

# CONVERSION DISORDER IN STROKE: A CASE REPORT

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Conversion disorder is caused by previous severe stress, emotional conflict, or an associated psychiatric disorder, and usually presents with one or more neurologic symptoms. Clinically, it is challenging to diagnose diseases such as transient ischemia attack, stroke, brain tumor, spinal cord injury, and neuropathy. In this case report, we present a male stroke patient who had a typical conversion disorder.

**Key Words:** conversion disorder, hemiplegia, stroke  
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Hemiplegia is a common symptom usually caused by various neurologic disorders. Neurologic examination can localize the lesion in the cerebral hemisphere, brainstem, or spinal cord, especially in patients with a high risk for stroke or with previous stroke [1]. Radiographic imaging can be used to detect lesion sites, but they cannot detect nonorganic hemiplegic disease.

Conversion disorder is caused by previous severe stress, emotional conflict, or an associated psychiatric disorder. Conversion disorder is often found following physical or sexual abuse. Many studies have found that there is a high incidence of conversion disorder in patients with depression. These patients have personality disorders or display hysterical traits.

Here, we present a stroke patient with conversion disorder who was admitted for rehabilitation.

## CASE PRESENTATION

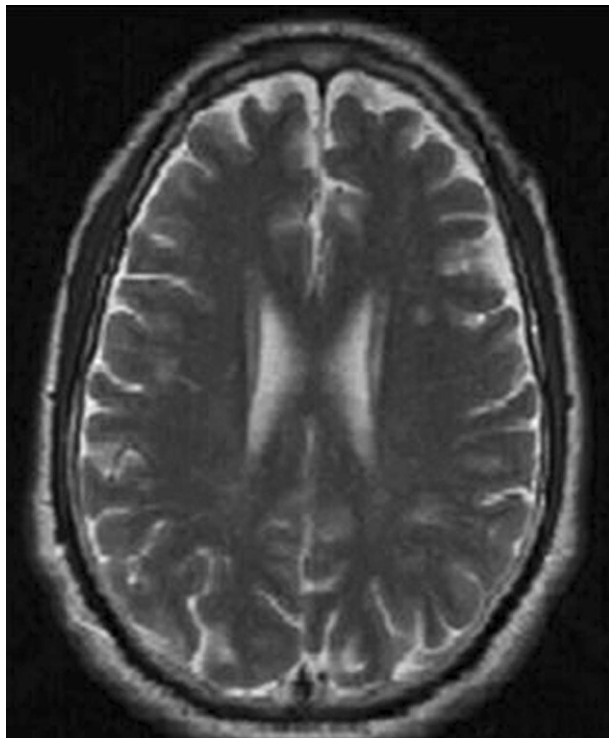
A 50-year-old man had coronary artery disease, hypertension (HTN), and diabetes mellitus (DM) under poor medical control; he was also a hepatitis C virus carrier. The patient had experienced stroke twice before. The first attack (on March 29, 2002) had sequela of right facial sensory impairment, and the second attack (on August 11, 2004) resulted in right hemiparesis (Figure 1). At that time, the muscle power of the right limbs was 3–4 points, and the muscle power of the left limbs was 5 points. He also walks with a quadricane. His condition was regularly followed up in our neurologic outpatient department. On July 4, 2005, sudden onset of right-side weakness occurred after he heard about a fire accident in his house. He was sent to the emergency room of our hospital, where right-side muscle power was measured at 0 and the left side at 5, and, under the impression of recurrent stroke, he was admitted to our neurologic ward for further survey.

The weakness in the right limbs was not compatible with magnetic resonance imaging (MRI) findings (Figure 2). Further electrophysiologic studies did not correlate with his clinical presentation. His physical

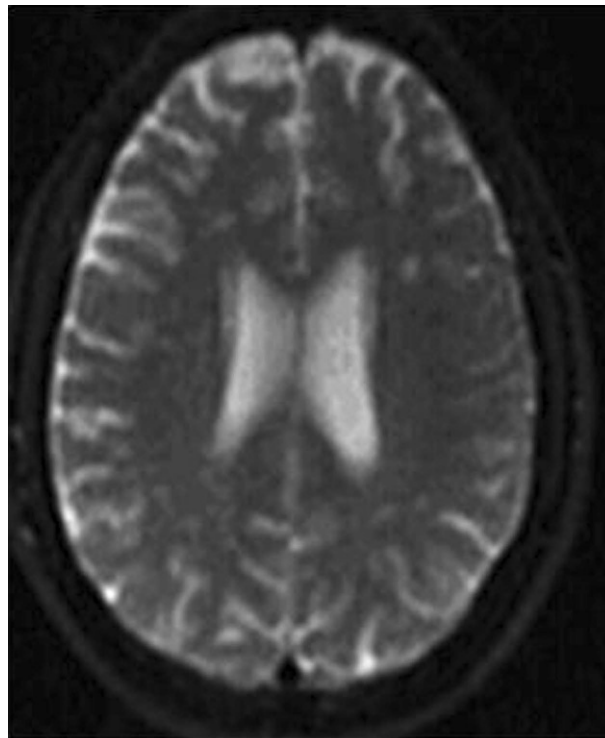
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**Figure 1.** Brain magnetic resonance imaging of previous stroke.



**Figure 2.** Brain magnetic resonance imaging on July 5, 2005.

presentation had all the hallmarks of conversion disorder after consultation with a psychiatrist. Accordingly, he was transferred to a rehabilitation ward on July 8, 2005 for further rehabilitative management. After intensive rehabilitative treatment, significant improvements in the patient's muscle power, functional status, and activities of daily living (ADL) were achieved.

The functional status of the patient at discharge was: ambulation with the quadricane, ADL partial independence, and muscle power of the affected side had improved to a score of 4.

## DISCUSSION

Conversion disorder is characterized by one or more neurologic symptoms associated with psychologic conflict or need, not physical, neurologic, or substance-related disorders. The symptoms are produced unconsciously [2].

There are four subtypes of conversion disorder based on the nature of the symptom or deficit:

1. With motor symptom or deficit: includes such symptoms as impaired coordination or balance, paralysis or localized weakness, difficulty in

swallowing, aphasia and urinary retention (the patient described in this report was of this subtype);

2. With sensory symptom or deficit: includes loss of touch or pain sensation, deafness, and hallucination;
3. With seizure or conversion: includes seizure or convulsion with voluntary motor or sensory components;
4. With mixed presentation: this category is used if there is more than one symptom.

The diagnosis of conversion disorder is one of exclusion, meaning that only after all physical or neurologic tests have been done, with no abnormal results, may conversion disorder be confirmed. The first step is to rule out organic disease such as transient ischemia attack (TIA), stroke, brain tumor, spinal cord injury, and neuropathy. In this case, because the weakness persisted for more than 1 week, TIA was not deemed likely. After admission to the neurologic ward, brain MRI was arranged and revealed no positive finding of stroke or other organic lesions. This patient demonstrated several similarities with a diagnosis of hemiplegic conversion disorder. Firstly, he was under psychosocial stress from his own house being on fire. Secondly, the neurologic deficits recovered within

1 week, and 96% of conversion disorder cases show a similar pattern. After consulting with a psychiatrist, the diagnosis was confirmed.

Interestingly, a review of papers showed that patients manifested left-side symptoms in most studies of conversion disorder [1]. This patient manifested right-side hemiplegia, with muscle power improving from 0 to 4 after about 1 week. This may be due to the change in the vascular circulation of the brain after the attack causing failure of integration of attention or conscious awareness and mediated by abnormally increased levels of corticofugal (cortico-cortical and corticoreticular) inhibition of these afferents.

Intensive rehabilitation includes physical and occupational therapies. A behavior modification program was established to restore this patient's muscle power, function, and mood [3–6], which achieved significant improvement in the patient's functional status. Functional electrical stimulation (FES) was used to accelerate the restored condition of this patient [4,7]. After FES, significant improvement in the right hemiplegic extremities was noted, and dramatic change in his muscle power and reconditioning of his hemiplegia was induced. Psychologic intervention also played an important role in the improvement of this case of conversion disorder (as it does for all cases). In fact, most cases can improve greatly within a short time; however, one-fourth of

them will suffer conversion disorder again when under stress.

Indeed, this patient had a history of recurrent stroke, HTN, and DM. Based on his clinical symptoms and signs, the diagnosis of his right-limb hemiplegia as caused by conversion disorder was especially challenging.

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# 中風患者患轉化症之治療經驗 — 病例報告

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50 歲男性病患有糖尿病、高血壓、兩次中風病史，在今年 7 月 4 日因聽到家中失火全家付之一炬突然右側無力，因疑似再次中風，遂轉至神經內科做進一步的檢查、治療。然而肢體無力情形並不符合核磁共振的結果，之後肌力在幾天內有明顯的改善。排除再次中風之後，照會精神科確診轉化症。

**關鍵詞：**轉化症，半身麻痺，中風  
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