Case Report

Post Stroke Psychosis

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Introduction

Neuropsychiatric disorders are common after stroke. The entire spectrum of psychiatric illness can be seen after an episode of stroke. Most common of psychiatric ailments seen are depression, anxiety disorders, emotional incontinence and catastrophic reactions. However cases of post stroke psychosis having symptoms like hallucinations, delusions and agitated behaviour thus forming acute psychosis due to organic cause are very rare. Rabins screened all stroke individuals > 60 years over a 9-year period (n = 1191). He identified only five patients having psychosis. All had right frontoparietal lesions and subcortical atrophy compared to five matched controls. Such cases of psychosis often correlate with strategic infarcts in caudate nucleus, striatum and thalamus.

The present case is a 42 years old woman who suffered from acute psychosis after the attack of stroke with no previous history of psychiatric illness.

Case report

A 42 years old woman, a housewife by profession is admitted in neurology ward with complaints of severe throbbing, pulsatile headache since morning, headache is unbearable in nature, on reaching in hospital in evening time, she complained of sudden weakness and numbness in left side of body. After that she remained unconscious for two hours. She was a known hypertensive and blood pressure was 220/160 mm of Hg at time, suffered from diabetes also. All routine investigations were done along with CT scan, later MRI scan. CT scan showed the findings of hemorrhagic infarct in right middle cerebral artery territory. MRI study showed the existence of lacunar infarctions in the head of both the caudate nucleus and body of caudate nucleus. Lipid profile was raised. She was diagnosed having right cerebrovascular accident with left hemiparesis.

Patient was put on treatment by neurologist and she started showing good response also, but within next 48 hours only, she developed delusions of reference and delusions of persecution towards hospital staff including doctors, her family members also. She refused to accept any medicine and any eatable from them, became fearful that they will try to poison her food, had auditory hallucinations also. She developed marked psychomotor agitation and had markedly decreased sleep. At that time, she was put on Lorazepam 2mg bid. Risperidone 2 mg once daily. She showed marked improvement with this, gradually all her psychotic symptoms disappeared. She returned back to normal life again.

Discussion and Conclusion

Psychiatric manifestations in form of depression, emotional incontinence, euphoria, personality changes and cognitive deterioration are common during the evolution of stroke patients. However, there are few references in the literature on patients with stroke whose initial symptoms are a psychotic type picture, this being considered as uncommon. The frontal lobes modulate and shape character and personality. Volition, cognitive and emotional processes are congregated in them.

We can distinguish four anatomic-functional regions: central motor areas, dorsolateral cortex, orbital regions and medial surface that include motor tissue of the lateral convexity and of orbital areas, including the area of the anterior cingulate. The principal cortico-cortical connections correspond to visuospatial and visuoperceptive information processes (posterior parietal-temporal cortex). The frontal-thalamic (mainly Dorsomedial
Thalamic Nucleus), frontal-limbic (formation of the hippocampus-amygdalomedial temporal lobe) and frontal-basal are distinguished within the cortico-subcortical connections. The latter are basal ganglia-thalamo-cortical circuits, anatomically and functionally separated and closed (motor, oculo-motor and prefrontal circuit).

In relationship with the prefrontal circuit, Cummings\(^3\) established that the subcortical structures (thalamus, striatum, and pallidus) and the prefrontal cortex shape three connection systems (dorsolateral, orbital lateral and anterior cingulate) that mediate in multiple aspects of human behavior.

In this sense, Kitabayashi et al\(^4\) present a case of schizophrenic psychosis following right putaminal lacunar infarction due to lesion of the prefrontal dorsolateral and orbital lateral circuits. Ischemia in the thalamus has also been documented in stroke psychosis\(^5\). However, the development of psychotic symptoms (hallucinations and delusional ideation) is not due to the unilateral lesion of the frontalsubcortical system but rather to the interhemispheric asymmetry caused by hyperactivity or by hypoactivity of either of the two systems. Remission of psychotic symptoms after left putaminal bleeding in a schizophrenic patient with previous ipsilateral frontal-subcortical hyperactivity has also been documented\(^6\).

Rabins\(^1\) found a greater frequency of right frontoparietal lesions in patients with post-stroke psychosis and a greater degree of subcortical atrophy.

Such a sudden onset of the psychotic symptoms, the demonstration in the neuroimaging of an acute vascular event and the reversible character of the symptoms would support the diagnosis of organic psychosis, in this case secondary to ischemic infarction in strategic territory.

References