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Incidental Finding of Corpus Callosum Lipoma in A Child with Seizure: A Case Report

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ABSTRACT

Intracranial lipomas are a rare presentation in daily practice, representing <1% of all intracranial tumors. Lipomas of the corpus callosum are a subtype of intracranial lipoma. It is considered a rare type of tumor which accounts for less than 0.1% of brain tumors and less than 0.08% of tumors found on autopsy. They may present as headache, seizures, local mass effect or may be found by chance as they are asymptomatic in half of the cases. We reported a case of corpus callosum lipoma which was incidentally found in a 5-year-old girl who presented with seizure for the first time.

1. INTRODUCTION

Lipomas of the corpus callosum are considered a rare type of tumor accounting for less than 0.1% of brain tumors and less than 0.08% of tumors found on autopsy [1]. They are thought to originate from an aberrant differentiation of the primordial meninges, i.e. the sheath of loose embryonic mesenchymal cells surrounding the brain and spinal cord which differentiates into the meninges (dura mater, arachnoid mater, pia mater), skull, and scalp [2]. More than 50% of intracranial lipomas are associated with varying degrees of brain malformations, such as agenesis of surrounding tissues, frontal bone defects, facial dysplasia, and cerebrovascular defects. They may present as headache, seizures, local mass effect or may be found by chance as they are asymptomatic in half of the cases [3]. We report a case of corpus callosum lipoma which was incidentally found in a pediatric patient.

2. Case

A 5-year-old girl presented to the emergency department with seizure around 30 minutes ago. The seizure was generalized, with upward eye deviation, and was reported to last for around 2 minutes. The patient regained consciousness a few moments after the episode. Previous history of seizure was denied. The patient has been experiencing a fever of 38°C since yesterday along with coughs and runny nose. Upon examination, the patient was conscious. There was no conjunctival pallor nor scleral icterus. Systemic examination was unsignificant. Laboratory blood tests and urinalysis were also performed with no significant abnormality. An

initial assessment of febrile seizure with upper respiratory tract infection was made. An electroencephalogram (EEG) was also performed with no abnormalities found. A *computed tomography* (CT) scan without contrast of the brain was also performed. The scan revealed a hypodense lesion (Figure 1) in the corpus callosum. The lesion was managed conservatively with antiepileptics, and no surgical management was planned nor performed on the patient.

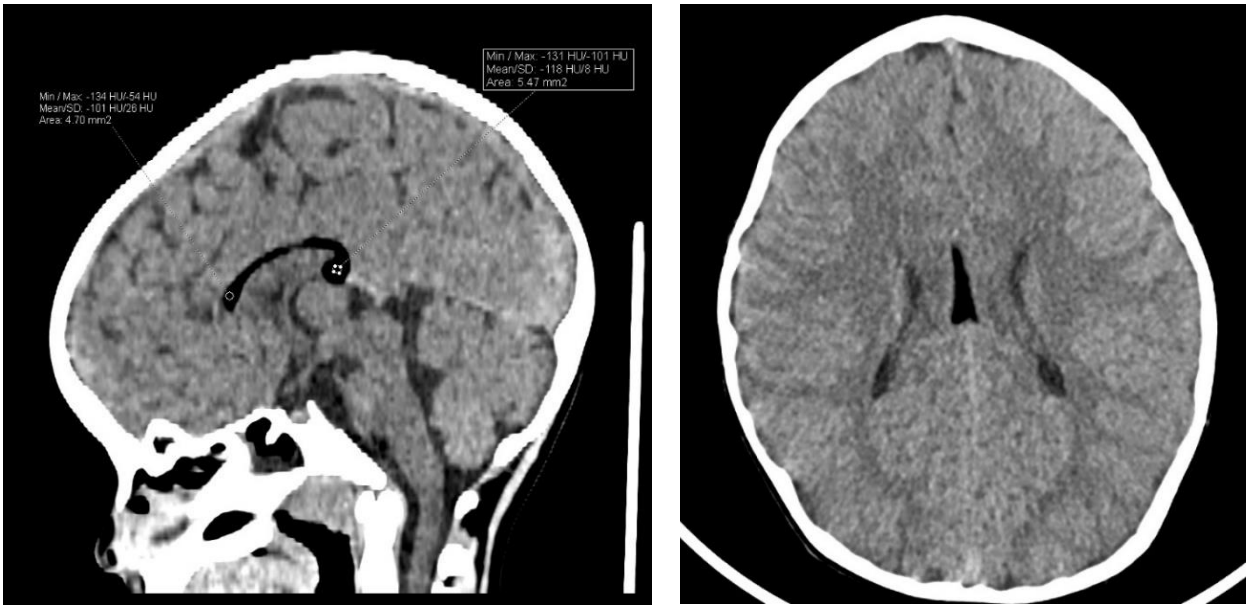

Figure 1. Sagittal (left) and axial (right) computed tomography scan of the patient's brain. A well-circumscribed hypodense lesion of the corpus callosum was noted. The Hounsfield unit (HU) of the lesion was measured at a mean of -101 HU at the rostrum and -118 HU at the splenium.

3. Discussion

Intracranial lipomas are a rare presentation in daily practice, representing <1% of all intracranial tumors [3]. They are traditionally considered as choristomas rather than neoplasms nor hamartoma since they are histologically composed of adipocytes but misplaced anatomically. The pericallosal region is the most common site of intracranial lipoma [3]. Involvement of the midline is seen in 90% of cases while supratentorial involvement is seen in 80% of cases. An estimated 30% of intracranial lipomas are found in the corpus callosum and half of these are associated with various degrees of callosal dysgenesis [3], [4].

While mostly asymptomatic, there are also reports of them inducing epileptic seizure [5]. They demonstrate a characteristic appearance on unenhanced CT scans, with low attenuation. Calcifications are often present in interhemispheric lipomas, most commonly within a fibrous capsule surrounding the lipoma. On magnetic resonance imaging, intracranial lipomas present with a high signal on T1-weighted images and intermediate/low signal on T2-weighted spin-echo sequences. A conservative approach is generally chosen in the management of the intracranial lipomas. The treatment for intracranial lipomas is surgery. However, they are difficult to perform due to the delicate structures nearby such as nerves and vessels. It is also reported that resections are associated with high mortality and do not provide better seizure control [4], [6].

Several complications of intracranial lipomas have been reported. [6] previously reported a ruptured suprasellar lipoma, a potential complication of the rare disease. [7] reported of a large corpus callosum lipoma which was associated with a dysgenesis of the corpus callosum. The stark deformation can be clearly seen on magnetic resonance imanging. However, the prognosis of intracranial lipomas is generally favorable,

especially if only the corpus callosum is involved [3].

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