

## A Case of Glioblastoma Multiforme Masquerading as Rapidly Progressive Dementia

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### Abstract

A 65 years old male presented with 2 months history of rapidly progressive cognitive decline in form of forgetfulness, anomic aphasia and limb apraxias accompanied by change in behavior without clinical suspicion of any space occupying lesion but on neuroimaging was found to have grade 4 glioblastoma involving the left temporoparietal region. Supratentorial gliomas can present with cognitive/behavioral changes but such a presentation in isolation without overt signs of raised intracranial pressure inspite of rapid evolution is rare and has not been described till now to the best of our knowledge.

**Keywords:** Glioblastoma; Dementia; Supratentorial

### Introduction

Rapidly progressive cognitive decline has got a long list of differentials. Supratentorial temporoparietal gliomas though rarely, can present with rapidly progressive cognitive decline/behavioral changes in isolation and such a differential should always be kept in mind, so that appropriate investigations could be planned and any unnecessary delay in treatment is prevented.

### Case Presentation

A 65 years old otherwise healthy male previously a known case of type 2 diabetes mellitus and hypertension presented with 2 months history of acute onset rapidly progressive cognitive decline and change in behavior. His illness began with language dysfunction in the form of difficulty in naming previously known persons and objects and sometimes wrongly naming them, which was followed over a short period of time by abnormal behavior in the form of irritability, dull apathetic behavior, abusive tendency and anger outbursts. Over the next month his irritability and aggressiveness increased as well as he developed limb-kinetic apraxias in the form of difficulty in tying shoe laces, knot of his trousers and brushing and combing himself.

Apart from it there was no history of recurrent headache, vomiting, seizures or one sided weakness which could raise the possibility of any intracranial space occupying lesion and his initial clinical impression was that of a case of rapidly progressive dementia with frontal, temporal and parietal lobe features.

Over a period of 2 months his behavior became so much aggressive and altered that he had to be hospitalized under some neurophysician who advised an MRI scan of brain.

On neurological examination, he was conscious, alert but irritable. MMSE could not be done because of his irritability. Speech and cranial nerve examination was normal including normal fundus and so was motor system except for right extensor plantar.

### Investigation

Three Tesla MRI brain (Figure 1) was done which revealed abnormal signal intensity mass lesion in left temporoparietal region with patchy contrast enhancement with few other similar smaller lesions in right temporooccipital region.

MR spectroscopy (Figure 2) showed increased choline peak with

increased choline/creatin and choline/NAA ratio and decreased NAA (N-acetylaspartate).

Overall the findings were suggestive of multicentric/multifocal high grade glioma.

### Treatment

Patient was subsequently operated and the tumor mass was resected and sent for biopsy.

### Outcome and Follow-Up

Biopsy of resected mass revealed poorly differentiated, pleomorphic astrocytic cells with marked nuclear atypia and brisk mitotic activity suggestive of grade 4 anaplastic carcinoma. Patient was planned for radiotherapy one month later but unfortunately succumbed to nosocomial pneumonia and septicaemia and died 15 days later due to septic shock.

### Discussion

The most important feature of clinical presentation in most patients with Supratentorial gliomas is the progressive nature of the symptoms. The evolving presentation is variable and depends on many factors, including the type of tumor and its method of growth (infiltrative versus expansile), the location of the tumor within the brain, the rapidity of growth, and the degree of associated edema and mass effect.

Changes in cognition and personality may be caused by elevation of ICP, mass effect, and disruption or central pathways.

Patients with tumors developing within the parietal lobes speak fluently, often with excessive 'empty' speech, yet lack comprehension of spoken or written words. Parietal lesions may also cause apraxias,

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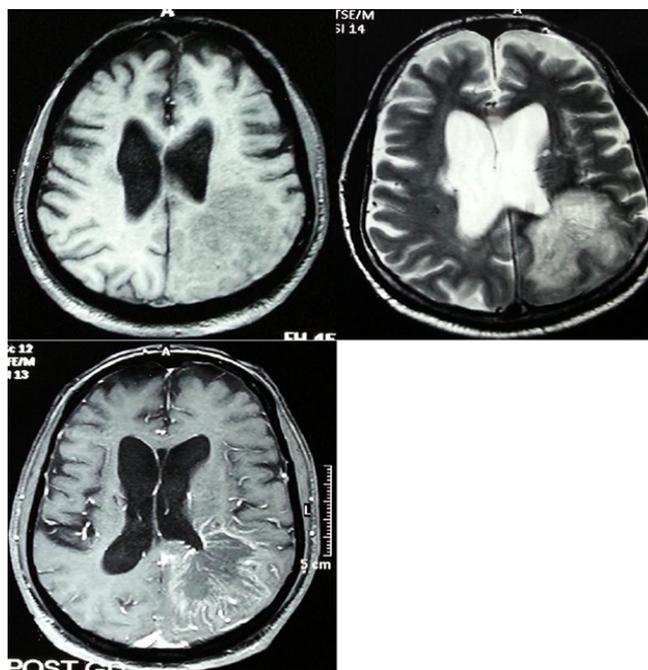


Figure 1: MRI brain axial T1, T2 and postcontrast images showing abnormal signal intensity mass lesion appearing hypointense on T1 and hyperintense on T2 and showing patchy peripheral enhancement is seen in left temporoparietal region

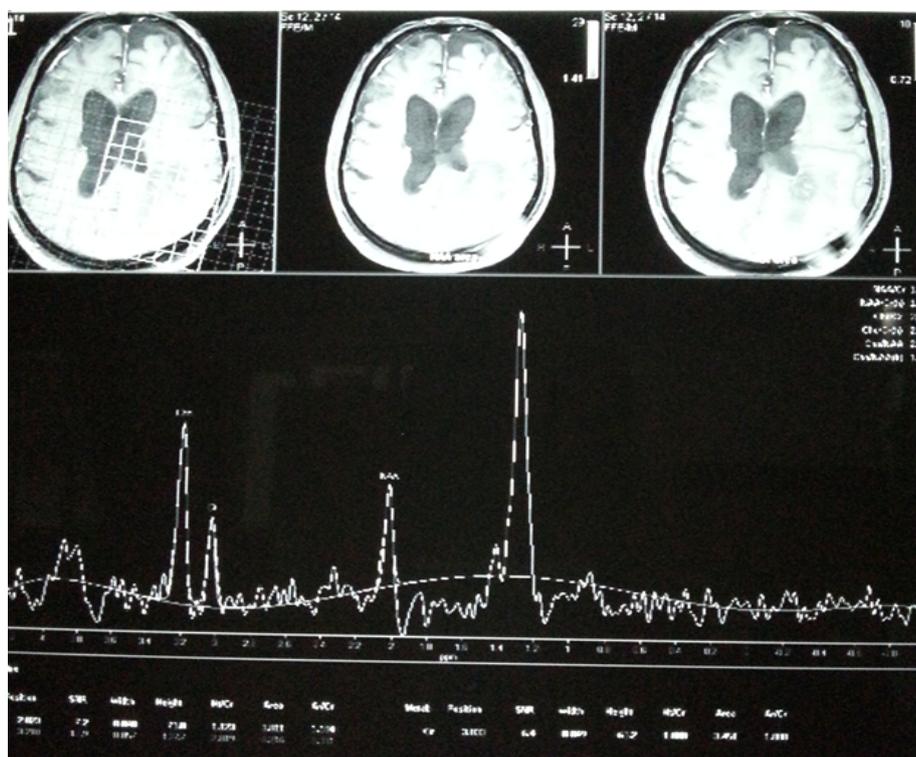


Figure 2: MR Spectroscopy performed in the region of lesion showing increased choline peak with increased choline/creatin and choline/NAA ratio and decreased NAA suggestive of aggressive neoplastic process.

the inability to formulate and execute complex motor behaviors such as dressing or constructions, despite intact strength and coordination [1].

Feng et al. reported an elderly patient presenting with rapidly progressive anomic aphasia due to a brain tumor occupying more than three quadrants of the left temporal lobe which subsequently turned out to be glioblastoma multiforme on histopathology [2].

Despite optimal treatment, the median survival is only 12 to 15 months for patients with glioblastomas and 2 to 5 years for patients with anaplastic gliomas. The standard therapy for newly diagnosed malignant gliomas involves surgical resection when feasible, radiotherapy, and chemotherapy [3].

## Conclusion

- Gliomas may present with rapidly progressive change in cognition/behavior but such a presentation in isolation without overt signs/symptoms of elevated intracranial pressure is rare.

- There should always be an index of suspicion for malignant gliomas in patients presenting with rapidly progressive cognitive decline to avoid delay in treatment
- Contrast enhanced MRI with MR spectroscopy is the investigation of choice as the lesion may be missed on non-contrast CT images.

## References

1. (2010) Presentation and Clinical Features of Supratentorial Gliomas in Adults. *Principles & Practice of Neuro-Oncology: A Multidisciplinary Approach*. Demosmedical.
2. Feng HM, Kuo SC, Chen CY, Yeh YW (2013) Rapidly progressive anomic aphasia: a rare presentation of temporal lobe tumor. *J Neuropsychiatry Clin Neurosci* 25: E18-19.
3. Wen PY, Kesari S (2008) Malignant gliomas in adults. *N Engl J Med* 359: 492-507.