

## Case Report

# Rare Morphological Variant of Meningioma: A Case Report of Microcystic Meningioma

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**Abstract**

A rare morphological variant of meningioma, known as microcystic meningioma, was originally described as “humid” or vacuolated meningioma. It is difficult to distinguish this clinical entity through computed tomographic scans or magnetic resonance images, as they appear similar to glial or metastatic tumor with cystic or necrotic areas. Their similar imaging characteristics make it difficult to differentiate microcystic meningiomas from these more common pathologies. We describe the case of a 33 years old female who presented with generalized seizures, and was found to have a mass of the left parieto occipital region. Preoperative diagnosis based on imaging studies was pilocytic astrocytoma. A craniotomy tumor removal was performed, and tumor was excised. Microscopic and histopathological results established a diagnosis of microcystic meningioma. Cystic meningiomas are difficult to diagnose accurately using pre-operative imaging. Our case is unique because it presented as a rare morphological variant of meningioma that is extremely rare in our institution. Its unusual imaging might lead to confusion between extra- and intra-axial tumors. In our case, a definitive diagnosis was only possible using a histopathological examination.

**INTRODUCTION**

Meningiomas are common tumors of the central nervous system that are generally slow growing, non-infiltrating and benign lesions, and they account for 13-26% of intracranial neoplasms [1,2]. Meningiomas are extra-axial neoplasms [3] (i.e., they arise from arachnoid cap cells, not the brain or spinal cord) that are generally solid lesions. Pathognomonic findings on Computed Tomography (CT) scans and Magnetic Resonance Imaging (MRI) are usually sufficient to establish a correct diagnosis. The WHO classifies meningiomas into several subtypes based on histological parameters, which are meningotheliomatous meningiomas, fibrous meningiomas, transitional meningiomas, psammomatous meningiomas, angiomatous meningiomas and others [4]. Microcystic meningiomas are rare morphological variants with microcystic formation.

Microcystic meningiomas were separately classified from other meningiomas [5], with the term “microcystic” coined by Kleinman *et al.* in 1980 [6]. These tumors are characterized by finding numerous large formations of extracellular microcystic spaces, containing edematous fluid, creating a stellate, vacuolated cellular appearance of with occasional large hyperchromatic and pleomorphic nuclei. Its unusual microscopic findings might be

mistaken for hemangioblastomas, astrocytomas, schwannomas, chordomas, and angioblastic meningiomas. However, the clinical features and prognosis of the tumor do not differ from the usual benign meningiomas [7]. The presence of an associated cyst is an uncommon imaging feature that may make it difficult to distinguish the tumor from a primary intra-axial glial neoplasm. The presence of peritumoral edema can also be a misleading finding.

**CASE PRESENTATION**

We present the case of a 33-year-old woman who suffered from brief episodes of seizures and loss of consciousness over a period of three months. She also complained of vision deterioration in her left eye over the past 4 years that was associated with progressive intermittent headaches in the past 5 years. Neurological findings give a visual acuity of 1/60 in the right eye and 1/300 in the left eye, and funduscopic examination shows early papillary edema of both eyes. Other cranial nerves were within normal limits, with no motoric or sensoric deficits. Laboratory examinations showed normal findings. CT scan images show an iso hypodense lesion of the left parieto occipital region that enhanced in homogeneously with contrast, with peritumoral edema, and compressed sulcus and gyrus (Figure