



Case Report

Colloid Cyst in Cavum Septum Pellucidi: Rare Location and Endoscopic Removal

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Abstract

Colloid cysts are benign intracranial lesions, that account only 0.2-2% of intracranial lesions, mostly localized in the roof of the third ventricle. Although the cysts are histological benign, they sustain significant neurological presentation or death due to cerebrospinal fluid (CSF) obstruction and acute hydrocephalus. Cavum septi pellucidi, another pathology which can cause similar results, may be in a strategic position closer to the foramen monro. Colloid cysts outside the third ventricle are extremely rare.

A colloid cyst in septum pellicidum location using panthpaque ventriculogram was first reported by Ciric. Although microsurgical resection with the use of either a transcallosal or transcortical-transventricular approach has been accepted, in recent years neuroendoscopic approaches are preferred for the treatment of these locations.

This is a report of colloid cyst in cavum septi pellucidi which was successfully removed using endoscope.

Keywords: Colloid cyst, Septum pellucidum cyst, neuroendoscope

Kavum Septum Pellusidi Yerleşimli Kolloid Kist:Nadir Yerleşim ve Endoskopik Çıkarılması

Özet

Kolloid kistler, tüm intrakranial lezyonların %0.2-2sini oluşturan, çoğunlukla 3. ventrikül tavanında yerleşen benign intracranial lezyonlardır. Her ne kadar histolojik olarak benign olsalar da ciddi nörolojik semptomlara hatta BOS obstruksiyonuna bağlı akut hidrosefali ve ölüme yol açabilirler. Kavum septi pellusidi, benzer sonuçlara neden olabilecek diğer bir patoloji olup Foramen Monro'ya yakın stratejik pozisyonda yer alabilir. Kolloid kistlerin üçüncü ventrikül dışında yerleşimi son derece nadirdir. Sepum pellucidum yerleşimli kollid kist panthpaque ventrikülogram kullanılarak ilk kez Ciric tarafından gösterilmiştir. Her ne kadar transkallozal veya transkotikal-transventriküler yaklaşım ile mikrocerrahi rezeksiyon kabul edilmişse de son yıllarda bu lokalizasyonlardakilerin tedavisinde nöroendoskopik yaklaşımlar tercih edilmektedir. Bu yazıda endoskop kullanılarak başarılı bir şekilde çıkarılan kavum septi pellusidi yerleşimli kolloid kist olgusu sunulmaktadır.

Anahtar Kelimeler: Kolloid kist, Kavum septum pellusidi kisti, nöroendoskop

INTRODUCTION

Colloid cysts are localized mostly in the third ventricle and cavum septi pellucidi location is very rare. In this paper a case of successfully removed colloid cyst in cavum septi pellucidi, two different processes closely localized near foramen

Monro in the same patient, using endoscope is reported.

CASE PRESENTATION

Examination: This 35-year- old male presented with two months history of severe headache was admitted to our clinic with the complaint of loss of consciousness

twice. Neurological examination of the patient was normal. Magnetic resonance imaging (MRI) of brain showed colloid cyst with dimensions of 20x16x12mm and lateral walls of cavum septi pellucidi were visible (Figure 1a and 1b). There was mild ventriculomegaly but no periventricular edema.

Operation: After skin incision, a burr hole was placed anterior to the coronal suture and lateral to the right midpupillary line. The right frontal horn of the lateral ventricle was cannulated using a Storz 3.7-mm- diameter zero degree rigid neuroendoscope. Cavum septi pellucidi and colloid cyst were found to obstruct the right foramen Monro (Figure 2a). Cyst wall at the right foramen Monro was obstructing the entry of the third ventricle.

Septum pellucidum was opened and cavum septi pellucidi was excised using

microscissors and punch. Septum pellucidum cyst and colloid cyst were punctured and the contents were aspirated (Figure 2b). After removal of the capsule using grasping forceps and evacuating the cyst contents', the capsule was cauterized. Foramen interventriculare has been opened when the cyst content was aspirated (Figure 2c). The ventricle was thoroughly irrigated and the foramen of monro was inspected to ensure that its patency was visible (Figure 2d). Bone defect was covered with gelfoam, the galea and skin are closed in layers. Temporary external ventricular drain was not placed.

Postoperative course: Postoperative course of the patient was normal. The control MRI obtained 3 months after the operation, total resection and septum pellucidum fenestration were demonstrated (Figure 3a and 3b).

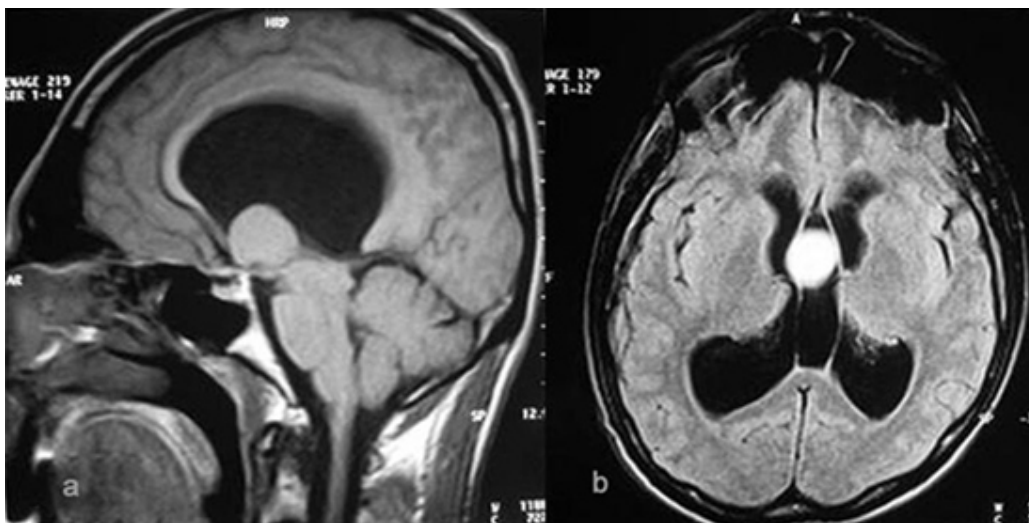


Figure 1: a: Sagittal T1 weighted image reveals that the hypointens lesion caused enlargement of lateral ventricle by obstructing foramen monro b: Axial FLAIR image demonstrates a well circumscribed hyperintens lesion in cavum septum et verge

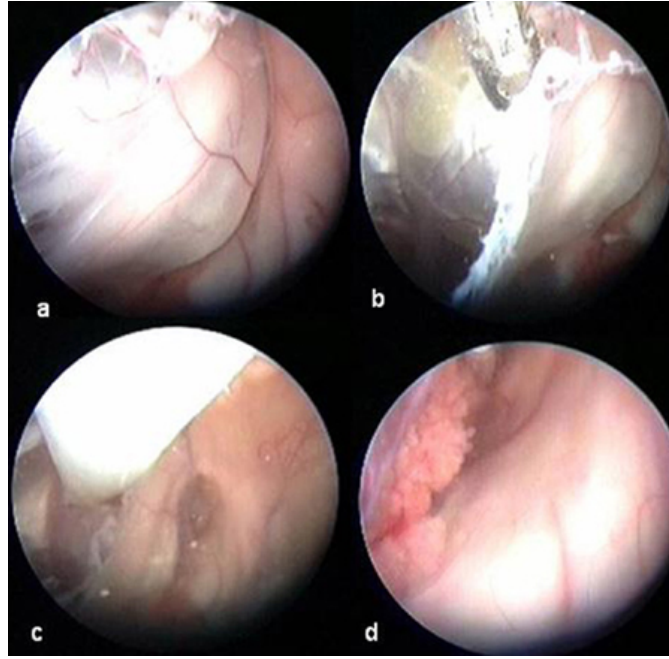


Figure 2: *a: Colloid cyst and septum pellucidum cyst wall at the right foramen Monro obstructing the entry of the third ventricle. b: After excision of septum pellucidum, the wall of colloid cyst is opened by bipolar cautery c: During the aspiration of the cyst. d: Opening of the Foramen monro is seen after the cyst aspiration and cavum septi pellucidi excision*

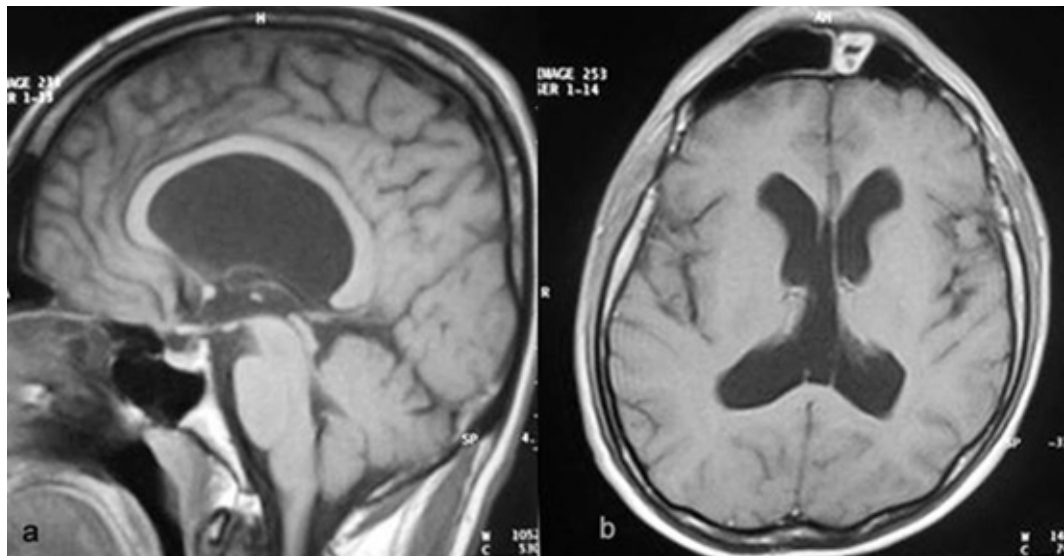


Figure 3: *a: Sagittal and b: Axial postcontrast T1-weighted image demonstrates that the cyst was totally removed.*

DISCUSSION

Colloid cyst wall is built of a collagenous connective tissue stroma, lined with a single layer of stratified epithelium. The cells may be columnar, ciliated and nonciliated, cuboidal or squamous. The cyst consists of gelatinous material. They can be found anywhere through out the neuroaxis, but commonly appear within the third ventricle^(1,3,5,7,8).

Neuroepithelial and endodermal origin have been considered for the pathogenesis. Ciric et al⁽¹⁾ emphasized invagination or evagination of neuroepithelium from the diencephalic roof into the space between the two fornices eventually resulting cyst formation, the mechanism attributed to explain lesions within the third ventricle or upward in the septum pellucidum.

Especially the theory for extraventricular or cortical location consists of neuroepithelial cysts originating from primitive ectopic glial tissue in the subarachnoid space⁽³⁾.

Shuangshoti et al⁽¹⁵⁾ reported that neuroepithelial cyst shows the similar histological features of both Rathke cleft cysts and enterogenous cysts. Graziani et al⁽⁴⁾ proposed that all these cysts arise from the Seessel pouch and should be named according to their localization.

Septum pellucidum encloses a cavity in the brains of premature infants and other neonates. Cavum septum pellucidum first appears during the intrauterine 3rd month and begins to close at approximately 6 months⁽¹²⁾.

Cavum septi pellucidi's location is strategic, which may cause hydrocephalus by compressing the foramen monro. Furthermore, compression of the foramen monro may compress the septal and internal cerebral vein.

Septum pellucidum cysts can be either symptomatic or asymptomatic⁽¹¹⁾. Expanding septum pellucidum cysts may cause significant neurological dysfunction due to obstruction of foramen monro,

distortion of vascular structures, compression of hypothalamoseptal triangle and visual structures. As in our case, cavum septi pellucidi and colloid cyst may cause dramatic stenosis, become symptomatic rapidly and the attacks of abrupt loss of consciousness can be seen as a result of acute obstruction of CSF circulation. Considering the symptoms and endoscopic view of our patient, we assume that the septum pellucidum cyst and colloid cyst had led to obstruction of foramen monro (Figure 3). Most of the cavum septi pellucidi cysts do not expand and do not require surgery, however symptomatic patients with expanding cyst of the septum pellucidum should be treated surgically^(11,17). Also in young symptomatic patients that demonstrate T2 hyperintensity, surgery is preferred. For the older ones with T2 hypointensity may be followed by serial radiological MRI examination.

Total excision remains the best modality via endoscopic or microsurgical approach, because of complications of transcortical or transcallosal surgery^(2,9,16). Endoscopic approach, as a minimally invasive technique, offers several important advantages⁽¹⁰⁾. During the past decade, endoscopic treatment of colloid cysts is being used increasingly with reduced risk of morbidity^(6,13,14). In some cases adhesion of the cyst wall to brain tissue interferes with total removal. Because this instance accompanied by a high recurrence rate, long-term follow-up studies are needed to clarify and to confirm the recurrence rate after endoscopic surgery.

We believe that colloid cyst in cavum septi pellucidi has developed independently upward from the diencephalic roof between the fornices; thereafter the presence of colloid cyst in cavum septi pellucidi might lead to cavum septi pellucidum persistence in our case.

CONCLUSION

As seen in endoscopic images, two different pathological processes in the

same location caused dramatic stenosis of interventricular foramen. Therefore, septum pellucidum cyst should be kept in mind for the surgical decision of colloid cyst in this localization. Minimally invasive endoscopic approach is an effective alternative choice for the treatment of both pathological processes.

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