Giant racemose neurocysticercosis with mass effect: Unusual presentation

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A 22-year-old male presented with a history of seizures and headache since 4 years, which increased in severity for last 3 months. His routine observations were normal and neurological examination was unremarkable, magnetic resonance imaging (MRI) brain was carried out, which revealed multiple non-enhancing cystic lesions with eccentric focus suggestive of scolex distributed in the parenchyma of both cerebral hemispheres and cerebellum [Figures 1 and 2]. A large multi-loculated cystic mass in left choroid fissure causing mass effect on the hippocampus and compression of left lateral ventricle [Figure 3]. This lesion showed no diffusion restriction [Figure 4].

Cysticercosis is an infection caused by Taenia solium larvae following the ingestion of eggs excreted in human feces by the adult worm. Cysticercosis that affects the central nervous system or the eyes is called neurocysticercosis (NCC). NCC is the most common parasitic disease of the central nervous system, causing epilepsy in developing countries.[1]

There are various types of NCC lesions based on location of the parasite such as parenchymal, subarachnoid, intra-ventricular, spinal, and ocular. Many patients have combinations of these types. The clinical presentation of patients depends upon the location of organisms and host immune inflammatory response.

The subarachnoid location of NCC is less common presentation. The cysts are usually located in the basal cisterns or sylvain fissures. It includes macroscopic groups of cysticerci in the subarachnoid space giving the appearance of a cluster of grapes and known as racemose variety. The racemose cysts arise from cysticercus cellulosae segmentation and sprouting of new cysts, leading to gradual expansion of each cyst and degeneration of the scolex.[2] The racemose form cysts are large because in the cisterns there is no parenchymal tissue which acts as host response for encapsulation.[3] They are larger in size ranging

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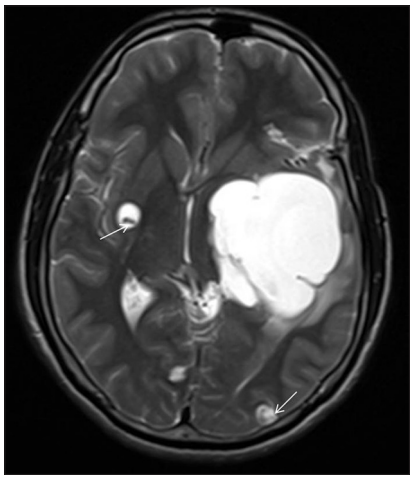

Figure 1: T2W axial image showing multiloculated cystic mass in left choroid fissure, and neurocysticercosis in vesicular stage with eccentric scolex in bilateral cerebral hemispheres (small arrows)

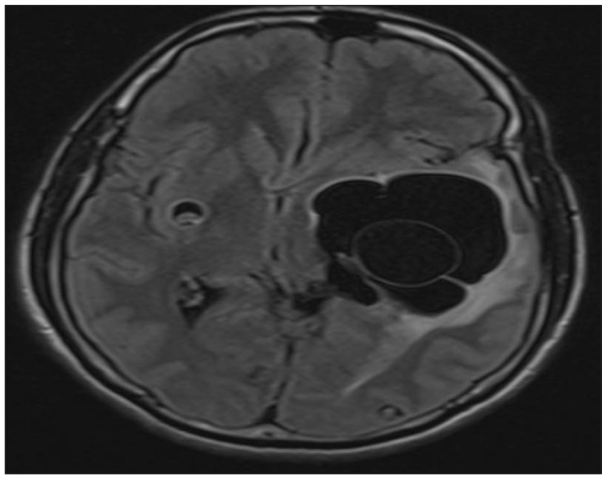

Figure 2: T2W fluid attenuated inversion recovery axial image shows suppression of signal of these lesions with better depiction of scolex in parenchymal lesions, and septa of large cystic mass

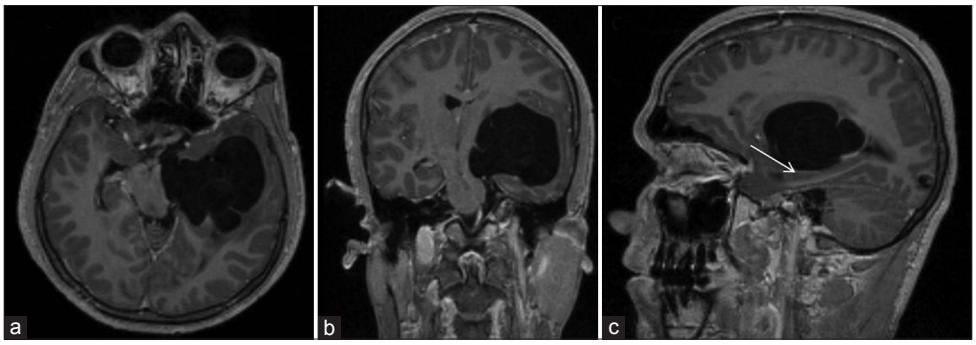

Figure 3: MPRAGE post contrast axial, coronal, and sagittal images (a-c) showing multiloculated cystic mass in left choroid fissure causing mass effect on the hippocampus (white arrow) and compression of left lateral ventricle and no enhancement of the lesions

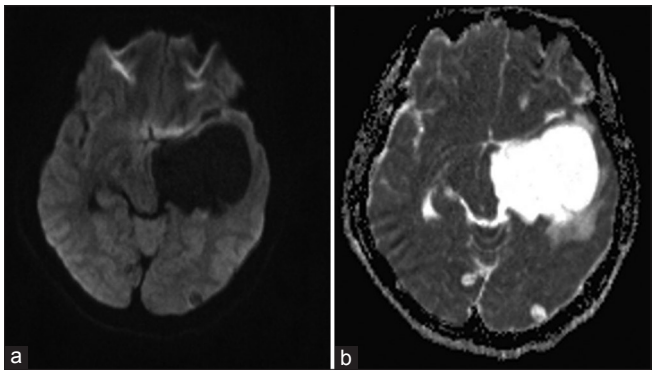

Figure 4: Diffusion Weighted images (a) with b value of 1,000 mm/s², and corresponding Apparent Diffusion Coefficient image (b) showing no restricted diffusion

from 4 cm to 12 cm.[4] The cisternal cysticercus is usually readily identified on MRI as multiple cystic masses in the basal cisterns. The NCC is defined as giant when it measures more than 4 cm or 5 cm in its largest dimension.[5]

In the present case, the multiple cysticerci are in the vesicular stage because these showed no perifocal edema and no of enhancement of its capsule. This case was also unusual because of large cyst measuring 4.7 cm × 5.6 cm × 6.0 cm present in the left choroid fissure and causing mass effect with effacement of left lateral ventricle. The co-existence of vesicular and racemose types is observed in about 10% of the cases of NCC.[2]

Another atypical feature was the presence of multiple internal septa. There are only few case reports of NCC with internal septations.[6,7]

This co-existence of vesicular form with visible scolex, along with multiloculated cystic mass raised the high suspicion for the diagnosis of giant racemose cyst in this case.

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