



ORIGINAL RESEARCH PAPER

Psychiatry

CASE REPORT ON PSYCHOSIS AFTER LEFT PETROSAL MENINGIOMA

KEY WORDS: Meningioma, left petrous tumor, resection, psychosis

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ABSTRACT

Meningiomas are the most common type of primary tumor of the central nervous system. The signs and symptoms of meningioma are dependent on the location of the tumor. Psychiatric symptoms can range from mood symptoms, anxiety, psychosis features, memory problems, and personality changes, and are usually related to the location of the meningioma tumor. Here we report a middle-aged lady with psychotic symptoms after resection of left petrous meningioma which lead to significant socio-personal dysfunction. She started treatment with antipsychotics. At 3 months of follow-up, the patient had no ideas of persecution or reference, had occasional hallucinations, and had a fair insight.

INTRODUCTION

Meningiomas are the most common type of primary tumor of the central nervous system. However, as meningiomas grow gradually, they are usually asymptomatic and are often diagnosed incidentally during imaging or autopsy. The typical signs and symptoms of meningioma are seizures and focal deficits, including visual changes and altered mental status. Psychiatric symptoms can range from mood symptoms, anxiety, psychosis features, memory problems, and personality changes, and are usually related to the location of the meningioma tumor (1). Psychiatric symptoms were most frequent in the temporal group (60%), followed by the frontal group (45.5%) than in patients with suprasellar meningioma (22.2%) and occipital meningioma (33.3%). (2). Typically, tumors in the dorsolateral prefrontal region cause deficits in executive function, and tumors in the orbitofrontal region cause disinhibition. Similarly, tumors in the medial frontal region may cause apathy and tumors in the temporal- limbic region may be associated with psychosis (1). Our case report is unique in a way that most of the studies found psychosis with the onset of meningioma or was detected incidentally when presenting with psychosis and reported improvement or disappearance of psychotic symptoms after surgical resection but in our case, psychosis develops after resection of left petrous meningioma.

CASE REPORT

A 42-year-old married female, homemaker by occupation, presented to the Department of Neurosurgery with a headache, blurring of vision, and hearing impairment. A diagnosis of left petrous meningioma was made with the help of imaging studies and had been admitted for surgical removal. Post-surgery, the patient developed an altered mental state while in the ICU from day 4. She complained about hearing the voices of other patients in front of her bed, who were apparently talking about her. She would hear such voices with her right ear and those voices would be mostly threatening in nature. The patient's attendants would deny hearing any such voices. She was fearful and would not allow her husband to leave her side. She would be restless and agitated, often attempting to remove her cannula. She was not oriented to place, often identifying her ward as her house. She would hardly sleep for 1-2 hours at night. On the second day of such behavioral changes, a referral was sent to the Department of Psychiatry. She was then diagnosed with delirium and was prescribed tablet Haloperidol 2.5 mg once daily, at night for three days.

On medication, her sleep, agitation, and orientation improved, but the voices persisted. After shifting the patient from I.C.U. to ward, she started hearing the voice of a doctor,

who wanted to operate on her, and that of a male nurse. She heard it in clear consciousness and had no impairment in orientation. The patient had reported that the voices would comment about her daily activities as well then. She heard these voices 9-10 times a day, lasting for 3-4 minutes, and was not under her control. The voices continued even when the patient would cover her ears with her hands. Her predominant mood was found to be irritable, and her biological functions were within normal limits except in some instances when she would hear voices in the night and be unable to fall asleep. No psychiatric review was done after 3 days as the patient had become cooperative with the treating team.

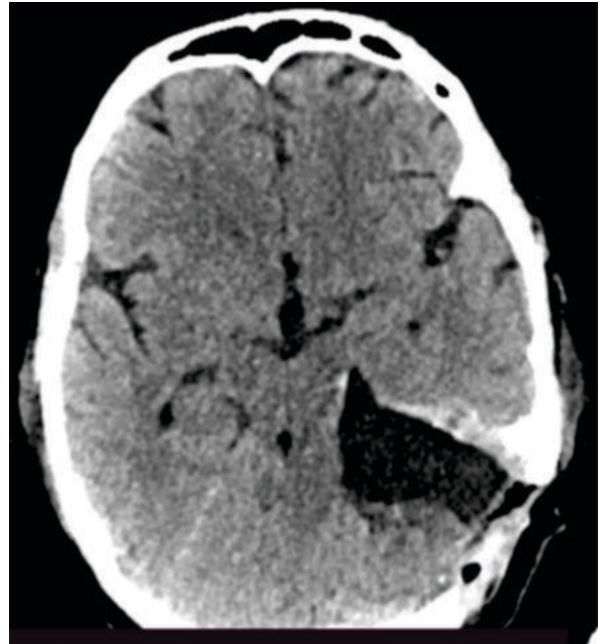


Figure: MRI Brain Axial View, Day 1 Post Operative Of Left Retro Mastoid Craniotomy With Gross Total Resection Of Meningioma

She had been discharged in a stable condition post-surgery on day 15. But even after returning to her home, she had complained of hearing those two voices. Over the next few days, she also started hearing the voice of her neighbors, which would threaten to kill her. They appeared to be coming from outside their house, she would go to check the source but would not be able to locate it.

According to the informant, the patient was observed to be

suspicious of people, especially the doctor, who operated on her. The patient would say that the doctor had installed cameras in her house through which she was being monitored and tracked. She would ask the family members to speak in low voices so that the doctor doesn't hear them and claimed that the doctor had been conspiring against her. Gradually this suspicion extended to her husband and neighbors. As her suspicions grew, she would reject the meals served to her and would ask her husband to taste the same food in front of her and consume it only after he did. Over the next 3 months, her interaction with the family members had decreased and she would often stay awake all night. The total duration of sleep had reduced to 3-4 hours per day.

She would wear the same clothes and refrain from bathing for days together, leading to a decline in overall hygiene. The patient had stopped going outside, as she believed that people around her were talking and discussing her. She would not greet neighbors who tried to visit her as she feared that they would come to know what she had been thinking.

As the patient had become unmanageable at home, she was brought to the Department of Neurosurgery from where she was referred to the department of psychiatry. Her mental status examination revealed the delusion of reference and persecution (against the doctor, neighbor, and husband), thought broadcasting phenomena, somatic passivity, and auditory hallucinations (second and third person) with poor insight. The patient neither had significant past illnesses nor had any family history of psychiatric illnesses. A diagnosis of organic delusional disorder (schizophrenia-like) with post-operated left petrous meningioma was considered and a differential of Schizophrenia was made. She started on the tablet Risperidone 2 mg once daily at night.

On medications, her sleep and appetite improved over a period of 1-2 weeks. The frequency of the voices had decreased minimally, and the suspiciousness persisted. She was not able to do her household chores and was not able to take care of herself adequately. In the subsequent follow-up, risperidone was increased to 4 mg per day, and tablet trihexyphenidyl 2mg was added as she had developed fine tremors on both hands. The dose was optimized to 8mg per day and the patient did not develop any other adverse side effects.

At 3 months of follow-up, the patient had no ideas of persecution or reference, and had occasional hallucinations and fair insight, attributing the residual voices due to some form of illness, which required treatment.

DISCUSSION

Our case describes the emergence of psychotic features post-resection of petrous meningioma in a middle-aged lady. There was no history suggestive of any psychiatric manifestation before the surgery. The psychotic symptoms included auditory hallucinations, delusions of persecution and reference, and alienation phenomena in the postoperative days. No temporal association between the presentation of the symptoms and the mass was noted, as the primary complaints were only of neurological issues. Therefore, the reasons for the development of a full-fledged psychiatric disorder after successful major neurosurgery seem to be elusive. Whether incomplete resection of such a mass led to the emergence of symptoms or the surgical intervention itself precipitated a psychiatric illness remains unanswered.

It has been difficult to distinguish diagnostically between psychiatric symptoms arising from the meningioma itself, or the meningioma and possible incidental psychiatric disorders, which, in that case, might be comorbid conditions. If a tumor is the primary cause, one might hope that surgical removal of the meningioma will eliminate the psychiatric

symptoms. This happens in some cases. One study showed complete or partial resolution of psychiatric symptoms in 85% of supratentorial meningioma cases (2). In contrast to this finding, the study of Madhusoodanan S. et al study found that psychotic symptoms may persist or worsen for some time after surgery (3), This requires additional psychopharmacological or psychotherapeutic interventions for appropriate management. The prognosis of such cases tends to be like that of patients with primary psychotic illnesses. In One study by Hamza et al on a patient with a past history of psychiatric illness, they found that some residual psychotic symptoms persisted even after the removal of frontal meningioma (4).

CONCLUSION

This case highlights the need for proper surveillance even after successful surgical intervention for patients with central nervous system lesions. Such patients might develop independent psychiatric disorders as a sequela. Studies aiming to explore the neuropsychiatric presentations of CNS lesions might shed some light on such gray areas, leading to prompt interventions and better prognoses.

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