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Case Report

Nonepileptic Seizures in a Patient with Frontal Lobe Oligodendroglioma

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Abstract

Oligodendrogliomas accounts for 30% of all intracranial gliomas, usually affecting young patients in late twenties to the mid forties. Seizures are often the initial presentation in up to 75% of patients because tumor commonly involves the cortex. With the widespread availability MRI, an increasing number of patients are diagnosed from scans for unrelated symptoms (eg, migraine, vertigo, head trauma). Here we present a case of a patient with nonepileptic seizures, who had further workup with neuroimaging and was found to have low grade glioma. It is common for low grade glioma to present with seizures, however it's uncommon for it to present with nonepileptic seizures.

Keywords: Nonepileptic seizure; Oligodendroglioma; Low grade glioma

Case Presentation

A 33 year old patient presented to Neurology Clinic with a 2 year history of spells. Patient described 2 types of spells: the first type consisted of staring spells lasting from a few seconds to a few minutes and they were associated with confusion, but no loss of consciousness; and the second type of spells was described as random jerking of the legs at night associated with transient confusion and headache the next morning. Patient had a negative routine EEG. Carbamazepine was attempted while arranging for Video EEG, but it was ineffective [1,2]. Video EEG captured multiple spells identical to the spells described above, but there was no electrographic correlation. As a result, the patient was suspected to have non-epileptic seizures. Patient then underwent an MRI examination, which showed a cortical-subcortical mass, 23x72 mm, in the left anterior pole of the frontal lobe consistent with low grade glioma. Findings on MRI spectroscopy were mostly consistent with a neoplasm in the glial line. Stereotactic biopsy was then performed and the pathology report was confirmatory of Oligodendroglioma Grade II. Patient underwent surgical resection of the glioma. After the surgery patient stopped having the spells.

Discussion/Conclusion

Generally nonepileptic seizures are episodes of altered movement, sensation, or experience distinguished from epileptic seizures by lack of associated ictal abnormal electrical brain discharges [3]. The golden standard for diagnosis of nonepileptic seizures remains Video EEG. Our patient had typical events on Video EEG and had no correlation, making us suspect nonepileptic seizure, most probable psychogenic nonepileptic seizure. The role of neuroimaging is not clearly defined in psychogenic nonepileptic seizures; however neuroimaging was done as it is becoming increasingly important for the evaluation of patients with seizures in general [4]. As described patient had a rather large left frontal oligodendroglioma, which is also infiltrating the cortex in multiple locations including mesial frontal cortex, orbitofrontal cortex and dorsolateral prefrontal cortex.

It is common for low grade glioma to present with nonfocal neurological complaints, such as seizures or headaches; but it is uncommon for patients with low grade glioma to have nonepileptic seizures as the initial presentation. In our patient the finding of low grade glioma on MRI could have been incidental, however given the large size of the mass and frontal lobe location, one could argue that the nonepileptic seizure in this patient may be a neuro-behavioral manifestation from the lesion to the prefrontal cortex, which is also highly connected with limbic system and amygdala [5].

References

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