Research Paper

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Symptomatic Pineal Arachnoid Cyst –Rare Case

General Surgery

Keywords :

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ABSTRACT

Asymptomatic cysts of the pineal region are common incidental findings in adults. In contrast, symptomatic pineal cysts are rare and their management is not well defined1. Their importance is mainly in the fact that they cannot be distinguished from cystic tumours2, especially when large or when atypical features are present1. Pineal cysts are typically found in young aged adults (20-30 years of age) with a predilection for women (3:1 female to male ratio) . They are seen in approximately 1-4 % of brain MRIs and 20-40% of autopsy series2. Histologically, they are composed of an inner layer of gliotic tissue, middle layer of pineal parenchymal tissue and an outer layer of connective tissue[3,5].

Case history

Thirty five years old nondiabetic nonhypertensive female presented with complaints of acute onset of headache, blurring of vision with vomiting last 15 days. On evaluation Computed Tomogram brain revealed gross hydrocephalus with a cyst in pineal region and underwent emergency left ventriculo peritoneal shunt. Post shunt she was relieved off her headache, blurring of vision. She was leading a normal life.

After a period of two years patient started to have recurrent headache, with vomiting and blurring of vision at the peak of headache5. Six months later she developed hearing disturbances with swaying of gait (last 1 year). Headache has worsened last 2 months. She had tinnitus of two months duration (right > left). No history of seizures, loss of consciousness. On examination patient had papilloedema, bilateral sensory neural hearing loss (right >left side)with subtle cerebellar signs.

MRI brain revealed T1 hypo, T2 hyper cystic pineal region contrast non-enhancing SOL with no restriction on DWI? Arachnoid cyst / Epidermoid. She underwent right occipito-parietal craniotomy and marsupilization of cyst6. Intra operatively it was looking like arachnoid cyst. Cyst wall was sent for Histopathological Examination. HPE confirmed it as arachnoid cyst. Post operatively patient's symptoms disappeared. Hearing and tinnitus disappeared. She was walking independently, had no neuro deficits.

Patient attended regularly for monthly follow up. After 6 months later patient presented with headache, recent memory disturbances and urinary incontinence. She was found to have shunt malfunction with obstructive hydrocephalus. She underwent shunt revision and was relieved off her symptoms.

The half year follow-up cerebral MR images demonstrated the normalization of ventricular size with patency of the aqueduct of Sylvius. Follow-up imaging at 6 months demonstrated no evidence of recurrence or hydrocephalus. The patient has remained asymptomatic for 6 months.

Discussion

Similar to other's experience, our case confirms the epidemiological preponderance of pineal cysts in young females in their third decade of life. Pineal cysts are incidental findings in 5% of MRI brains and 20-40% in autopsy series2. When cysts are above 10-12mm in diameter follow-up imaging may be necessary as a cystic pineocytoma may appear similar.

Arachnoid cysts can be found at any age; however, 75 % present in children3. Men are more commonly affected than women. Most of pineal cysts are asymptomatic. Signs and symptoms related to pineal cysts are generally secondary to mass effect on adjacent structures[4]. When larger they present with mass effect on the tectal plate leading to compression of the superior colliculi and Parinaud syndrome. If the cerebral aqueduct is compressed, they may also result in obstructive hydrocephalus. Rarely, haemorrhage into a pineal cyst can cause rapid expansion and so called pineal apoplexy[2,5]. Cerebellar, corticospinal or sensory disturbances result from direct compression of midbrain. Our patient's vestibulocochlear symptoms could be due to nuclear or stretching of cysternal component by raised intracranial pressure. Infiltrative lesions may present with precocious puberty, hypogonadism and diabetes insepidus. Non-specific symptoms, such as seizures, headaches, nausea and vomiting, can occur due to increased intracranial pressure[3].

Pineal cysts are composed of three concentric layers.Inner layer - finely fibrillar glial tissue often containing haemosiderin. Middle layer - pineal parenchyma +/- calcification.Outer layer - thin fibrous connective tissue. In our case cyst content was CSF like fluid. Cyst was layered with arachnoid tissue. Histopathology confirmed it as arachnoid cyst.

1. Our case is a rare case because

2. Pineal arachnoid cysts are less common in women.

Our case has improved in hearing and visual symptoms in post operative period.

Conclusion

Symptomatic pineal cysts do improve if intervened in time**.** Our case proves that even vestibular symptoms, visual symptoms and cerebellar symptoms also can improve completely. In almost all cases no treatment is necessary, and in most cases, provided the cyst is small, then no imaging follow-up is required.

CT SCAN IMAGES

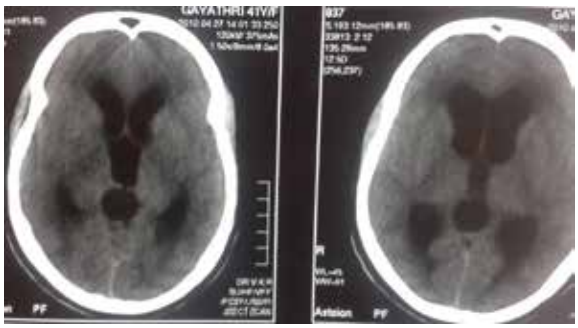

Fig 1: Pre-op scan 1.

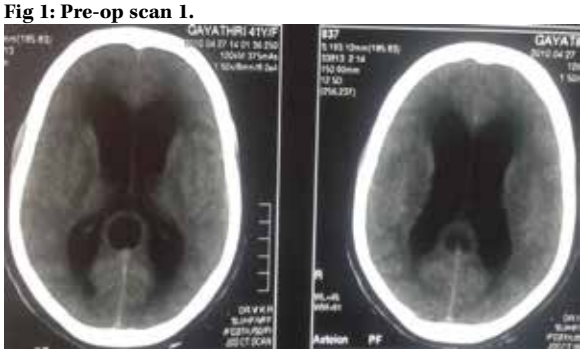

Fig 2: Pre-op scan 2

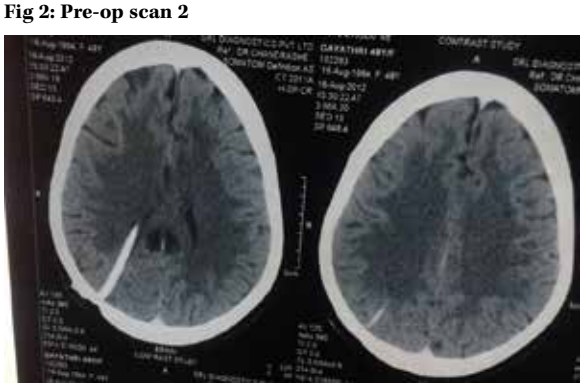

Fig 3: After V-P Shunting the patient.

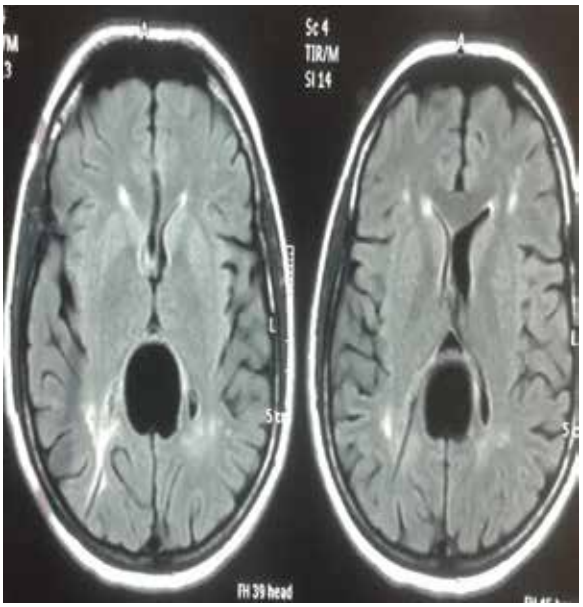

Fig 4 : Scan before the main surgery

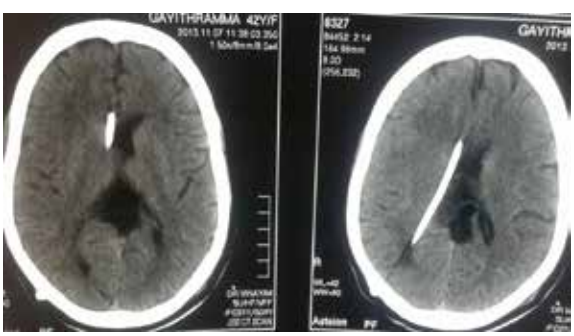

Fig 5 : Post surgery CT Scan

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