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INTERESTING MEDICAL IMAGE

Blindness
An uncommon presentation of colloid cysts

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العمى
عرض استثنائي لتكيسات غروانية

أيفيرم أوزمن و أوكتاي ألجن

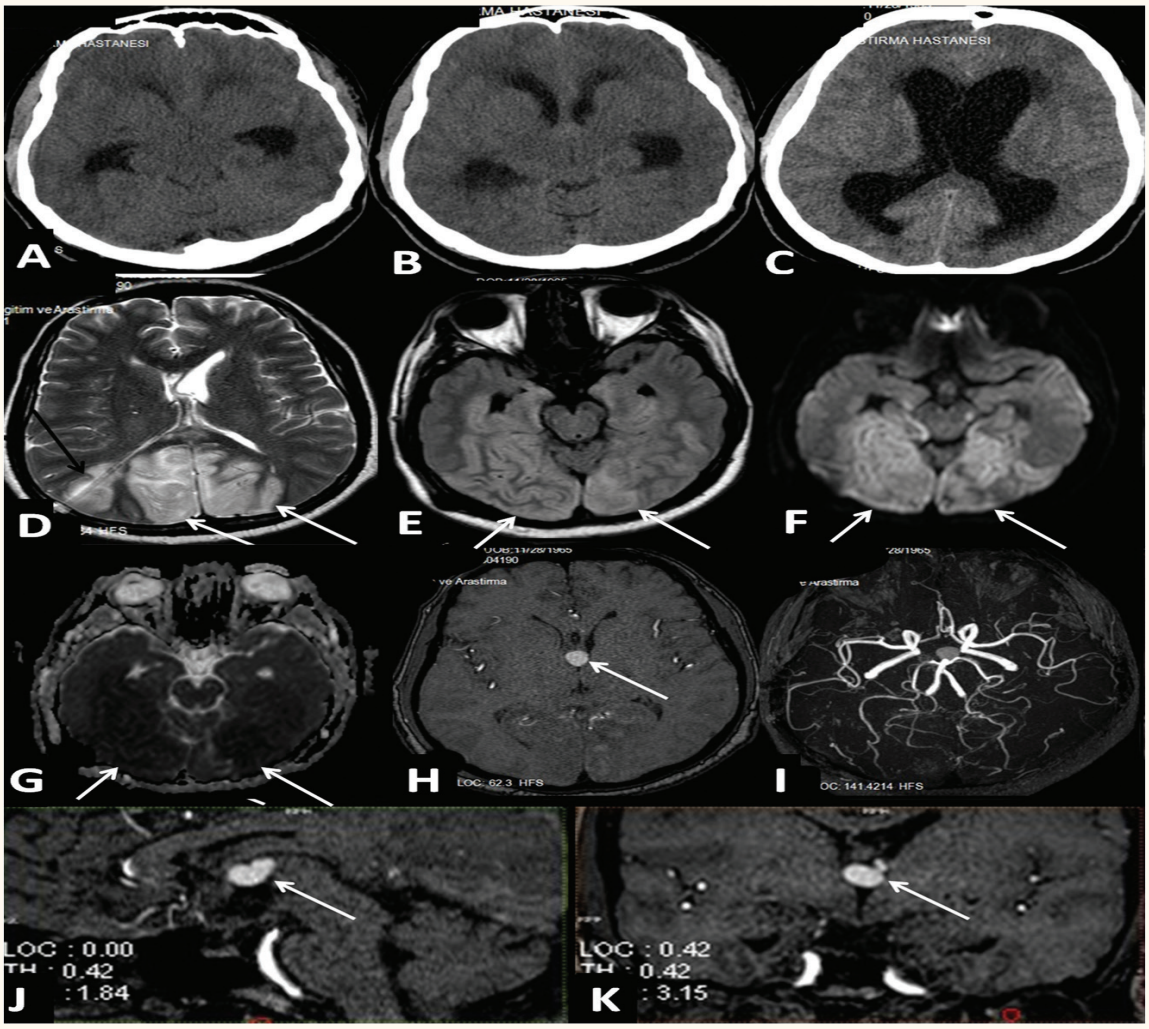

Figure 1 A–K: Preoperative computed tomography (CT) and postoperative magnetic resonance (MR) images of the patient. **A, B & C**: Preoperative sequential axial CT images showing hydrocephalus and periventricular oedema. **D, E, F & G**: Postoperative axial T2-weighted, fluid-attenuated inversion recovery (FLAIR), diffusion-weighted and apparent diffusion coefficient (ADC) images showing the shunt catheter (black arrow), bilateral occipital infarction (white arrows) and the decreased diameters of the lateral ventricles. **H**: Axial time-of-flight MR angiography (TOF-MRA) source image showing the hyperintense colloid cyst at the foramen of Monro (arrow). **I**: The calibrations of the posterior circulation arteries were normal on the axial maximum intensity projection (MIP) TOF-MRA image. **J & K**: Sagittal (**J**) and coronal (**K**) reformatted images obtained from the TOF-MRA sequence showing the hyperintense colloid cyst at the foramen of Monro level (arrows).

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Colloid cysts may obstruct the foramina of Monro and lead to acute hydrocephalus.[1,2] In patients with colloid cysts, intraventricular pressure can increase suddenly due to acute obstructive hydrocephalus.[3,4] A sudden and dramatic rise in ventricular pressure may lead to cerebral herniation, infarction and may result in death.[4] These images show a patient who was admitted to Atatürk Training and Research Hospital, Ankara, Turkey, with complaints of visual loss. Acute bilateral blindness is an emergent condition that may signal a life-threatening disease.

A 46-year-old man with no previous neurological complaints was admitted to our hospital with symptoms of headache, loss of consciousness and the progressive loss of vision. A physical examination revealed less than 20/20 central visual acuity. Moderate hydrocephalus and bilateral periventricular oedema were detected by a computed tomography (CT) scan performed in the Emergency Department [Figure 1]. Magnetic resonance (MR) imaging and diffusion-weighted imaging (DWI) were recommended for the patient, as the aetiology of hydrocephalus could not be determined exactly by the initial CT scan. On MR imaging, a colloid cyst and acute hydrocephalus were detected. In addition, diffusion-weighted imaging (DWI) revealed areas with restricted diffusion on the bilateral occipital lobes. As a result of these findings, ventriculoperitoneal shunting was performed five hours after the patient was admitted. MR images were obtained after the procedure, which detected regression in the sizes of the lateral ventricles and in the periventricular cerebrospinal fluid reabsorption [Figure 1]. In addition, there were infarctions in the bilateral occipital lobes and no recovery of vision. The posterior circulation was normal and there were early subacute infarctions in the occipital lobes on the MR images taken one week after the shunt therapy. There was no improvement in the loss of vision of the patient at the second week follow-up.

Comment

Colloid cysts may lead to hydrocephalus by obstructing the foramina of Monro. The enlargement of the ventricular system and increase in the ventricular pressure may lead to brain herniation and neurologic symptoms.[2,3] Occasionally, the 'sudden downward brain herniation' can occlude the posterior communicating arteries that run in the tentorial *incisura* as well.[3,4] This condition may cause cortical blindness. An infarction can develop in the other parts of the brain and in the spinal cord with a similar mechanism.[4] In such cases, other causes of the infarct, such as thromboembolism in the posterior circulation, should be excluded.[5] Severe traumatic injury, shunt malfunction, optic neuritis, intoxication, hyperosmolar-iodinated contrast agents and visual pathway tumours may also cause bilateral visual loss.[5] Time-of-flight magnetic resonance angiography (TOF-MRA) with DWI can be useful in patients with a suspicion of arterial occlusion. The assessment of the morphology and relation of the colloid cysts with the foramina can be far more easily done on the reformatted images, since TOF-MRA is a three-dimensional technique. Colloid cysts are hyperintense on T1-weighted images as well as TOF-MRA images. In conclusion, symptomatic colloid cysts should be evaluated and treated quickly. Herniation, blindness or sudden death may occur in patients for whom treatment is delayed. Rapid assessment with MR imaging and CT-MRA, in patients in whom arterial occlusion is suspected, could decrease the morbidity and mortality rates.

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