



Short Communication

Meningiomatosis Restricted to the Left Cerebral Hemisphere Presenting with Frontal Lobe Seizure: A Short Communication

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Abstract

Seizures are a common clinical feature of benign intracranial brain tumors such as meningioma. Although seizures are cortical phenomena that typically originate from lesions affecting cortical neurons, meningiomas, which arise from the meningeal lining, can still induce seizures due to their proximity to the cerebral cortex. However, the relationship between multiple meningiomas and frontal lobe seizures remains underexplored. We present the case of a 42-year-old woman without neurofibromatosis who experienced global headaches and nocturnal motor seizure involving the right hemi body, associated with loss of consciousness. The motor fits frequently occur at night. Brain magnetic resonance image (MRI) and electroencephalograph (EEG) show multiple meningioma and left frontal epileptogenic focus, respectively. The patient was managed conservatively with anticonvulsant.

Keywords: meningiomatosis, seizure, frontal lobe, Ethiopia

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1. Case Presentation

We report a 42-year-old married right-handed woman presented with a two-year history of global headache and visual blurring. The patient reported having frequent episodes of an abnormal body movement involving her right hemi body, which later become bilateral tonic clonic movement. Associated with the focal motor fits, she had altered mentation, tongue bites, and frothy saliva. The motor fits frequently occurred during sleep time. She has no family history of similar condition, no history of diabetes, hypertension, trauma, or HIV infection. Routine laboratory investigations

were unremarkable. Brain MRI shows multiple homogeneously post contrast enhancing extra-axial mass lesions with dural tail involving the frontal, parietal, and occipital lobes, and frontal parasagittal areas. The smallest and the largest lesions measure in diameters 1.28 cm and 3.34 cm, respectively (Figure 1). The EEG shows continuous discharge of left frontal epileptogenic focus at F7 (Figure 2). Following the diagnosis of multiple meningiomas associated with frontal lobe seizure, she was managed conservatively with sodium valproate 500 mg twice daily and advised on the need to have a regular follow-up imaging.

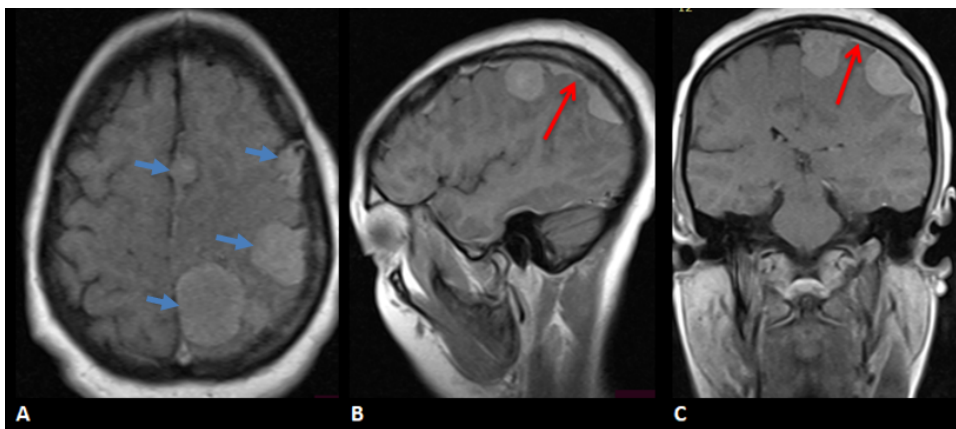


Figure 1: (A) Post gadolinium axial T1 weighted image showing multiple homogeneously enhancing extra axial mass (blue arrows) and (B) sagittal (C) coronal images showing dural tail (red arrow).

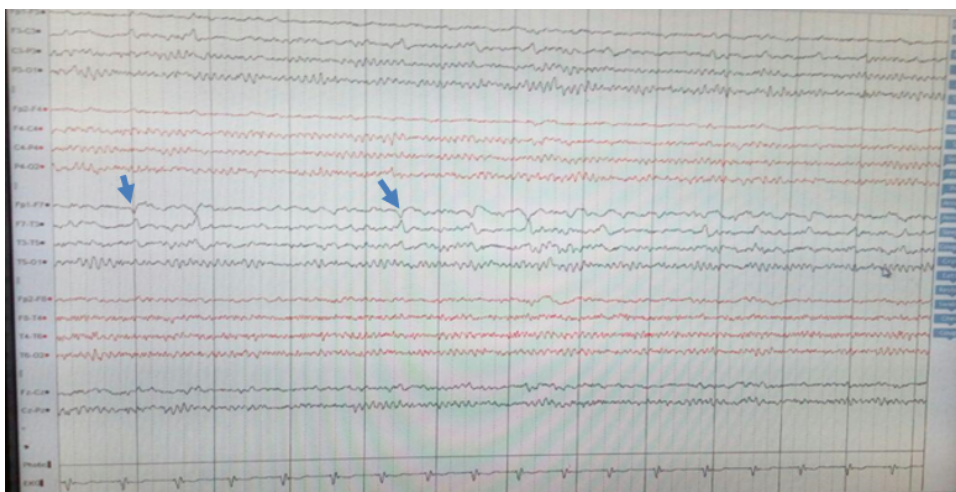


Figure 2: Electroencephalography (EEG) showing a continuous focal discharge of left frontal epileptogenic focus having phase reversal at F7.

2. Discussion

Meningiomatosis as a term represents the presence of multiple meningiomas. Multiple meningiomas represent 1–2% of meningioma [1–4]. The extra axial origin of the tumor and the benign nature of meningiomas resulted in lesser frequency of focal seizure [1, 5–7]. Nevertheless, overall the incidence of seizure is 10–50% in patients with meningioma [6–8]. The primary method meningioma cause seizure is via cortical hyperexcitability, neuronal cell invasion, perilesional edema, and genetic factor such as neurofibromatosis type 2 (NF2), which is associated with more aggressive meningioma subtypes [6, 7]. Due to hormonal influences and genetic predispositions, meningiomas tend to develop more commonly in women than in men with a 2:1 ratio [9]. The present case also sheds light on the importance of EEG in identifying/or localizing the symptomatic meningioma responsible for the seizure among the multiple meningiomas; thus, effectively guiding the management plan, especially surgical intervention. The prognosis is similar for both solitary and multiple meningiomas. Thus, the options for treatment is similar for the two, considering the multiple nature of the meningioma and the relative benign nature of the lesions, and excellent response to anticonvulsant medication resulted in the decision to adapt the principle of watch-and-scan [1, 5, 10, 11]. Surgical resection is the main stay of treatment in multiple meningiomas. In the present case, although the patient with meningiomatosis was symptomatic, she was managed conservatively and started on anticonvulsant to control the seizure. The patient was advised to have an annual serial brain imaging.

3. Conclusion

In summary, this case report describes a female patient without neurofibromatosis who experienced meningiomatosis-induced frontal lobe

seizures, treated conservatively and with anticonvulsants. This case also emphasizes the importance of EEG in pinpointing the responsible lesion. However, it is important to note that this is a single case report, and its findings may not be generalizable to all patients with similar conditions.

Declarations

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Ethical Considerations

The individual has given consent for the publication of this case report.

Competing Interests

None.

Availability of Data and Material

All data of this study is available upon request.

Funding

None.

Abbreviations and Symbols

MRI: Magnetic resonance image

EEG: Electroencephalograph

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