

Acute Behavioral Change in a Stable Schizophrenic Patient Revealing Posterior Fossa Tumors with Obstructive Hydrocephalus: A Case Report

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Abstract

Case Report

Background: Behavioral disturbances in patients with chronic psychiatric disorders are often attributed to relapse, which may delay the detection of underlying neurological disease [1]. **Case Presentation:** We report the case of a 58-year-old man with a 30-year history of schizophrenia, stable for six years under typical antipsychotic treatment, presenting with acute behavioral change. Imaging revealed multiple cerebellar lesions with perilesional edema causing fourth-ventricle compression and Tri ventricular hydrocephalus. **Conclusion:** This case highlights the need for systematic neurological evaluation and neuroimaging in acute behavioral changes among psychiatric patients, particularly older adults, to avoid diagnostic overshadowing [2,3].

Keywords: schizophrenia, brain tumor, cerebellar lesions, hydrocephalus, behavioral change, emergency psychiatry.

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INTRODUCTION

Patients with chronic schizophrenia frequently present to emergency services for behavioral changes, which are often assumed to represent psychiatric relapse [1,4]. However, organic causes—including intracranial tumors—can mimic psychiatric deterioration, especially in older adults [3,5]. This assumption is particularly challenged when a long-standing stable patient presents with an acute and atypical deterioration.

Posterior fossa tumors may manifest with nonspecific symptoms such as headache, irritability, gait imbalance, or subtle cognitive or behavioral changes [6]. Obstructive hydrocephalus from fourth-ventricle compression constitutes a neurosurgical emergency [7].

This case underscores the importance of maintaining diagnostic vigilance and lowering the threshold for neuroimaging in psychiatric settings [2,8].

CASE PRESENTATION

Patient Information

A 58-year-old man with a 30-year history of paranoid schizophrenia was brought to the psychiatric emergency unit for acute behavioral disturbances.

Psychiatric History

- Multiple hospitalizations during early disease course.
- Stable for six years.
- Maintained on haloperidol 9{mg/day}.
- Good adherence.
- No substance use.

History of Present Illness

Symptoms developed four days prior to admission:

- Irritability and increased verbal agitation.
- Behavioral disorganization.

Initially suspected to be psychiatric relapse, but further questioning revealed:

- Recent acute headache.

- No vomiting, no fever, no seizures, and no confusion.

schizophrenia have higher rates of somatic comorbidities and delayed access to medical care [3].

Clinical Findings

- GCS 15/15.
- Fully oriented.
- Vital signs stable.
- Neurological exam:
- No focal deficits.
- Normal gait.
- Reactive pupils.

Diagnostic Assessment

Routine laboratory tests were unremarkable. Given the acute onset, the presence of headache, and the atypical presentation compared to his usual relapses, a neuroimaging assessment was performed.

Brain Computed Tomography (CT) scan with contrast showed:

- Three cerebellar lesions (Figure 1):
- Right: 20 x 20 (mm)
- Left: 5 x 6 (mm)
- Vermian: 13 x 15 (mm).
- The lesions were isodense with moderate homogeneous enhancement.
- Marked perilesional edema.
- Compression of the fourth ventricle.
- Active triventricular hydrocephalus with signs of trans-ependymal CSF resorption.

These findings were highly suggestive of secondary lesions [9].

Therapeutic Intervention

The patient was immediately transferred to neurosurgery for management of the obstructive hydrocephalus:

- Initiation of corticosteroid therapy (dexamethasone).
- CSF diversion via external ventricular drain.
- Stereotactic biopsy planned after stabilization.
- Antipsychotic dosage maintained with close monitoring.

Outcome and Follow-Up

Within days of the CSF diversion:

- Resolution of headaches.
- Significant improvement in agitation and disorganized behavior.
- No neurological deterioration.

A multidisciplinary follow-up with neurosurgery, oncology, and psychiatry was initiated to manage the underlying malignancy.

DISCUSSION

Behavioral changes in psychiatric patients are commonly misinterpreted as relapse, leading to missed neurological diagnoses [1,4]. Older individuals with

Posterior fossa tumors may present with:

- Headache, gait disturbance, and altered behavior [6,7].
- Hydrocephalus, which itself can manifest with prominent psychiatric symptoms (e.g., apathy, agitation), even in the absence of classical neurological signs [8].

This case is a classic example of diagnostic overshadowing, where the established diagnosis of schizophrenia masked the acute neurosurgical emergency. The key red flags that justified the neuroimaging, despite a seemingly normal neurological exam, were the acute onset of the behavioral change and the presence of headache.

Therefore, guidelines recommend systematic medical assessment and early neuroimaging in acute behavioral changes, particularly when the presentation deviates from baseline [2,5]. This case reinforces the need for multidisciplinary evaluation and acute awareness of neurological red flags in all psychiatric emergencies.

CONCLUSION

Acute behavioral change in a stable psychiatric patient should not automatically be attributed to psychiatric relapse. Early neuroimaging is essential, especially in older patients and when symptoms are atypical. Prompt recognition of posterior fossa lesions with hydrocephalus can prevent life-threatening complications and significantly improve psychiatric outcomes.

Patient Consent

Written informed consent was obtained from the patient for the publication of this case report and any accompanying images.

Conflicts of Interest: The authors declare no conflicts of interest.

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