

Temporal Choroidal Fissure Cyst and Temporal Lobe Epilepsy: Report of two cases

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ABSTRACT

Study design: Two case reports of a choroidal fissure cyst in the temporal horn associated with complex partial seizure. **Objectives:** To describe the clinical course, image findings and literature review of choroidal fissure cysts. **Summary and background data:** there are few reported cases of choroidal fissure cysts. **Results:** We report two patients with complex partial seizures and temporal choroidal fissure cysts. The seizures were controlled in both patients. **Conclusion:** The choroidal fissure cyst diagnosis must highlight the importance of considering this lesion in the differential diagnosis of temporal lobe cyst and temporal lobe seizure.

Keywords: Choroidal fissure, cyst, epilepsy.

RESUMO

Cistos da fissura coroidal temporal e epilepsia do lobo temporal: dois relatos de casos

Desenho do estudo: Dois relatos de caso de cisto de fissura coroidal no corno temporal associado com crise parcial complexa. **Objetivos:** Descrever o curso clínico, achados radiológicos e fazer uma revisão da literatura a respeito de cistos da fissura coroidal. **Resumo dos dados da literatura:** existem poucos casos descritos de cistos da fissura coroidal. **Resultados:** Nós descrevemos dois pacientes com crises parciais complexas e cistos de fissura coroidal. **Conclusão:** O diagnóstico de cisto da fissura coroidal deve ser levado em conta no diagnóstico diferencial de cistos do lobo temporal e em crises de lobo temporal.

Unitermos: Fissura coroidal, cisto, epilepsia.

The choroidal fissure is a narrow cleft in the medial part of the lateral ventricle, in a C-shaped arc, between the fornix and the thalamus, where the choroid plexuses join.^{5,9} To the best of our knowledge, there are few papers reporting cysts originating in or near the choroidal fissure.^{8,10,1,3,4} However, the relationship between complex partial seizure and temporal choroidal fissure cyst is controversial. Our purpose is to describe two cases of patients presenting with complex partial seizure and temporal choroidal fissure cyst

for which the medical treatment provided adequate seizure control as well as to discuss the diagnosis and treatment of this radiological entity.

Case report 1

Our patient was a 21-year-old woman with long history of epilepsy. Her seizures began when she was 7 years old without any initial precipitating event. She had normal neuropsychological development and reported a first degree

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relative with a history of epilepsy. The spells were characterized by a strange sensation in her head that she best described as a feeling similar to mental confusion. This feeling was followed by loss of consciousness, oral and manual automatisms and sometimes, secondary generalized tonic-clonic seizures. Seizures were well controlled with carbamazepine 1200 mg/day and phenobarbital 100 mg/day. Scalp electroencephalogram showed normal background activity. Few spikes and acute waves were observed over the left temporal region. A 1.5 Telsa MRI disclosed a left choroidal fissure cyst (Figure 1). The signal intensity of the cyst was identical to that of the cerebrospinal fluid.

Case report 2

An 18-year-old male visited our clinic with a history of four episodes of oral automatism and confusion with amnesia which stopped with carbamazepine 400 mg/day which had stopped with carbamazepine 400 mg/day six months earlier. There was no family history of epilepsy. At the time of examination there were no neurologic deficits. Scalp Electroencefalogram was normal. Axial CT showed a cyst in the temporal mesial region at the topography of the choroidal fissure. The cerebrospinal fluid and cyst (Figure 2) presented the same intensity at MRI.

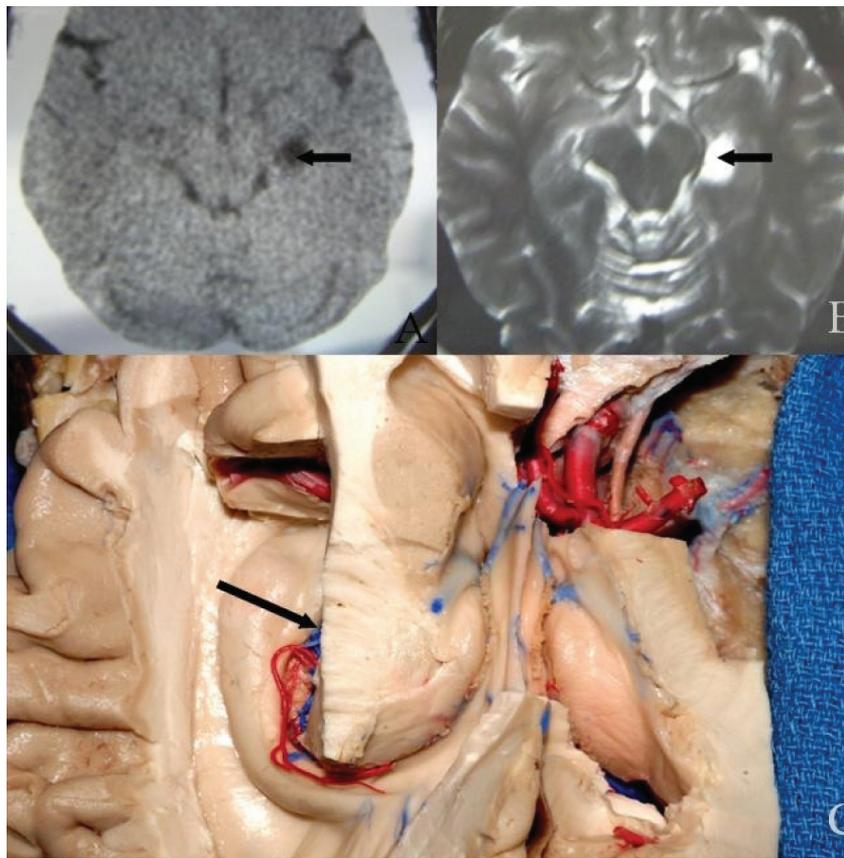


Figure 1. A. Axial CT showing a cystic lesion in the temporal mesial region at the topography of the choroidal fissure. B. The same lesion in T2 weight MRI. The cyst and cerebrospinal fluid have the same intensity. C. Anatomical dissection showing the position of the cyst at the temporal part of the choroidal fissure (arrow).

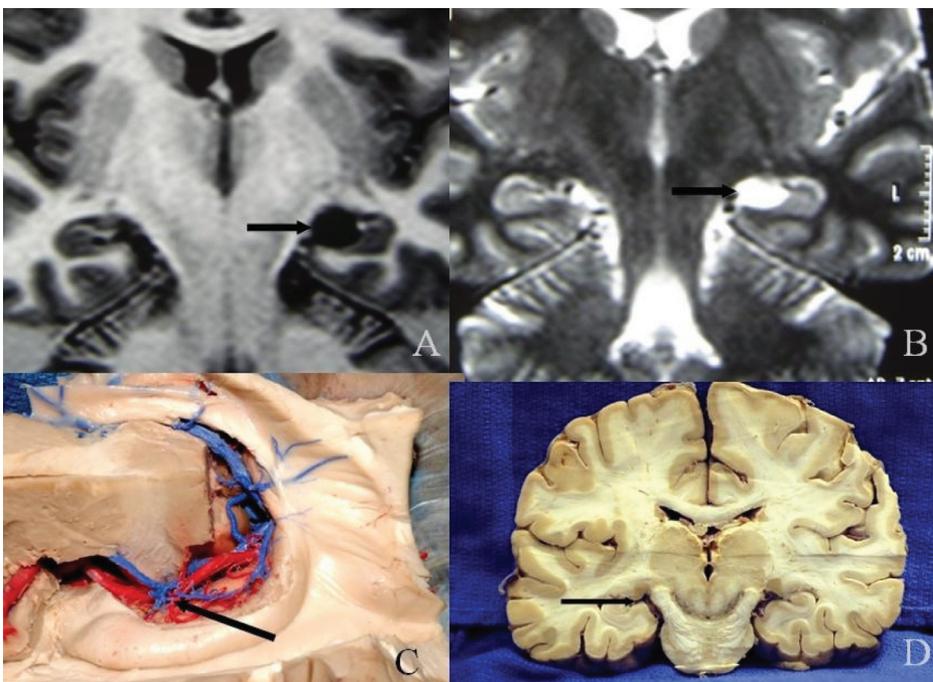


Figure 2. A. Coronal MRI T2 inversion recovery showing a cystic lesion at the left choroidal fissure. B. The same lesion in T2. C and D. The arrow shows the location of the cyst in the choroidal fissure in anatomical specimens as can be recognized in an MRI.

DISCUSSION

The temporal portion of the choroidal fissure is a cleft between the fimbria and the diencephalons.^{5,9} The tela choroidea invaginates into the temporal horn and forms the choroid plexus. The anatomy of the choroidal fissure was described previously.^{5,9} The development of the choroidal fissure and choroid plexus can lead to errors that may result is a cyst in this topography.¹⁰ Sherman et al studied 34 patients with CSF-like paramedian temporal lobe or basal ganglia cysts. The cysts were not extirpated and the MRI criteria to define its benign nature were no detectable wall or associated soft-tissue mass, homogeneous consistency, signal intensity identical to CSF, absence of surrounding edema or gliosis and lack of contrast enhancement.^{6,7,10} Another criterion that can be used is fluid-attenuated inversion recovery (FLAIR) MRI. This technique improves the distinction between cysts with a free watery content and non-free water-like substance, i.e., it improves the distinction between maldevelopmental/porencephalic and neoplastic/inflammatory lesions.¹ In the Sherman series, 26 patients had cysts in or near the choroidal fissure of the temporal lobe, and it was bilateral in two patients. The cysts were ovoid-shaped with the long axis parallel to the choroidal fissure in the anteroposterior plane. The coronal images were better to identify the relation between the cyst and the choroidal fissure.¹⁰

Morioka et al described two patients with a choroidal fissure cyst in the temporal horn controlled with medication and in both the complex partial seizure was ipsilateral to the cyst localized in the choroidal fissure.⁸ However, these patients were not investigated with ictal EEG and depth recording. In the Sherman series, five patients had epilepsy, but “probably unrelated to the seizures” because there was no topographical correlation between the crisis and the cyst.

On the other hand, there are five cases correlating choroid plexus cysts in the trigone with epilepsy.^{2,7} Choroid plexus cysts are common in neonates.³ The choroid

plexus cyst and choroidal fissure cyst are similar. Both are neuroepithelial cysts, probably due to sequestration of neuroectoderm and vascular pia mater or ependymal diverticulum formation and both are lined by epithelium. This is the opposite of what happens in the case of arachnoid cysts.

The description of our cases emphasizes the need to recognize choroidal fissure cysts and differentiate these findings from intraaxial cystic tumors, parasitic lesions, and others.

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