

· Case Report ·

A huge brain cyst in left temporal fossa

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Keywords

Epidermal cyst; Tomography, X-ray computed; Magnetic resonance imaging; Central nervous system cysts; Case reports.

【关键词】 表皮囊肿; 体层摄影术, X线计算机; 磁共振成像; 中枢神经系统囊肿; 病例报告

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Introduction

Epidermoid cyst of brain was first described by Cuveilhier in 1829^[1]. Bailey gave detailed histological description in 1920^[1]. Epidermoid cyst of brain accounts for < 1% of all intracranial tumors^[2-3]. Epidermoid cyst of brain is a relatively uncommon benign, slow-growing congenital or reactive tumors of brain arising from stratified squamous epithelium over the surface of brain^[2,4-5]. They are commonly located at cerebellopontine angle and parasellar regions. Epidermoid cysts are filled with soft white flaky material containing high concentration of cholesterol crystals. Cases of malignant transformation have been reported^[6-10]. Clinical features depend on the site of location and are indistinguishable from other space occupying lesions. In the following report, we present a case of epidermoid cyst in a young male presented with headache, nausea and vomiting.

Case report

A 27 - year - old male presented to the emergency department (ED) with complaints of headache, nausea, vomiting and left-sided facial pain for about one week but more from the day before. He had blurring of vision and weakness on the left side of his face.

Abstract

A 27 - year - old male with left temporal protrusion from childhood presented with complaints of headache, nausea and vomiting. Cranial magnetic resonance imaging (MRI) showed fluid collection measuring 6.00 cm × 7.00 cm × 8.00 cm in left temporal fossa. The diagnosis of epidermoid cyst of brain was made and surgical resection of the tumor was done. Epidermoid cysts of brain grow slowly and are composed of epidermoid cells debris rich in cholesterol. The prophylactic removal of these tumors with goal of preventing recurrence is recommended.

【摘要】 男性患者, 27 岁。主因头痛、恶心、呕吐入院。患者幼时即左侧颞叶突起。MRI 检查显示左侧颞窝囊性病变, 约为 6.00 cm × 7.00 cm × 8.00 cm 大小。临床诊断为表皮样囊肿, 予手术切除。表皮样囊肿生长缓慢, 由富含胆固醇的表皮样细胞碎片组成, 发生后应施行预防性切除。

Physical examination showed left temporal swelling of about 7.00 cm in diameter. He had left upper motor neuron facial weakness and right homonymous hemianopia. No neck stiffness was observed. Computer tomography (CT) scan of brain was ordered after initial symptomatic management, which showed large extra-axial mass lesion in the left middle cranial fossa measuring 7.00 cm × 6.20 cm. The lesion was of fluid density containing fat content and bone remodeling. The mass was extending into the left parasellar region and compressing left sphenoid sinus. Probable impression of epidermoid cyst was made (Figure 1).

Later magnetic resonance imaging (MRI) of brain showed fluid-filled mass measuring 6.00 cm × 7.00 cm × 8.00 cm in left temporal fossa with signs of splaying of lateral orbital wall. The lesion was extending superiorly and anteriorly to the left frontal lobe and resting on the peripheral side of the left parietal lobe with signs of significant atrophy of left cerebral hemisphere. The above mentioned fluid - filled mass was hypo-intense on T₁ weighted images (Figure 2) and appeared hyper-intense on T₂ weighted images, showing high lipid content of the tumor (Figure 3). The diagnosis of epidermoid cyst of brain was made. Through left frontotemporal craniotomy the cyst was exposed after gaining access through dura mater.

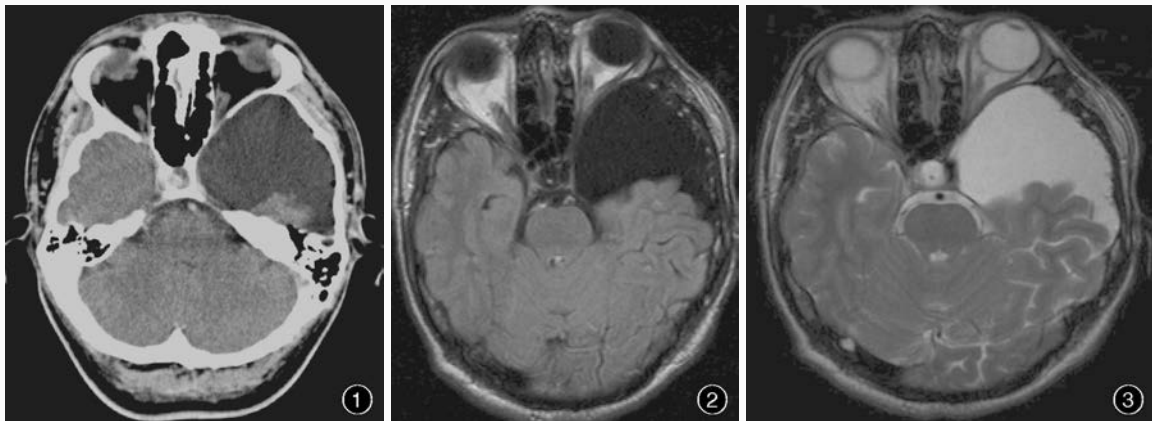


Figure 1 CT revealed low-density shadow in the left temporal fossa. **Figure 2** Axial T₁WI showed hypo-intense lesion. **Figure 3** Axial T₂WI showed hyper-intense lesion.

Cystic wall removed from edges, avoiding any spillage of cystic contents. The cavity was then filled with normal saline and wound was closed. The patient recovered uneventfully. Histopathological examination showed epidermoid cyst of brain. It is the largest brain cyst ever reported in Oman, confirmed by literature search.

Discussion

Epidermoid cyst of brain commonly presents in the third or fifth decade of life, usually as a longstanding painless subcutaneous scalp swelling covered with normal skin. It is usually diagnosed in adults^[11]. Males are affected more than females. Epidermoid cysts develop from the entrapment of ectodermal cells (which normally from skin) at the time of closure of neural groove during the third to fifth week of embryogenesis, producing a cyst lined inside with ectodermal cells^[1]. This ectodermal lining of cyst behaves like skin cells, growing and sloughing but as it is towards the inside of the cyst, sloughed cells stay inside the cyst and expand the cyst gradually filling it with keratin, cellular debris and cholesterol. It has a thin capsule of stratified squamous epithelium. Lack of hair and other dermal elements differentiate it from dermoid tumors^[2, 12 - 13]. These benign tumors rarely undergo malignant transformation^[6 - 10]. CT scan and MRI are both helpful in making diagnosis of epidermoid cyst but differentiation between arachnoid cyst and epidermoid cyst is difficult with CT scan. MRI with fluid-attenuated inversion recovery (FLAIR) and echo-planar diffusion-weighted imaging (DWI) is almost diagnostic^[14 - 15]. T₁ weighted images are generally hypointense depending upon the lipid content of the tumor. T₂ weighted images are usually isointense but may be slightly hyperintense. In a study by Liu et al^[15], magnetic resonance DWI sequences

were found to facilitate diagnosis of intracranial cystic diseases.

Conclusion

Epidermoid cyst of brain is a slow growing benign tumor composed of epidermoid cell debris rich in cholesterol. Cystic lesions of brain, including epidermoid cyst, are typically diagnosed by MRI or CT scans of the brain. Prophylactic surgical removal of these tumors is recommended.

Disclosure

No authors report any conflict of interest.

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