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Case Report

Spontaneous Resolution of Intra Pontomesencephalic Colloid Cyst Case Report, and Review of the Literature

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Abstract

Colloid cysts commonly occur in the third ventricle; the incidence of a colloid cyst in the brainstem is very unusual. To the best of the authors' knowledge, there are few cases in which an intraparenchymal upper brainstem colloid cyst associated with hydrocephalus was treated via VP shunt, and spontaneous resolution of colloid cyst has been reported after 6 months of radiological follow-up.

Keywords: Central nervous system cyst; Central nervous system neoplasm; Colloid cyst; Intra pontomesencephalic

Introduction

Colloid cysts are found throughout the neuroaxis, but most commonly appear within the ventricular system. Rarely, they are located in the posterior fossa, including the cerebellopontine angle cistern, the cerebellar vermis, and the cerebral hemisphere. Brainstem neuro epithelial cysts are particularly infrequent. The histological formation of the epithelial cyst has been considered to be neuroectodermal in origin by many authors because its features bear a resemble to those of the epithelium of the choroid plexus, which explains how the cysts have come across the ventricular system. Although certain forms of clinical presentation and imaging characteristics have been documented, they may present with any combination of neurologic symptoms as well as any signal intensity on any pulse sequence. However, the best management of these cysts remains indistinct [1-5].

Case Presentation

The authors file on a patient with an intra pontomesencephalic colloid cyst, this 1-month-old boy who was operated on at the Tripoli university medical center in September 2021 at the neurosurgical department, introduced with enlarged head circumference related with sixth cranial nerve palsy. His neurological examination published right-sided sixth nerve paresis and a slight left hemiparesis, and as well as intense Babinski sign on the left side. There used to be no evidence of nystagmus or internuclear ophthalmoplegia. The results of the universal bodily examination and laboratory investigations have been non-diagnostic. Radiological investigations (Figure 1), published an intraparenchymal pontomesencephalic cystic mass, Magnetic resonance images tested a well-defined boundaries sharply demarcated, spherical, and overwhelmingly intra-axial cystic lesion in the mesencephalon that extended to the higher pontine region. Axial MR images published a small exophytic component protrusive into the higher prepontine cistern. On T1-weighted pics the lesion exhibited signal intensity decrease than that of brain tissue however greater than that of cerebrospinal fluid; on T2- weighted images the lesion seemed hypointense. There used to be no distinction enhancement or peritumoral edema. The cyst was justly connected to the sylvian aqueduct and the fourth ventricle, with tri ventricular hydrocephalus. VP shunt was once inserted right away (Figure 2), and routine neurosurgical follow-up with surgical resection of the lesion were scheduled if the cyst persisted. The patient's postoperative course was uneventful. A control MR done one month after the operation did not expose any signal of a developing tumor or cyst (Figure 3). The sixth cranial nerve paresis and the hemiparesis disappeared totally inside three months. By the cease of the 2nd postoperative month, the affected baby was totally intact neurologically and the patient experienced a brilliant recovery (Figure 3).

Radiological considerations

Since we do no longer have a histological analysis and no immunochemical evaluation was done, the uncommon opportunity of this representing a cyst that is recognized to spontaneously resolve exists. However, a skilled neuro radiologist reviewed the imaging consequences and ascertained that the imaging aspects have been most regular with a colloid cyst and that the affected person had no tour history. Other entities in the differential prognosis such as hamartomas, primary or metastatic tumor, xanthogranulomas, Rathke's cleft cyst, and basilar aneurysm had been excluded after neuro radiologist find out about of imaging in our department [1-5].

Discussion

The colloid cyst, additionally recognized as the neuroepithelial cyst, is a slow-growing benign tumor. They typically manifest at the rostral section of the third ventricle. Compressing the foramen of Monro, effects in lateral ventricle dilatation. It constitutes 1% of all intracranial tumors. It is gender-free frequent between Decades 3 and 5. Clinical presentations are usually associated to hydrocephalus. [6-8]. The most conventional discovering and symptom of colloid cysts is a headache. Nausea, vomiting, altered intellectual status; visual impairments, memory loss, and odd gait are fairly uncommon symptoms. Most of the sufferers with colloid cysts are asymptomatic, [9-13], and their medical manifestations may also be aggravated. Asymptomatic cysts without a ventriculomegaly smaller than 1 cm

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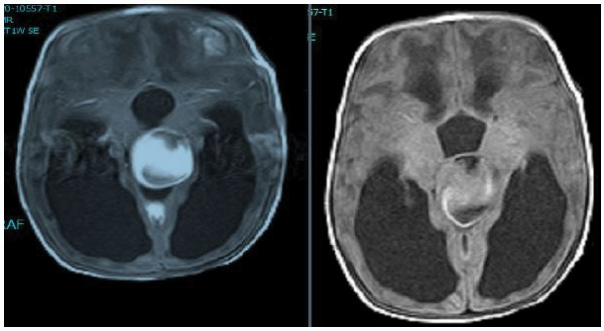

Figure 1: Pre-operative MRI Brain T1with and without contrast axial view show intra pontomesencephalic colloid cyst with marked hydrocephalus.

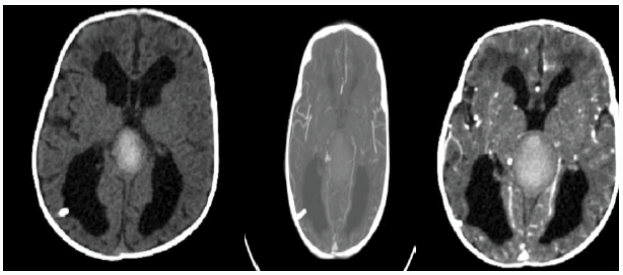

Figure 2: Post-operative (2nd day) CT scan Brain plane and angiography axial view show intra pontomesencephalic colloid cyst and the tip of the shunt and less ventriculomegally.

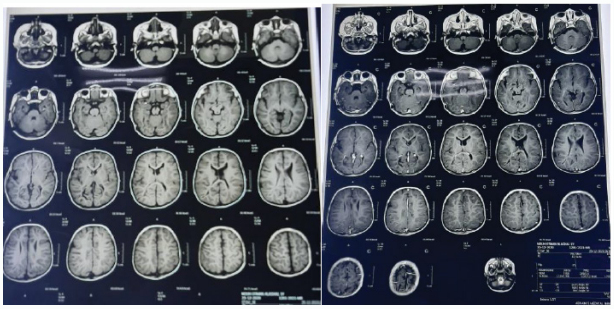

Figure 3: (A) post-operative (after 3months) MRI Brain T1and T2 without contrast axial view show nearly regression of intra pontomesencephalic colloid cyst with no hydrocephalus.

have been stated to advance spontaneous regression. Asymptomatic sufferers must be cautiously and continuously observed clinically and radiologically. Sudden deaths had been pronounced in instances with cysts larger than 1 cm. Colloid cysts may additionally exist by obstructive hydrocephalus and paroxysmal headache. Ataxia, nausea, vomiting, behavioral disorders, visual impairments, and surprising falls besides sensory loss might also happen. [12-15]. No gender is dominant. Reviewing the literature, this tumor crew is uncommon in the newborn infant population, in 1994 Ramaekers stated the first pontomesencephalic cyst in a newborn infant, and early surgical procedure is recommended. In our study the affected person was only one month old, vomiting, enlarged head circumference and visual impairment (sixth cranial nerve paralysis) had been determined at the time of the first visit. The management of these cysts is variable and consists of easy aspiration, stereotactic aspiration, and marsupalization. Nevertheless, ventriculo-peritoneal shunting earlier than whole excision if related with symptomatic hydrocephalus stays the best modality. Endoscopic Third Ventriculostomy (ETV) and V-P shunt may additionally be blended with cystectomy in instances with concomitant hydrocephalus. Stereotactic therapy has an excessive recurrence ratio and consequences in restrained cyst content material aspiration and partial cyst wall resection [14-16].

Surgery versus observation for colloid cysts

Because of early reviews in the literature of the prevalence of unexpected death, surgical operation used to be frequently endorsed in almost all sufferers however the measurement and symptomatic nature of the lesion. While surgical operation the usage of modern-day microsurgical or extra lately endoscopic strategies for these cysts can lead to high-quality effects in the majority of patients, operative mortality is round 1%, and general morbidity including seizures, intraventricular/subdural/intracerebral hemorrhage, arterial/venous infarction, and meningitis is stated to be between 10% and 25% [17-20]. However, spontaneous regression has been pronounced in few cases. Motoyama et al. had been the first to report spontaneous regression of colloid cysts. The disappearance of the cyst is no longer essentially complemented with clinical worsening, as used to be recounted by way of different investigators who stated deteriorating neurologic deficits as an end result of worsening hydrocephalus. Supposing the cysts rupture, a number of sufferers abide the contents of the cyst leaking into the ventricular system, whereas others may additionally mount an inflammatory reaction, inflicting interference in cerebrospinal fluid flow. In addition, it is nevertheless doubtful what factors amplify the probability of cysts precipitously ruptures [21-25].

Conclusion

Ventriculo-peritoneal shunt draining from single or both the ventricle can be used as a management option for intra pontomesencephalic colloid cyst, and spontaneous regression of symptomatic, large cyst (more than 1cm), with ventriculomegaly has been reported after treatment with ventriculoperitoneal shunt, within 3 months duration, and such patients should be carefully observed by a periodical clinical and radiological assessment during postoperative period.

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