Case 12565

Diffuse villous hyperplasia of choroid plexus: a review
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Patient: 20 years, female

Clinical History:

We present the case of a 20-year-old girl who suffered from frontal oppressive headache. She had no relevant medical history. Her neurological exploration was normal. Her neurologist asked for a cerebral computed tomography though his diagnostic impression was a tension headache.

Imaging Findings:

The patient underwent a brain MRI to study her headache. The images revealed an enlargement in choroid plexus inside the lateral ventricles. Homogeneous diffuse choroid enhancement was evident after contrast injection without focal defined lesions. Mild lateral ventricular prominence was also noticed without surrounding oedema and with normal third and fourth ventricles.

Discussion:

Diffuse villous hyperplasia of choroid plexus is an infrequent entity characterized by an enlargement of the entire choroid plexus especially in both lateral ventricles. Previously called hypertrophy, hyperplasia is a more appropriate term considering an increase in the number of cells but with a normal size [1, 2]. It usually occurs in children but it can also be detected in young patients as in our case.

As choroid plexus produces cerebrospinal fluid (CSF), it is often associated with an increase in the production of CSF and thus some patients can present with clinical symptoms related to hydrocephalus [1, 3]. In spite of that, the patients can be asymptomatic and the diagnostic is sometimes reached as an incidental finding.

MRI is better than Computed Tomography [1] in the evaluation of choroid plexus lesions and in discriminating diffuse villous hyperplasia from other entities, especially using contrast media. Diffuse enlargement of choroid plexus with homogeneous enhancement without nodular defined lesions is the typical finding in these patients. Communicating hydrocephalus can be present and has been reported in children in different articles [1, 3]. Although papilloma of choroid plexus can be difficult to differentiate from diffuse hyperplasia as they can be bilateral, its appearance is usually more lobular or nodular and frequently unilateral. Carcinomas usually present as nodular and more heterogeneous lesions and frequently grow into the brain through the ventricular walls and cause periventricular oedema. Metastases could also be included in differential diagnoses as nodular heterogeneous lesions, depending on the primary tumour. Ependymomas are very rarely heterogeneous supratentorial intraventricular masses. [4]

Diagnostic imaging is also important to assess the presence or absence of focal plexus choroid masses and the...
existence of hydrocephalus, as diffuse choroid plexus hyperplasia can be a cause of congenital or infantile hydrocephalus. CSF derivation (ventriculoperitoneal, which usually fails if considered alone, or atrioventricular shunts), choroid plexus excision (uni or bilateral plexectomy) or endoscopic coagulation can be considered as treatments for hydrocephalus [5].

The most important clue for radiologists to consider is homogeneous diffuse enlargement of the entire bilateral choroid plexus without focal mass, with or without association with communicating hydrocephalus.

**Differential Diagnosis List:** Diffuse villous hyperplasia of choroid plexus, Choroid plexus papiloma, Choroid plexus carcinoma, Choroid plexus metastases

**Final Diagnosis:** Diffuse villous hyperplasia of choroid plexus

**References:**


Figure 1

Description: Axial SE T1 image before contrast medium injection. Prominent choroid pleuxus in both lateral ventricules is seen. A mild lateral prominence of both ventricules can also be noted.

Origin: Department of Radiology UCR, Hospital de Parla, Madrid, Spain
Description: SE T1 axial image after contrast medium injection. Remarkable diffuse homogeneus enhancement in prominent choroid plexus without focal defined lesions. Origin: Department of Radiology, UCR, Hospital Infanta Cristina, Parla, Madrid, Spain
Description: Coronal T1-weighted image before contrast medium injection showing prominence of both lateral ventricles with enlarged choroid plexus inside. Origin: Department of Radiology, Hospital Infanta Cristina de Parla, Madrid, Spain
Description: T1 coronal weighted image after contrast medium injection. Diffuse enlargement of bilateral choroid plexus. Origin: Department of Radiology, Hospital Infanta Cristina, Parla, Madrid, Spain
Figure 3

Description: Bilateral enlargement of choroid plexus can also be observed in temporal horns of both lateral ventricles. Origin: Department of Radiology, Hospital Infanta Cristina de Parla, Madrid, Spain
Figure 4

Description: Enlarged choroid plexus observed in T2-weighted image. Mildly increased lateral ventricles with no surrounding oedema was noted. Origin: Department of Radiology, Hospital Infanta Cristina, Parla, Madrid, Spain