

# Post Stroke Othello Syndrome: A Case Report

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## How to cite this article:

Asmita Mukund Toro, Hemendra Singh, Lahari R. Post Stroke Othello Syndrome: A Case Report. RFP Ind Jr of Med Psy. 2023;6(2):57-60.

## Abstract

**Background:** Othello syndrome (OS) also known as morbid jealousy has been associated with substance use disorders, various psychiatric and neurological conditions.

**Case Summary:** Here, we present a case of a 47 year old male who developed delusion of infidelity as sequelae of a right parietal lobe venous infarct.

**Discussion:** Our patient had developed OS subsequently after right parietal lobe infarct. However, not many case reports have been previously documented wherein a patient developed delusion of infidelity with parietal lobe lesions.

**Conclusion:** Hence, our case may be indicative of role of parietal lobe in the pathophysiology of delusion of infidelity, which warrants further research.

**Keywords:** Othello Syndrome; Delusion of Infidelity; Right Parietal Lobe.

## INTRODUCTION

Jealousy is a normal emotional response. The Oxford English Dictionary defines the word jealous as 'feeling or showing resentment towards a person one thinks of as a rival'.<sup>1</sup> However, this

emotion can be experienced along a spectrum of normal to pathological. This pathological expression of jealousy is known as morbid jealousy or delusional jealousy, sexual jealousy, erotic jealousy syndrome, psychotic jealousy, pathologic jealousy, conjugal paranoia, and the delusion of infidelity.<sup>2</sup> More popularly known as Othello syndrome, a term coined by Todd and Dewhurst in 1955.<sup>3</sup> The name is derived from a character of the Shakespearean play The Tragedy of Othello, the Moor of Venice. The description of this phenomenon has been found in other literary works such as Tolstoy (The Kreutzer Sonata), de Maupassant (One Evening), Burton (Anatomy of Melancholy) and Boccaccio (The Decameron). The aetiology of Othello syndrome is varied and includes primary psychotic disorders, neurodegenerative disorders, Parkinsons disease, cerebrovascular accidents, multiple sclerosis, substance induced and drugs.<sup>4-10</sup> Case reports have

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**Received on:** 01.02.2024 **Accepted on:** 19.02.2024

been described of Othello syndrome following left frontal lobe, right sided areas including head of the caudate nucleus, globus pallidus, putamen and internal capsule<sup>11</sup> and right basal ganglia ischemic infarct.<sup>12</sup> There is a prior case report of morbid jealousy following Right Orbitofrontal Lobe Cavernous Sinus haemorrhage.<sup>13</sup> Most prior case reports have shown involvement of frontal and temporal regions. Here we describe a unique case of Othello syndrome following central venous thrombosis leading to venous infarct in right parietal lobe.

### CASE SUMMARY

A 47 year male patient presented to emergency department with complains of acute onset of headache associated with 3 episodes of tonic clonic movements of bilateral limbs with up rolling of eyes, urinary incontinence, and tongue bite. Cardiovascular, respiratory and abdominal examinations were essentially normal. There was no focal motor, sensory or cognitive deficit on neurological examination. During hospital stay patient was found to report of suspiciousness towards his wife in clear sensorium. Patient would repeatedly accuse wife of having sexual relations with their son and his friends. On being questioned about the same would say that hospital staff had informed him of the same and had even seen their images together on YouTube. Patients was started on Risperidone 4 mg per day. His MRI brain revealed acute infarct in right parietal lobe (See fig.). MRI venogram had thrombosis in superior

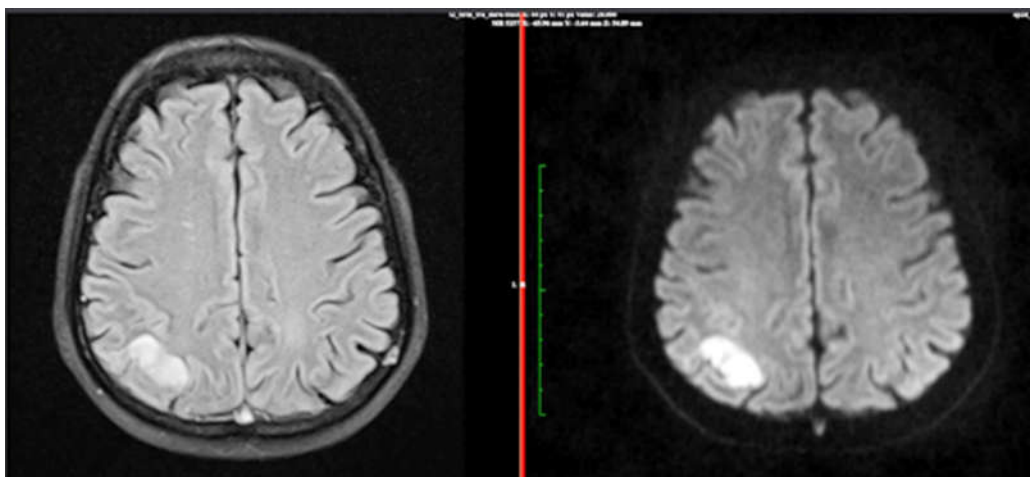
sagittal sinus, left transverse sinus, left sigmoid sinus and left proximal internal jugular vein.

His haemoglobin was 19.8g/dl. Other blood reports including liver functions, electrolytes, thyroid functions and vitamin B12 and D levels were in normal range.

After discharge from the hospital, patient continued to have suspiciousness that his wife have physical relationship with his son. Patients would repeated ask his wife and son for their mobile phones and check their messages. He would report that passer-by's on the road are all looking at him and discussing about his wife's affair. Patient had now begun to even suspect that his wife, son and mother-in-law had tried to harm him as he had gotten to know of the affair and had given him slow poison which had made him develop a stroke. Patients' suspiciousness had extended towards his daughter whom he had started accusing of having relationships with their neighbour.

Patient had history of alcohol use not amounting to dependence pattern. Patient was a known case of hypertension and diabetes was on treatment for same. Patient had no past history of any psychiatric illness.

Patient was treated with Levetiracetam 1gm/day, Phenytoin 300mg/day, Acenocoumarol 2mg/day, Aspirin 75mg /day, Acetazolamide 500mg/day, Clonidine 10mg/day, Risperidone 4mg/day, Clonazepam 0.25mg/day and Trihexyphenidyl 2 mg per day. Patient continues to remain on outpatient follow-up with a plan to further titrate doses of Risperidone.



**Fig. 1:** MRI venogram had thrombosis in superior sagittal sinus, left transverse sinus, left sigmoid sinus and left proximal internal jugular vein.

## DISCUSSION

Othello syndrome is a psychotic disorder characterised by irrational thoughts and emotions, with extreme or unacceptable behaviour, in which the dominant theme is the concern with the sexual partner's infidelity not based on concrete evidence.<sup>3</sup> It is associated with significant risk of harm to partner, alleged perpetrator as well risk of harm to self. Though delusion of infidelity is being described in various psychiatric conditions schizophrenia, use of substances such as alcohol, amphetamine and cocaine, neurological conditions such as parkinsonism, and Alzheimer disease.<sup>14,15,16,17</sup> However, our patient was not dependent on such substances and he did not have any prior psychiatric illness or any other neurological conditions Parkinson'. Morbid jealousy secondary to infarcts predominantly affecting frontal region and right hemispherical region has been described. This is due to over compensation (or release of inhibition) by the left brain.<sup>18</sup> Our case report supports the role of right parietal lobe in consistency with a previously reported case which has implicated parietal region in the causation of morbid jealousy.<sup>19</sup> Ours is a unique case report describing Othello syndrome secondary to venous thrombosis leading to venous infarct in right parietal region. However, history of alcohol use in our patient might be another contributing factor for morbid jealousy.<sup>14</sup>

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