CASE REPORT

SELLAR CYSTICERCOSIS AND SEPTUM PELLUCIDUM CYST: A CASE REPORT AND REVIEW OF THE LITERATURE

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Abstract. Sellar cysticercosis is a rare form of neurocysticercosis. A septum pellucidum cysts is a rare, often asymptomatic cystic structure between the lateral ventricles. We report here a male patient with sellar cysticercosis and septum pellucidum cysts who was successfully treated by neuroendoscopic resection. The patient was a 28-year-old male who presented with intermittent headaches for 5 years. A magnetic resonance imaging (MRI) of the brain revealed a well-circumscribed 13 mm cystic space-occupying lesion in the sellar region and the cavum septum pellucidum. The cyst in the saddle area was completely resected via endoscopic endonasal-transsphenoidal approach. Postoperative histological examination verified cysticerci in the cyst wall. To our knowledge, this is the first case of sellar cysticercosis and a septum pellucidum cyst successfully treated through neuroendoscopic resection.

Keywords: sellar cysticercosis, septum pellucidum cyst, neuroendoscopy

INTRODUCTION

Neurocysticercosis (NCC) is one of the most common CNS helminthic infections and a major cause of acquired seizures and epilepsy (Del Brutto *et al*, 2001; Nash and Garcia, 2011). Cysticerci can lodge in the brain parenchyma, subarachnoid space, ventricular system and spinal cord (Nash and Garcia, 2011). However, the sellar region is an unusual location for cysticerci; sellar cysticerci usually have atypical clinical manifestations. Therefore, it is difficult to make an accurate diagnosis of sellar cysticerci to distinguish them from other cysts occurring in those regions, such as a cystic gland tumor, craniopharyngioma or epidermoid cyst. Although most septum pellucidum cysts are asymptomatic, they can cause significant neurological dysfunction when the cysts are large enough to block the foramen of Monro, impinge on the structures of the hypothalamoseptal triangle or impair the deep cerebral venous drainage (Lancon *et al*, 1996).

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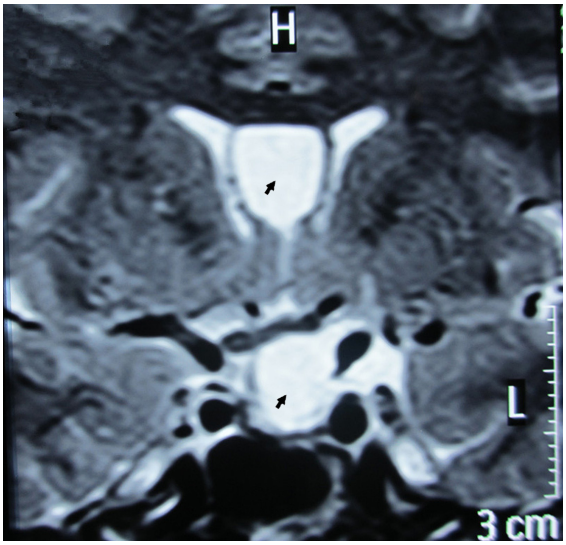

Fig 1–MRI T2 image showing a well-circumscribed space-occupying cyst in the sellar region (lower arrow) and a 13-mm cavum septum pellucidum cyst (upper arrow).

CASE REPORT

A 28-year-old male, presented to our hospital with a 5 year history of frontal headache. The patient had grown up in an area endemic for cysticercosis. Physical examination, including neurological and ophthalmological examinition, was normal. Neural endocrine hormone levels were normal. An MRI of the brain showed a sellar cyst and a cavum septum pellucidum cyst (Fig 1). The sellar area cystic lesion was completely excised neuroendoscopically through a transsphenoid approach (Fig 2). Pathological examination revealed a firm, smooth and nodular cyst. Histological examination showed cysticerci in the cyst wall (Fig 3). Post-operatively, the patient's headache resolved and no cyst recurrence was seen on MRI 6 months later. No growth was observed for the septum pellucidum cyst. The patient continues to follow up regularly.

DISCUSSION

Sellar cysticercosis is a rare basal subarachnoid type of NCC with a non-specific clinical presentation, but can cause visual disturbances, hypopituitarism and headaches. Unlike parenchymal NCC, sellar cysticercosis is difficult to be diagnosed with MRI due to its lack of a scolex. It is difficult to distinguish it from other cystic lesions in the sellar and suprasellar regions, such as cystic adenomas, craniopharyngiomas, primary arachnoid cysts and epidermoid cysts. Serum and cerebrospinal fluid (CSF) anticysticercosis antibodies, cysticercal antigens and epidemiologic data are important to diagnose cysticercosis (Rodriguez *et al*, 2009). If anticysticercal antibodies or cysticercal antigens are detected in serum or the CSF, cysticercosis should be considered, especially in a patient from a cysticarcosis epidemic area (Del Brutto *et al*, 2001; Rodriguez *et al*, 2009).

NCC treatment may be either conservative or surgical. Surgery, such as neuroendoscopy, open surgery or shunt placement, may be required to treat complicated NCC (Rajshekhar, 2010). Little research has been done on sellar cysticercosis. Del Brutto *et al* (1988) reported no significant improvement in visual or endocrine disturbances among 6 sellar cysticercosis patients treated with surgery. In suspicious saddle area cysticercosis, surgery should be performed as soon as possible to avoid irreversible brain damage. Minimally invasive endoscopic surgery is the preferred treatment for cysts in the saddle area. Septum pellucidum cysts are defined as cystic structures between the lateral ventricles; their walls exhibit lateral bowing and are 10 mm apart or greater (Frattalone and Neely, 2011). Septum pellucidum cysts are rare and frequently

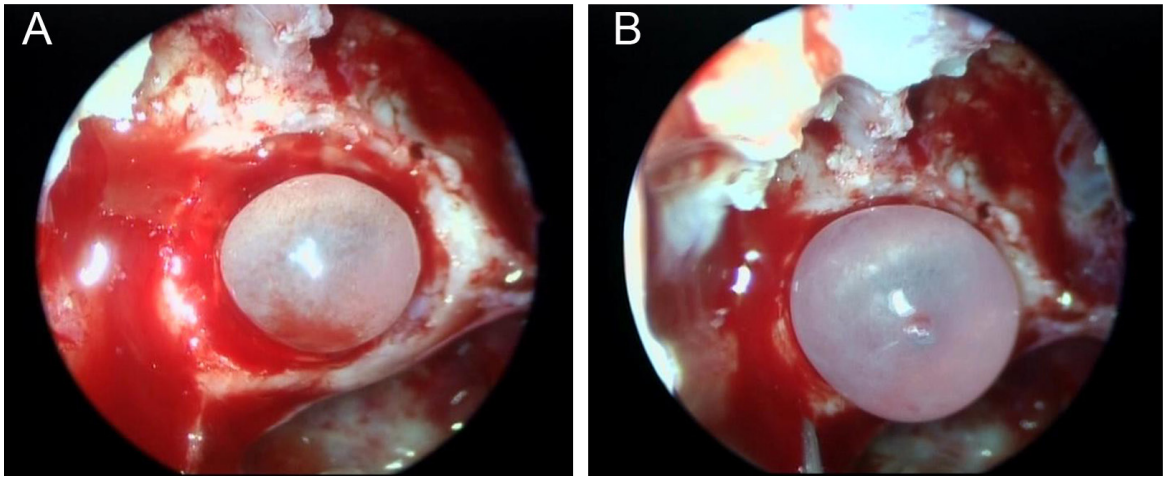

Fig 2–During neuroendoscopy, an ivory colored cyst gushed out when the pituitary was incised (A) and clear liquid drained out when the cyst was incised (B).

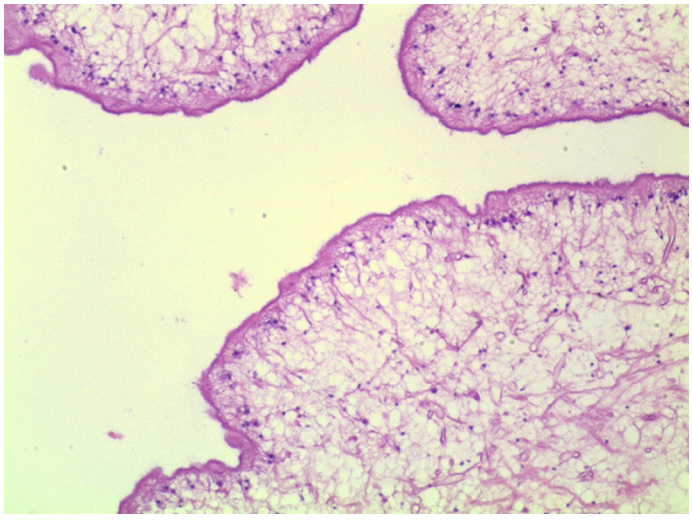

Fig 3–H & E stain showing cysticerci in the cyst wall (magnification: 100x).

asymptomatic, but when they grow large enough, they can block the foramen of Monro, impinge on the structures of the hypothalamoseptal triangle and impair the deep cerebral venous drainage, causing neurological symptoms (Del Brutto *et al*, 2001) including headache, seizures, syncope, changes in mental status (Meng *et al*, 2006). Symptomatic septum pellucidum cysts usually require surgical intervention, particularly when the space occupying effect is obvious. The surgical procedures include craniotomy, shunt placement, stereospecific cyst fistulation and neural endoscopic cyst fistulation (Silbert *et al*, 1993; Meng *et al*, 2006). In our experience, neuroendoscopic resection works well for removing septum pellucidum cysts and is less invasive, and should be considered as the first treatment option. This reported patient had intermittent headaches for 5 years with cysts in both the saddle area and the septum pellucidum on MRI imaging. Since septum pellucidum cysts are often asymptomatic, we selected to resect the saddle area cyst using neuroendoscopy. The patient's headache resolved completely post-operatively and had not returned after three months. The septum pellucidum cyst appeared

to be unchanged on repeat MRI imaging 6 months later. Septum pellucidum cyst may not need surgical treatment.

Our patient proves cysticercosis can occur in the saddle area, where it can be effectively resected by neuroendoscopy. When a patient living in a NCC enedemic area complains of chronic headaches, MRI should be performed to rule out cysticercosis. Asymptomatic septum pellucidum cysts may not need surgical intervention.

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