

Case Report

Organic Othello Syndrome Following a Stroke A Rare Complication

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Abstract

Delusional jealousy is an uncommon psychiatric syndrome, which can be found in patients with schizophrenia and alcohol abuse. Moreover delusional jealousy is rather uncommon in patients with organic psychosis and only a few cases have been reported in the past. Stroke can cause delusions, which sometimes are persistent to the point of constituting a delusional disorder such as Othello syndrome in which the core symptom is delusion of jealousy. We report a case who developed a rare delusional disorder as organic psychosis following a stroke which itself is a rare but a recognized clinical entity (German J Psychiatry 2012; 15(1): 41-43).

Keywords: organic psychosis, stroke, delusional jealousy, Othello syndrome

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Introduction

Delusional jealousy is a rather uncommon psychiatric syndrome with the prevalence estimates of approximately 1% in psychiatric inpatients (Soyka et al., 1991). Apart from patients with schizophrenia and alcohol abuse, delusional jealousy can be frequently found in patients with organic psychosis, as for example in Alzheimer's disease (Enoch et al., 1979; Soyka, 1995) and stroke.

In developed countries, stroke is the third commonest cause of death after heart disease and cancer (WHO Geneva, 1998). Psychosis can be caused by stroke but it is very uncommon, with an incidence of approximately 1% (James et al., 2007). Stroke can also cause delusions, which sometimes are persistent to the point of constituting a delusional disorder (Blasco-Fontecilla et al., 2005), such as Othello syndrome in which the core symptom is delusion of jealousy. Moreover, case reports of psychosis including schizophrenia like psychosis have been reported after stroke, but such cases are rare (Alex, 2004).

We report a case who developed a rare delusional disorder as organic psychosis following a stroke which is itself a rare but a recognized clinical entity.

Case summary

A 49-year-old female who did not have any psychiatric illness in the past was admitted to a general hospital in March 2011 with a history of sudden onset of severe headache, vomiting and left sided weakness. Upon examination in emergency room, her blood pressure was found to be 198/104 mmHg with a pulse rate of 80 per minute. Her Glasgow Coma Scale (GCS) score at the time of admission was 13 (eye movement-3, verbal response-4, motor response-6). The neurological examination revealed that she had right gaze preference, facial drooping on right side and left sided motor weakness with left upper limb power of 0 and the left lower limb power of 3. Her right upper limb and

lower limbs showed normal power and tone. She was disoriented in time but oriented in place and person.

CT scan brain was done immediately which showed right lentiform nucleus hematoma with perilesional vasogenic edema and mass effects. Moreover the CT Angiogram of Circle of Willis indicated similar findings with chronic lacunar infarcts in the pons. Her past medical history revealed patient had a history of hypertension and hyperlipidemia with poor compliance with her medications. The basic investigations including full blood count, renal function test, liver function test, thyroid profile, lipid panel, renin and angiotensin assay were normal. She was diagnosed to have a hemorrhagic infarct in the right basal ganglia and was managed conservatively with physiotherapy for the cerebrovascular accident. She was treated for her hypertension and hyperlipidaemia with atenolol, enalapril and simvastatin. She was discharged home from the general hospital after 3 weeks and she was well oriented in time, place and person and was psychologically stable at the time of discharge.

The patient was brought by her husband to the psychiatric hospital in November 2011 (nearly 8 months after the event of stroke) with complaints of having a belief that her husband was having an extramarital relationship with one of her friends for the past 6 months (her symptoms began 2 months after the stroke). Though she could not elaborate the evidence for her claim or produce any supportive evidence, she firmly held the notion, which was unshakable despite the evidence to the contrary. She frequently checked her husband's mobile phone for any "suspicious calls" and quarreled with him often and also threatened to kill him. But she asserted that she did not physically assault him nor had any ideas to harm him or his alleged "girl friend". She started to throw household things at home in anger when she had brawls with her husband. She did not have any psychiatric illnesses in the past and she had not taken any psychoactive substances at anytime.

Apart from the delusion of jealousy, she did not have any other significant findings in her mental state examination. She was alert and well oriented in time, place and person. Her mood was euthymic and she did not have any perceptual abnormalities. She was diagnosed to have psychotic disorder due to stroke, with delusions according to the DSM-IV classification (Organic Othello Syndrome). She was treated with risperidone 2mg at night. She responded well and her delusion disappeared completely after 4 weeks of administration of psychotropic medications. She was discharged in care of her husband and the treating team planned that she needed to continue with psychotropic medications for at least 2 years.

Discussion

While not all the patients develop psychosis following stroke, there is a little description of atypical psychosis following stroke and the query why a few patients, and not many, develop psychosis including schizophreniform disor-

ders following stroke remains unanswered (Rabins et al., 1991).

The pathophysiological and psychological mechanisms underlying the development of the syndrome in patients with cerebral disorders including stroke are not yet fully understood. Most authors feel that cognitive impairment plays a significant role in the development of the syndrome (Enoch et al., 1979), but no consistent relationship between the pathology of certain brain structures and the development of organic Othello syndrome has been established yet.

As Silva and Leong pointed out, delusional jealousy has been linked to various organic disorders, including metabolic disturbances, Alzheimer's disease, encephalitis, substance abuse and other disorders such as stroke (Silva et al., 1993). In most cases of Organic Othello Syndrome, no clear association with lateralized brain dysfunction can be established, but the subject warrants further study (Silva et al., 1993). Richardson et al. reported a case of Othello syndrome following a right cerebrovascular infarction as in this case (Richardson et al., 1991) and Silva and Leong described the case of a 48-year-old man with delusions of infidelity following left frontal lobe infarction. Our patient's CT Brain revealed that she had right basal ganglia stroke, which would have caused the psychosis as well. The Basal ganglia lesions, including the stroke can result in psychosis as the psychotic symptoms occur in up to 40% of the patients with Parkinson's disease (Peyser et al., 1998), where the primary lesion is in the basal ganglia. Moreover evidences from various research studies support the suggestion that basal ganglia disturbance has a role in schizophrenia (Busatto et al., 1997), which further strengthened the claim of the association between the basal ganglia lesions and the psychosis.

Two main theories have been suggested to declare the association between the stroke and its psychiatric sequelae (Starkstein et al., 1992). The first theory claims that the psychiatric sequelae are the psychological reactions to the subsequent post stroke disability and the second theory postulates that the post stroke psychiatric symptoms are specifically due to direct brain damage. The symptoms may vary according to the damaged area (Peyser et al., 1998).

Pre-existing cortical atrophy increases the risk of post stroke psychosis (James et al., 2007). If the psychotic symptoms appearing soon after stroke are mild and not distressing to the patient, the drug treatment may not be necessary (James et al., 2007). The persistent or disruptive psychosis should usually be treated with antipsychotics since the risk of untreated psychosis is usually greater than the risk of increased mortality associated with the treatment with the antipsychotic medication, which were reported in some studies of patients with dementia who were receiving antipsychotics (James et al., 2007). However, long-term treatment may not be needed since most post stroke psychotic symptoms in patients without dementia, as in this case, will resolve (James et al., 2007).

This case illustrates a rare delusion, delusion of infidelity, complicating stroke (post stroke psychosis), which is itself a clinical rarity. Authors would like to emphasize that the clinicians should be aware of this rare presentation as it poses significant clinical challenges such high risk to the

patients and others and possible drug interactions between psychotropic and medications for medical conditions.

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