



CASE STUDY: NEUROPSYCHIATRIC SEQUAELE OF HYPERTENSION

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ABSTRACT

Neuropsychiatric features like depression, anxiety, cognitive impairment and rarely psychosis can be a presenting feature or complications of stroke. Although rare, post-stroke psychosis can lead to diagnostic and therapeutic dilemma in the management of stroke. Early diagnosis and treatment can prevent both neurological and neuropsychiatric complications of stroke. Here we present a case of a hypertensive female who presented with features of acute psychosis following cerebrovascular accident which resolved immediately after the treatment of underlying cause.

KEYWORDS: Acute psychosis, hypertension, stroke.

INTRODUCTION

Stroke can lead to many complications including neuropsychiatric problems like depression, anxiety, psychosis and cognitive impairment.^[1] Depression is a common complication of stroke with a prevalence of 29% according to a recent meta-analysis in 2013.^[2] However, post-stroke psychosis is a rarer scenario with an incidence of less than 1%.^[3]

Researches on hypertension and cognitive impairment suggest few hypotheses to explain the pathophysiology.^[4] Hypertension can cause vascular alterations, which can result in lacunar infarcts and white matter hyperintensities (leucoaraiosis). It can also influence β -amyloid accumulation, thereby disrupting neuronal synapsis and causing senile plaques.^[5]

In the elderly, the psychotic symptoms following stroke seen are paranoia, persecutory delusions, visual and auditory hallucinations, misidentification syndromes.^[6] Other causes of psychotic symptoms in old age are metabolic disorders (e.g., vitamin B12 deficiency, hepatic encephalopathy, uremia, thyroid and adrenal disorders, etc.) or other neurological disorders (e.g. Parkinsonism, Wilson disease, malignancies, epilepsy etc.).^[7]

Here we present a case of a hypertensive female who presented with features of acute psychosis following cerebrovascular accident which resolved immediately after the treatment of underlying cause.

CASE-REPORT

A 65-year-old female was brought to the emergency department of a tertiary care hospital by the family members with subacute onset of irrelevant talk, agitated behavior, paranoid behavior towards family members, diminished self-care, muttering and gesticulating to self and disturbed sleep for 10-12 days. A month ago, there was a stressor in the form of death of a close relative. The patient was also a known case of hypertension for 10 years and on medications for the same, with regular compliance.

The patient was subsequently admitted under Psychiatry care and on mental status examination it was found that patient's comprehension was poor. She was not able to name relatives and objects correctly. However, when the examiner uttered the correct names of the same relatives and objects, she would nod her head in affirmation. She found it very difficult to communicate with anybody yet kept on trying. She kept on attempting to obey verbal commands told to her.

On further neurological assessment, it was found that power was reduced in her right hand, she had difficulty in performing fine motor activities.

For assessment of cognitive functions, MMSE was performed the score of which was 25, which ruled out dementia.

During the course of hospitalization, she was referred to medicine department for hypertension and newly diagnosed diabetes. Ophthalmologic examination revealed grade I hypertensive retinopathy.

Investigations

On laboratory investigations, her hematological and biochemical investigations turned out to be within normal limits.

However, MRI was done after admission which showed punctuate hemorrhage in bilateral thalami and left lentiform nucleus, with old lacunar infarct involving the left frontal region and gliotic area involving the left parietal lobe, with mild generalized cerebral atrophy.

Treatment

The patient was treated with clonazepam (0.25mg), clopidogrel (40mg), aspirin (75mg), atenolol (25mg), losartan-chlorothiazide (50+12.5mg), metformin-pioglitazone (500+1mg) and folic acid.

Outcome & Follow-Up

Her psychotic symptoms resolved with treatment within 4-5 days whereas neurological signs and symptoms started resolving after 15-20 days.

DISCUSSION

Psychosis is not commonly known to be a manifestation of cerebral infarction and is not common in stroke patients. Agitation in the form of hyperactive motor behaviors, physical and/or verbal aggression is a common presenting feature of acute psychosis in old age population. Night time behaviors, wandering away from home, rejection of care, refusal to take treatment and medications can also be a part of agitation arising out of psychosis.^[8]

A study performed by Fujikawa *et al.*^[9] suggested that psychiatric symptomatology could be a presentation of silent cerebral infarction. Psychotic symptoms occurring in stroke may vary, and these may depend on the location of infarct lesions within the brain.^[10] Frontal lobe dysfunction causing impairment in judgment and decision making is hypothesized to produce delusion, hallucinations, and dysregulation of inhibitory control.^[10] Moreover, diminished perfusion in frontal or temporal lobes is known to be associated with agitation and psychosis.^[11]

Patients with lesions either within the prefrontal or occipital regions, or in subcortical areas such as the basal ganglia, thalamus, mid-brain, and brainstem present with acute psychosis or other neuropsychiatric symptoms including depression in stroke patients.^[12]

Approximately a third of patients that suffer from a stroke may experience psychological disorders such as depression and anxiety, secondary to physical disability arising out of the neurological deficits.^[12]

The exact mechanism of psychosis in stroke remains unclear. Early treatment of the underlying cause and the antipsychotic medications for behavioural control may provide rapid symptomatic relief.^[13]

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