Small Choroid Plexus Cyst at the Foramen of Monroe: The Value of Small Field of View Thin Section MR Imaging for the Diagnosis

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Purpose
To demonstrate the value of the small field of view thin section MR imaging in the diagnosis of a small lesion causing obstruction of the foramen of Monroe in an unusual case of a symptomatic small choroid plexus cyst in the anterior third ventricle at the right foramen of Monroe. The diagnostic usefulness of the immunohistochemical study in choroidal epithelial cysts in comparison with other types of cysts at this location is discussed also.

Materials & Methods
We report one case of symptomatic choroid plexus cyst of the anterior third ventricle at the right foramen of Monroe in a 53-year-old woman who presented with recurrent headaches since 1998 as well as multiple falls without loss of consciousness. This type of headache has never been present before and mainly involves the right temporal region and occasionally, it progresses and involves the whole head. Conventional MR imaging of the brain showed an asymmetry of the lateral ventricles with enlargement of the right ventricle. Obstructive lesion at the right foramen of Monroe was suspected but not identified. Small field of view (16x16) thin section MR imaging at the level of foramen of Monroe revealed small cystic lesion within the right side of the foramen of Monroe with signal intensity similar to a CSF producing unilateral right-sided hydrocephalus. The patient then underwent resection of anterior third ventricular cyst via right transcallosal approach with Surgiscope and intraoperative ultrasound. Histopathology study showed a fibrous vascular stroma covered by cuboidal epithelium. The appearance is that of choroid plexus neuroepithelial cells. Immunohistochemical stains are confirmatory with a positive reaction for transthyretin, negative for EMA, and negative for mucin (mucicarmine). Other considerations eliminated as diagnostic possibilities include colloid cyst (negative mucin) and arachnoid cyst (negative EMA).

Results
Conventional MR imaging of patient with foramen of Monroe lesion shows only the secondary effect of the anterior third ventricle at the right foramen of Monroe lesion, which is hydrocephalus. There is high probability of missing the lesion as in this patient. If we modify our technique in patient with suspected foramen of Monroe lesion to pre and postcontrast MR imaging of the anterior third ventricle/foramen of Monroe region using high resolution technique, small field of view (16x16) and thin section cuts (3 mm sections), diagnosis is possible and aids in surgical planning.

Conclusion
A choroid plexus cyst is generally small and a relatively common finding at autopsy. These cysts can be symptomatic. Other types of cysts at this location include colloid cyst, ependymal cyst, and arachnoid cysts. Conventional MR imaging of these lesions may reveal only their secondary effects. However, a small field of view (16x16) and thin sections will improve diagnostic accuracy.

References