be considered.

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