

INCIDENTAL ASYMPTOMATIC GIANT SUPRASSELLAR ARACHNOID CYST

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ABSTRACT

Arachnoid cysts are developmental anomalies involving duplication or splitting of the arachnoid membrane often diagnosed in childhood as incidental findings on imaging. Patients may present with symptoms of raised intracranial pressure or, with a cranial deformity resulting from pressure erosion of the cyst within the calvarium. We report a case of incidentally diagnosed giant arachnoid cyst without any neurological complaints managed successfully.

Keywords: Arachnoid cyst, Suprasellar arachnoid cyst

Introduction

Arachnoid cysts are developmental anomalies often diagnosed in childhood as incidental findings on imaging.¹ Arachnoid cysts commonly occur in the middle fossa, around the cisterna magna, cerebellum-opontine angle region.^{2,3,4} Nearly half of all arachnoid cysts occur in the sylvian fissure and about 9% in the sellar and suprasellar areas. There is a higher incidence in males and a left side preference.^{5,6} Patients may present with symptoms of raised intracranial pressure or, as is more commonly the case in children, with a cranial deformity resulting from pressure erosion of the cyst within the calvarium.⁷ Here we report a case of incidentally diagnosed giant arachnoid cyst without any neurological complaints managed successfully.

Case Report

Three year male child presented with history of fall from height (about 3 feet) 1 day back. He had 2-3 episodes of vomiting and right black eye. There was no history of seizures. His general and systemic

examination was unremarkable. There were no neurological deficits. His development history was normal and there was no past history of any major illness or birth trauma. CT scan brain showed large arachnoid cyst involving suprasellar region, extending into the interpeduncular cistern and right frontal region. His endocrine workup was normal. Lateral ventricle on right side was pushed posteriorly and on left side more laterally (Fig. 1).

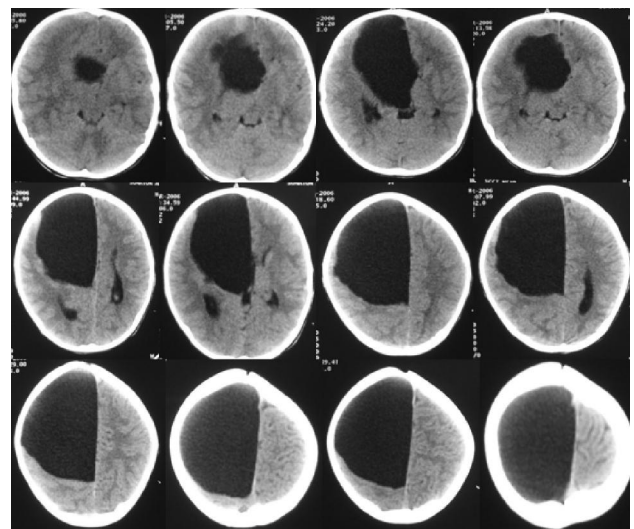


Figure 1: CT scan shows a large arachnoid cyst extending from suprasellar region, extending into the interpeduncular cistern and displacing whole of the right frontal lobe, lateral ventricle on right side pushed posteriorly. There is no evidence of hydrocephalus.

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CT scan also showed asymmetry of frontal lobes and thinning of frontal bone on right side (Fig. 2)

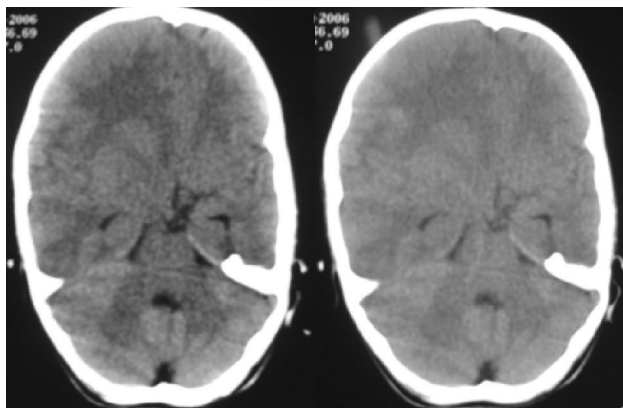


Figure 2: CT scan showing asymmetry of anterior cranial fossa and thinning of right frontal bone (arrow)

Review examination showed asymmetry of head right more than left (Figure-3).

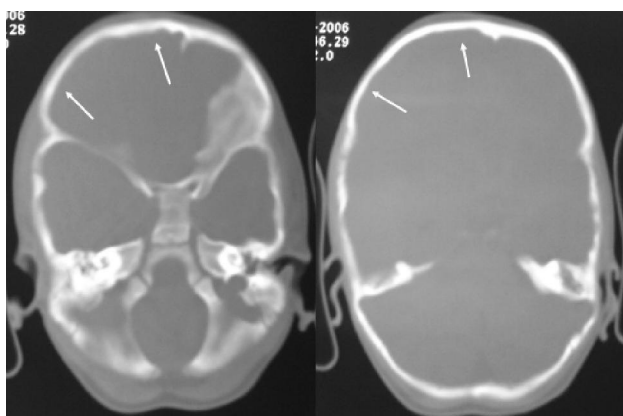


Figure 3: Clinical image shows asymmetry of head (right side bigger than left) and black eye

In view of mass effect on CT scan (compression of the lateral ventricles) he underwent marsupialization of the cyst. Histopathology was suggestive of arachnoid cyst. On follow up he is doing well.


Discussion

Arachnoid cysts contain clear, colorless liquid resembling normal cerebrospinal fluid. Despite several studies, their mechanism of formation is not completely understood.⁸ These lesions arise from a developmental aberration involving duplication or splitting of the arachnoid membrane.⁹ It is thought that during the developmental stage of CSF space formation a pulsatile

CSF flow originating from the choroid plexus could lead to invagination of the perimedullary mesenchyme and thus the formation of a false passage.⁹ Sellar and suprasellar arachnoid cyst are less common, and it is important, although difficult, to differentiate this type of cyst from other cystic lesions such as Rathke's cleft cyst, pituitary cyst (parenchymal or adenomatous), craniopharyngioma, pars intermedia cyst, and other miscellaneous cysts (epidermoid cyst, cysticercosis cyst) when considering the prognosis.^{4,10} Suprasellar arachnoid cyst might cause dysfunction of the ventromedial nucleus of the hypothalamus and hypothalamic dysfunction is sometimes resolved by decompression of arachnoid cyst.^{11,12} Many surgical techniques for the therapy of symptomatic arachnoid cysts have been suggested: cysto-peritoneal shunting, cyst excision, cyst fenestration, cystocisternostomy, ventriculocystostomy and stereotactic aspiration; nevertheless, the choice of the best method of treatment remains controversial.¹³ It is difficult to predict natural history in these cases however in view of size of the lesion and mass effect the child was treated surgically and doing well.

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