DIAGNOSTIC PRESENTATION OF CHROID PLEXUS LIPOMA ON CT AND MRI

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Abstract: Choroid plexus is a vascular proliferation of the cerebral ventricles that serves to regulate intraventricular pressure by secretion or absorption of cerebrospinal fluid. Lipomas of the choroid plexus of the lateral ventricle are nearly always associated with pericalacal Lipomas (1-8). The chartist's location of choroid plexus Lipomas is at the trigone, because all of the intraventural mengomas arise at the trigone. lipomas and meningomas are lesions that relate to meningeal tissue.

I. INTRODUCTION

Intracranial lipoma was first described in 1818 by Meckel. Choroid plexus has the important function of making the CSF, the liquid that surrounds the brain and spinal cord. Intracranial lipoma is a rare tumor and accounts 0.34% of all intracranial tumors diagnosed by computed tomography (1). Many intracranial Lipomas are asymptomatic but can cause headache, vertigo, seizures, hemiplegia etc. They are mostly found in the mid-sagittal region, the most common of all being the corpus callosum and then choroid plexus, quadrigeminal cistern, inter peduncular cisteran, ambient cistern and the cerebello pontine cistern (9,10). The choroid plexus tumors being in the ventricles of the brain, that are filled with cerebrospinal fluid and block the flow of CSF, this can increases pressure on the brain and cause hydrocephalus. Choroid plexus tumour (CPT) may be non cancerous or cancerous that is choroid plexus papiloma (CPP) is non cancerous.

Incidence

Incidence in autopsy series ranges between 0.08% and 0.46% (11-12), which matches with incident CT diagnosis percentage (P-4, ref9,10). More than 50% are localized in the pericallosal cistern (P4, ref-11), other cites are cistern ambiens and quadrigeminal cistern (20% - 25%) P4 ref 12,13. pontocerebellar cistern (9%) P4,ref 14,15, cistern of literal sulcus (5%) p4 ref 11 and infrequent superficial cerebral hemispheric localization (p4 ref 16, 17)

Case report

An elderly female was referred to the radiology department from clinical side for diagnostic purpose on CT/MRI. The patient had the history of headache since past six months the patient has a clinical history of recurrent throbbing headache with occasional tendency for nausea, however there was no history vertigo, visual disturbances or seizures. The CT/MRI revealed the choroid plexus lipoma seen at choroid plexus of left ventricle.

Fig.1 T1 W.MRI Saggital images of brain shows hyper intense foci in choroid plexus in the region of occipital horn of left lateral ventricle.

Fig. 2 NCCT axial sections of brain shows fat attenuation foci in choroid Pexus in region of occipital horn of left lateral ventricle.
II. FINDINGS

The CT and MR characteristics of intracranial lipomas are pathognomonic and allow differentiation of intracranial lipomas from other mass lesions. On CT scanning, intracranial lipoma appears as a well defined, homogenous and hypodense strucuter whose density corresponds to that of adipose tissue with attenuation value of 50-100 Hounsfield units (Hu). The calcification may be detected and there is no contrast enhancement (21). On MRI these tumors show an adipose tissue like signal with a short T1 and T2 relaxation times, hyperintense homogenous signal in T2-weighted images (6). Two of the three lipomas were identified through CT as masses of fat density at the choroid plexus of the lateral ventricle (Fig. 1A); however, even in retrospect, the single remaining lipoma could not be identified (Fig. 2A). On T1-weighted MR images, all three lipomas were characteristically hyperintense and were clearly shown to be located in the choroid plexus of the trigone of the lateral ventricle (Figs. 1B and 28). These masses were hyperintense on the proton density-weighted images, and were mildly hypointense on the T2-weighted images with chemical-shift artifacts. On fat saturation images, the masses were completely suppressed, and could not be identified (Fig. 1C). On water saturation images, the masses were characteristically hyperintense and similar to subcutaneous fat (Fig. 2C).

III. DISCUSSION

Intracranial lipomas are neither hamartomas nor true neoplasms; rather, they are congenital malformations that are the product of abnormal persistence and maldifferentiation of the meninx primitiva (6). Intracranial lipomas are usually asymptomatic, and most reported cases have been incidentally detected during autopsies or in our patients during CT or MR imaging. These lipomas are usually detected at or near the midsagittal plane, and are most frequently in the pericallosal cistern. Lipomas of the choroid plexus of the lateral ventricle are nearly always associated with pericallosal lipomas (1-8).

Treatment

- Surgery — is the most common form of CPT treatment except in patients who should not have surgery because of their age or health or because of the tumor’s location. The goal of surgery is remove as much of the tumor as possible.
  - Most patients with choroid plexus papilloma will need no further treatment after the tumor is removed completely. Other patients may have a shunt (tube) inserted to drain extra fluid.
  - Children with choroid plexus carcinoma undergo surgery to remove as much of the cancer as possible. These patients often need more treatment with chemotherapy and radiation to kill cancer cells that remain after surgery.
- Chemotherapy (“chemo”) — uses powerful medicines to kill cancer cells or stop them from growing (dividing) and making more cancer cells.
  - Chemo may be injected into the bloodstream, so that it can travel throughout the body.
  - Some chemo may be given by mouth.
  - Combination therapy uses more than one type of chemo at a time.
- Radiation therapy — uses high-energy X-rays or other types of radiation to kill cancer cells or stop them from growing:
  - External radiation uses machines outside the body to deliver the X-ray dose.

REFERENCES