

## RUPTURED INTRACRANIAL DERMOID CYST

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**Key-word:** Dermoid

**Background:** A 27-year-old man presented at the emergency room with episodic acute headaches and nausea for a few weeks. Neurological examination was normal.

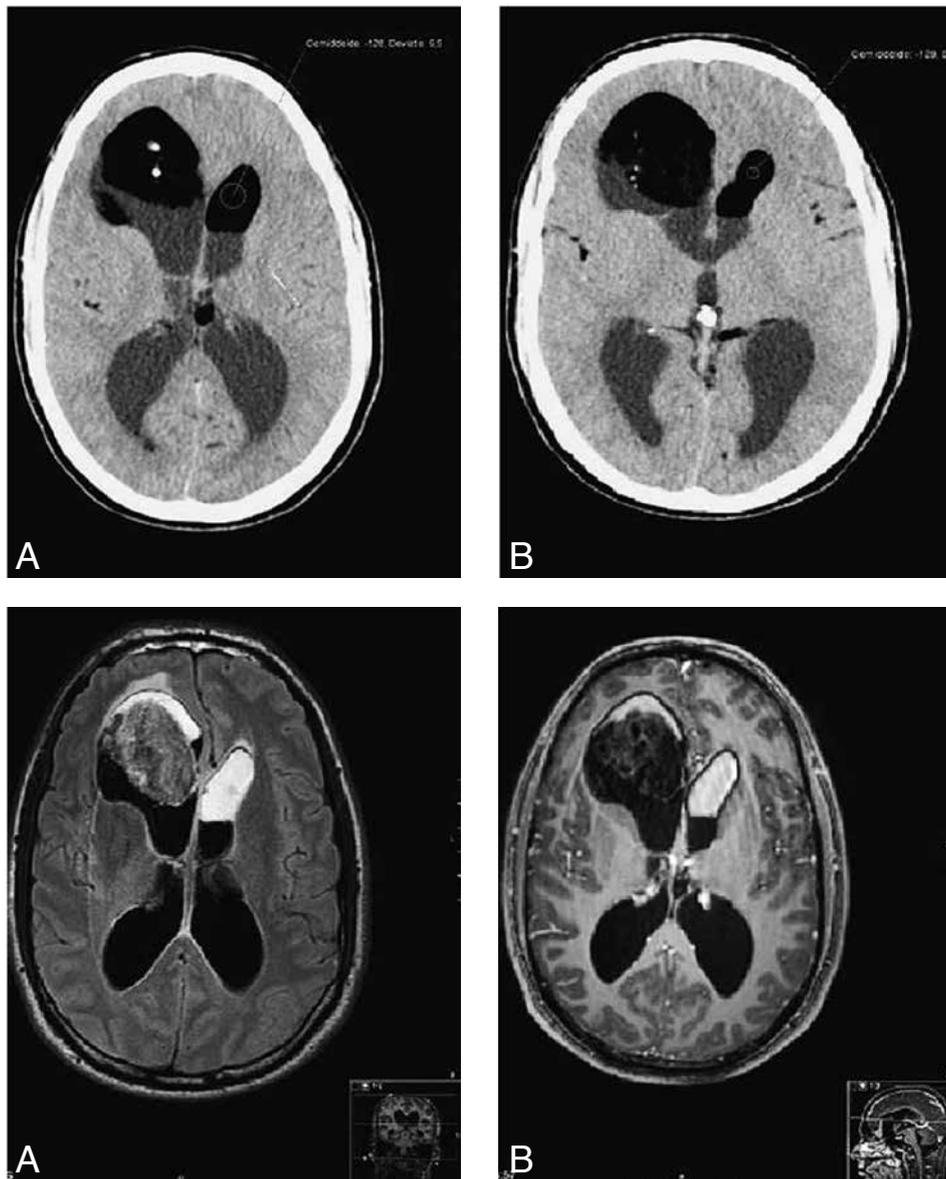


Fig. 

1A	1B
2A	2B

## Work-up

Axial non-enhanced CT image of the brain (Fig. 1) shows a large tumor in the anterior horn of the right lateral ventricle with low attenuation (-128 HU) and calcifications. Additionally, low attenuation lesions are depicted in the anterior horn of the left ventricle. On B, similar very small low attenuation lesions are scattered in the subarachnoidal space of the Sylvian fissure bilaterally and the ambient cistern.

MRI of the brain (Fig. 2) shows on transverse FLAIR image (A) mixed intensities in the tumor at the right lateral ventricle with a hyperintense "cap". The lesion in the left frontal horn is hyperintense. There is a mild hydrocephalus. On transverse gadolinium-enhanced T1-weighted image (B), the tumor shows no enhancement. The "cap" in the right frontal horn and lesion in the left frontal horn are spontaneously hyperintense on native T1-weighted images (not shown).

## Radiological diagnosis

Based on the findings on CT scan and MRI the diagnosis of *ruptured intracranial dermoid cyst* was made.

At surgery, the tumor at the right ventricle, containing fat and hair follicles, was removed. Fat content was removed from the contralateral ventricle. Histological examination revealed a dermoid cyst.

## Discussion

Intracranial dermoid cyst is a rare, slow growing benign lesion accounting for 0.04 to 0.6% of all intracranial tumors, and has an embryological origin. Sebaceous glands, hair follicles, and sweat glands

can be found histologically. Typically, these lesions are found in the midline. Rupture of an intracranial dermoid is a rare, but well known complication. Rupture of content such as fat, into the ventricles and/or subarachnoidal space, leads to a so-called chemical meningitis that may be complicated by hydrocephalus, seizures and even cerebral ischemia. Rupture is mostly spontaneous but can follow closed head injury. Clinical symptoms include headache and seizures, and are often indistinguishable from other causes of meningitis and subarachnoid hemorrhage.

Dermoid cysts show mixed density on CT, reflecting the content of hypodense fat and hyperdense calcifications. When ruptured, low-density fat droplets spread through the ventricles and the subarachnoid space. A fat cerebrospinal fluid (CFS) level may be seen, as was the case in our patient. On MRI, the fat will be hyperintense on T1-weighted and hypointense on the fat suppression images. The calcified parts, hairs, and epithelial debris will be hypointense on the T1-weighted images and inhomogeneously hyperintense on T2-weighted images. When the cyst ruptures, high-signal droplets on T1 images may be seen scattered throughout the cerebrospinal fluid. The FLAIR sequence will show the hyperintense fat floating in the ventricles. After administration of gadolinium, there will be no enhancement.

## Bibliography

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