

# Psychotic Manifestations Due to High Grade Glioma of Corpus Callosum: A Case Report

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## Abstract

**Introduction:** Psychotic manifestations and other psychiatric presentations may be eventually secondary to involvement and disassemble of anatomy and brain structures. Glioma of corpus callosum is a rare tumor. We report a case of psychotic-like symptoms presumably due to tumor invasion to corpus callosum.

**Case Presentation:** A 53-year-old woman from north of Iran was referred because of a severe headache. She hadn't a previous history of psychiatric or psychotic disorders and organic problems. The onset of headache was from 2 months ago. From 13 days ago, the headache was very severe with vomiting, decrease of visual acuity, dyspnea, talkativeness, aggression, disorganized behavior, disorientation, cognitive impairment, incontinency, insomnia, dysphoric mood, disorganized speech as incoherency, auditory, and visual hallucination. The brain MRI showed bilateral parasagittal and posterior Corpus callosum lesions. The surgery was high risk for her and radiotherapy was suggested.

**Conclusion:** The physicians should be alert for clinical manifestations suggestive reversible and organic cause of psychotic disorders. It is important to be alert to the possibility of an organic cause to psychosis.

## INTRODUCTION

So many patients presented to the emergency department with physical symptoms. Psychological disorders are one the most important problems we should consider [1, 2]. There are some reports about brain tumors in various regions that they can cause psychotic, manic or depressive symptoms: posterior fossa mass and neuropsychiatric manifestations [3]; frontal lobe tumors and late-onset seizure with psychosis [4]; command auditory hallucinations, grandiosity delusion and nonpurposive violent outbursts [5]; cavernous angioma of the Corpus Callosum and brief psychotic disorder [6]. In some congenital anomalies like Andermann syndrome (agenesis of corpus callosum with neuronopathy), there is corpus callosum dysgenesis with mental retardation, dysmorphic presentations, psychotic episodes, and peripheral neuropathy [7].

Gliomas are one the brain tumors that can cause many symptoms. In fact, there are many different types of glial tumors. Prognosis of these tumors depends on different factors but the type of the tumor is one of the most important things. Low-grade gliomas mostly are treatable. But high-grade and progressive tumors such as glioblastoma (also called glioblastoma multiforme) and anaplastic astrocytoma are difficult

to treat. The symptoms depend on the location of the brain tumor (headache, blurred vision, vomiting, and speech impairment). Neurosurgery, radiotherapy, and chemotherapy are common in treating these tumors [8].

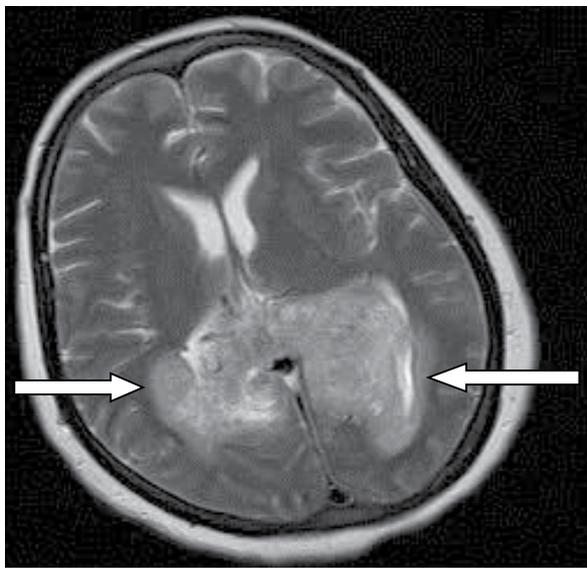
This is a report of a patient with a posteriorly placed lesion of the corpus callosum (glioblastoma multiforme) presenting with psychotic symptoms, with associated neurological abnormality. It is important to be alert to the possibility of an organic cause to psychosis.

## CASE PRESENTATION

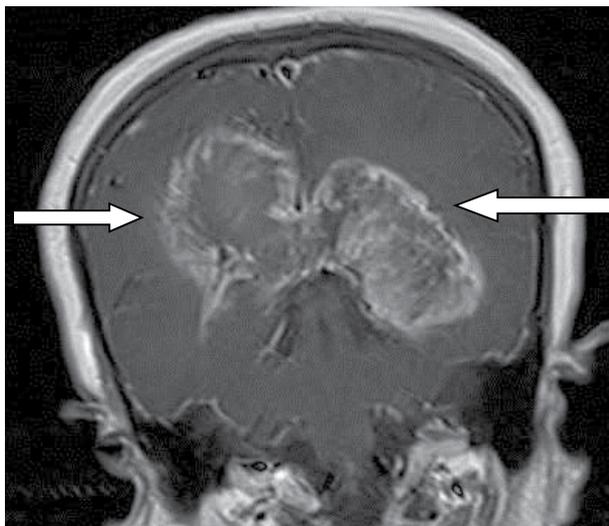
A 53 year-old widowed woman, low socio-economic, no educated from north of Iran was referred because of severe headache. She hadn't previous history of psychiatric disorders or organic problems. The progressive headache was started 2 months before. The headache was located in occipital and then involved all of the head. He was hospitalized in neurosurgery ward and in the later stages of treatment, because of her agitation and psychotic behaviors, psychological consultation was requested. The patient's symptoms was started long time ago but she did not care about it.

She hadn't clouding of consciousness and lateralized signs. From 13 days ago, the headache was very severe with vomiting, decrease of visual acuity, dyspnea, talkativeness, aggression, disorganized behavior, disorientation, cognitive impairment, incontinency, insomnia, dysphoric mood, and disorganized speech as incoherency, auditory, and visual hallucination. Family history was negative for psychiatric problems and substance use. Before his problems, she was quiet but when she came to hospital she had flight of idea and loosening of association. Her memory was impaired.

The brain MRI showed bilateral parasagittal and posterior Corpus callosum lesions. The surgery was high risk for her and and radiotherapy was suggested. MR angiography and MR venography were normal. We started tablet Risperidone 1 mg at night, Halopridole 1 mg twice a day, Clonazepam 0.5 mg at night and Sodium valproate 200 mg daily. After treatment, aggression and agitation were improved (Fig 1 and Fig 2).



**Figure 1:** Large heterogeneous lesion that the crosses the corpus callosum in keeping with glioblastoma multiforme (GBM)



**Figure 2:** Large heterogeneously enhancing lesion with marked local mass effect in keeping with glioblastoma multiforme (GBM).

## DISCUSSION

Psychological disorder can have different causes [9]. The hypothetical association between corpus callosum and behavior is known. Psychotic problem is a rare manifestation of callosal lesions. Because of this, it is difficult to find and explain the role of these lesions in behavioral problems. On the other hand we can't certainly assess the etiologic role of this lesion in such problems. Neuropsychiatric disorders following the corpus callosum lesions are reported in previous review literature such as schizophrenia, psychosis, and psychosis [10]. Although, corpus callosum lipoma is associated with agenesis in half of the cases [10-13]. Glioma is a brain tumor that the exact cause of this lesion is not known and almost always starts in the brain or spine and arises from glial cells. Genetic disorders and oncogenes are possible causes of the gliomas [14]. At first, our patient had raise of intracranial pressure and then she found behavioral problems, changed personality, misperception, and psychotic symptoms.

The goal of treatment is prolonging the survival of the patients. Treatment for brain gliomas depends on the location of these tumors, type, and grade. Usually radiation therapy, chemotherapy and in some cases, surgery is needed. In this case due to location of this tumor, we suggested radiotherapy [15].

## CONCLUSION

Lesions that involve corpus callosum may cause behavioral symptom. The physicians should be alert for clinical manifestations suggestive reversible and organic cause of psychotic disorder and they must be able to distinguish this condition from others that present similar symptoms.

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## CONFLICT OF INTEREST

None to declare.

## FUNDING

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