Bilateral thalamic glioma: A rare case with an unusual presentation

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Case Report

Abstract

Bilateral thalamic glioma (BTG) is rare. The clinical presentation, natural history and prognosis of bilateral thalamic tumours are still relatively obscure. In this article we report a 40-year-old patient with bilateral thalamic tumour and briefly discuss its clinical and radiological presentation. The tumour was diagnosed on histopathology as an astrocytoma.

Keywords: Thalamic Glioma; Prognosis; Astrocytoma

Introduction

Thalamic tumours account for 1-1.5% of all brain neoplasms and primary bilateral thalamic glioma is exceedingly rare.1 MRI is the modality of choice for detecting these lesions. Lesions appear hyperintense on T2-weighted and FLAIR, and hypo-to iso-intense on T1 weighted images. MR spectroscopy shows a unique pattern of increase in levels of creatinine and choline and a decrease in the levels of N-acetyl aspartate.2 Most thalamic lesions are histologically low-grade astrocytomas.3 The prognosis for BTG is poor because of diffuse and bilateral involvement of thalamic nuclei which prevents its complete resection. Furthermore the role of adjuvant therapies including Radiotherapy and/or Chemotherapy in BTG is limited.4

Case presentation

A 40-year-old man presented with headache for the last two months. Physical examination was normal. Patient had no personality change or cognitive deficit. MRI showed a large heterogenous mass lesion involving both thalami. It was hypointense on T1 weighted and hyperintense on T2 weighted and FLAIR images. The histopathological diagnosis on stereotactic biopsy was that of an anaplastic astrocytoma WHO Grade III. Radiotherapy was planned to initiate at the time of this writing.

Discussion

BTG is a rare tumour which occurs as a large tumour located in symmetrical areas in the bilateral thalami. BTG has radiologic and clinical features that differ from those of unilateral thalamic tumours.5 The clinical presentation of BTG can be variable due to the complex and various anatomical functional connections of the thalamic structures.6 The principle clinical manifestation in our case was headache. In a study on BTG by Partlow et al, the primary clinical symptoms included personality changes, memory loss, aphasia and emotional lability.7 None of these features were seen in our case. In this case MR imaging revealed a mass that symmetrically enlarged both sides of the thalamus and appeared hypointense on T1 weighted images and hyperintense on T2 weighted images(Figure 1). These tumours do not enhance on post contrast T1 weighted images.8

FIG. 1: (Left)T1 weighted image showing well defined symmetrical hypointense lesions in bilateral thalami; (Right) T2 weighted image showing well defined symmetrical hyperintense lesions in bilateral thalami.

Stereotactic biopsy was performed. Histopathology showed increased cellularity with cytological atypia and mitosis. There were no areas of necrosis or complex microvascular proliferation. The histopathological diagnosis was that of anaplastic astrocytoma WHO Grade III(Figure 2). Generally these gliomas are low grade astrocytomas though limited anaplastic areas may be encountered.9

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Outcome is generally poor, independently of the therapy that is utilized. Rapid fatal evolution after diagnosis and the almost complete unresponsiveness of these tumours to radiotherapy make these rare tumours difficult to treat.

Conflict of interest

The authors declare that they have no conflicts of interest. The authors alone are responsible for the content and writing of the paper.

References