Case Report

POSTERIOR CIRCULATION STROKE PRESENTING AS PSYCHOTIC DISORDER – A CASE REPORT

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First submitted on 28/6/2019 Published online: 17/10/2019

ABSTRACT

The prevalence of posterior circulation stroke is less reported compared to anterior circulation stroke, accounting for one-fourth of all ischemic strokes. It commonly presents with neurological deficits like visual deficits, vertigo and sensory-motor deficits rather than merely psychiatric symptoms. Nonetheless, there could be comorbid psychiatric symptoms associated with it. A rare presentation of posterior circulation stroke presenting with psychosis as a primary symptom without any neurological deficit is discussed.

Keywords: posterior circulation stroke, psychosis, ischemic stroke

INTRODUCTION

Posterior circulation (PC) stroke accounts for 20-25% (range 7-40%) of ischemic strokes and is less common when compared to stroke in the anterior circulation. A PC stroke is classically defined by infarction occurring within the vascular territory supplied by the vertebrobasilar (VB) arterial system. In clinical practice, not all PC stroke presentations are classic. Many patients present with signs and symptoms of multifocal PC infarctions. Moreover, the PC is rich in potential collateral support, and clinical manifestations of basilar artery ischemia may be highly variable. Symptoms associated with PC strokes such as diplopia, visual field defects, dysphagia, vertigo, alteration in consciousness, dysarthria, or hearing loss may aid in localization.[1]

Posterior circulation transient ischemic attacks may include brief or minor brainstem symptoms and are more difficult to diagnose than anterior circulation ischemia. This could lead to a delay in the treatment of the condition. However, the mortality associated with it is generally low, and hence the prognosis is good.

The most common presentation of the PCA infarctions is the visual deficits, new-onset posterior cranium headache, dizziness,

Please cite this article as: Nafisa D, Nayak KP, Safeekh AT. Posterior circulation stroke presenting as psychotic disorder – a case report. Kerala Journal of Psychiatry 2019;32(1):46-48. doi: 10.30834/KJP.32.1.2019.162

sensory abnormalities and motor weakness. There may be associated language dysfunction and neuropsychological deficits. It is only rarely associated with a psychotic disorder. There are no large scale studies on psychotic symptoms in posterior circulation stroke, and only a handful of case reports have been published. A recent systematic review did not identify any case or case series involving posterior circulation infarcts.[2] We will briefly discuss a case of posterior circulation stroke, which initially presented as a psychotic disorder. Written informed consent has been taken before publishing the data.

CASE REPORT

Mrs X, a 36-year-old married female, was admitted in the Department of Medicine, with an initial presentation of fearfulness, dyspnoea and vomiting. It was acute in onset (two to three days), progressive and without any aggravating or relieving factors. There was no headache, blurring of vision, fever or cough. She was otherwise previously healthy. On examination, there were no neurological deficits noted. Physical examination and other systemic examination were within normal limits. The patient had otherwise unremarkable findings in echocardiogram, chest X-ray and two-dimensional echocardiography.

The patient was started on anxiolytics for her anxiety symptoms. In view of persistent fearfulness, psychiatry cross consultation was sought. She had an unremarkable past psychiatric history. Mental status examination revealed a conscious moderately built well-kempt female, with normal psychomotor activity, decreased spontaneous talk with anxious affect. The patient had delusion of persecution along with visual hallucination and second person auditory hallucination. Cognitive functions were intact.

A provisional diagnosis of acute and transient psychotic disorder was made, and neuroimaging was suggested to rule out an organic cause. She was treated with oral risperidone and clonazepam. The dose of Risperidone was optimised to three milligrams. CT Brain showed an unanticipated finding of non-haemorrhagic acute infarct in the left posterior cerebral artery territory. Neurology consultation was sought, and other causes of young-onset stroke were ruled out. The patient was started on anti-platelet medication. She showed improvement and was continued on three milligrams of risperidone and Clonazepam. She was subsequently lost to follow-up.

DISCUSSION:

Neuropsychiatric symptoms after stroke are common, and they affect the quality of life. The prevalence of post-stroke psychosis is rare even though both stroke and psychotic disorders are commonly observed in the general population. Most patients might have stroke with neurologic deficits, whereas few may have a silent stroke. The meta-analytic summary suggests that either delusions or hallucinations with poor insight occur in an estimated 4.86% of patients following acute stroke. The average time between the onset of psychotic symptoms and stroke was variable in different studies.[2] Focusing specifically on delusional ideation (DI) following stroke, Kumral and Oztürk reported mostly an acute onset of DI within two days of stroke, unlike our patient. The prevalence of other symptoms which can be observed along with delusions like agitation, aggression,

emotionalism, anxiety reactions and depression were noted inconsistently.[3] The patient, in this case, lacked any pre-morbid psychiatric history or family history of psychiatric illness. The age of the patient is not typical for posterior circulation stroke, and the patient even lacked any risk factors that would contribute to the event, making it further difficult to suspect a stroke. The onset of psychotic symptoms shortly after vascular insult strongly suggested a post-stroke psychosis caused by an acute infarct in the posterior circulation, which is further evidenced by lesions appearing on diagnostic imaging.

Personality change is one of the most commonly noted neuropsychiatric symptoms.[4] Although case reports and empirical studies have documented that psychosis may occur after stroke, there are no large scale epidemiological studies indicating the incidence and prevalence of post-stroke psychotic disorder. There is emerging evidence in the literature that lesions to the brain in the distribution of the posterior circulation are capable of producing sophisticated disturbances in perception.[5]Considering the high prevalence of stroke in the population, post-stroke psychosis should be studied systematically.[2]

CONCLUSION:

The uniqueness of this case is that the patient developed psychotic disorder without any motor deficits, ataxia or visual deficits. Increased awareness of this phenomenon will hopefully result in greater recognition, enhanced treatment and understanding of the psychopathology associated with stroke in the posterior circulation.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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