Scholars Journal of Medical Case Reports
Abbreviated Key Title: Sch J Med Case Rep
ISSN 2347-9507 (Print) | ISSN 2347-6559 (Online)
Journal homepage: https://saspublishers.com

OPEN ACCESS

Radiology

Pineal Epidermoid Cyst: Case Report

A. Diani[1*], S. Hamdane[1], F. Amenzouy[1], B. Boutakioute[1], M. Ouali Idrissi[1], N. Cherif Idrissi Gannouni[1]

[1]Radiology Department, ARRAZI Hospital, Mohammed VI University Hospital, FMPM, Cadi Ayad University, Marrakech, Morocco

DOI: 10.36347/sjmcr.2023.v11i05.004 | **Received:** 14.03.2023 | **Accepted:** 19.04.2023 | **Published:** 03.05.2023

***Corresponding author:** A. Diani
Radiology Department, ARRAZI Hospital, Mohammed VI University Hospital, FMPM, Cadi Ayad University, Marrakech, Morocco

Abstract **Case Report**

Intracranial epidermoid cysts are rare, congenital, benign tumors, usually have no clinical implications and remain asymptomatic for years. The diagnosis of pineal cyst is usually established by MRI with defined radiological criteria to distinguish benign pineal cyst from tumors of this area. In most cases no treatment and no follow up is necessary.

Keywords: Epidermoid cyst, Pineal epidermoid cyst, Diffusion MRI.

INTRODUCTION

Intracranial epidermoid cysts are rare, congenital, benign tumors that develop from ectodermal inclusions [1]. The most frequent locations are: the cerebellopontine angle, the temporal fossa, the suprasellar region and the quadrigeminal region. They are rarely seen in the large cistern and the fourth ventricle [2].

Magnetic resonance imaging (MRI), in diffusion sequence and 3D CISS gradient echo sequence, is the key examination to confirm the diagnosis. The problem of differential diagnosis arises essentially with arachnoid cysts. The only treatment is surgery [3].

CASE REPORT

We report a clinical case concerning a 47 years old woman who presented chronic headaches unresponsive to treatment. The clinical examination found. The MRI (Figure 1) showed a median process of the pineal region, rounded in shape, well limited, hypointense on T1 weighted images (Fig-1), hyperintense on T2-weighted (Fig-2) with no contrast enhancement (Fig-3), hypersignal diffusion and with ADC restriction (Fig-4).

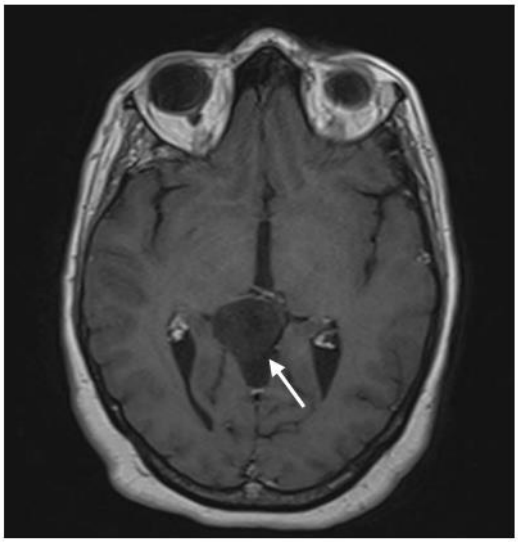

Fig-1: Axial enhanced T1-weighted MR image: Median process of the pineal region, rounded in shape, well limited, appearing hypointense on T1

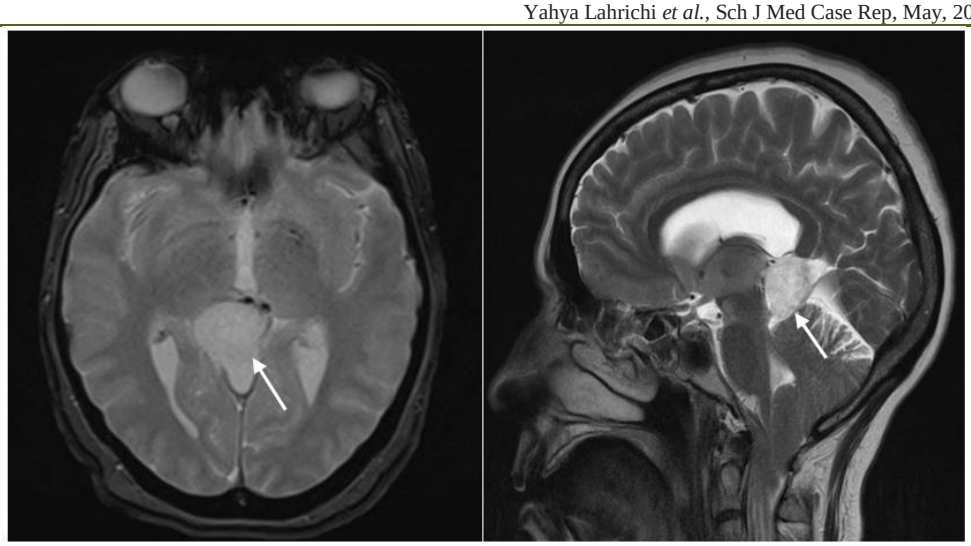

Fig-2: Axial and sagittal enhanced T2-weighted MR image: Median process of the pineal region, rounded in shape, well limited, appearing hyperintense on T2

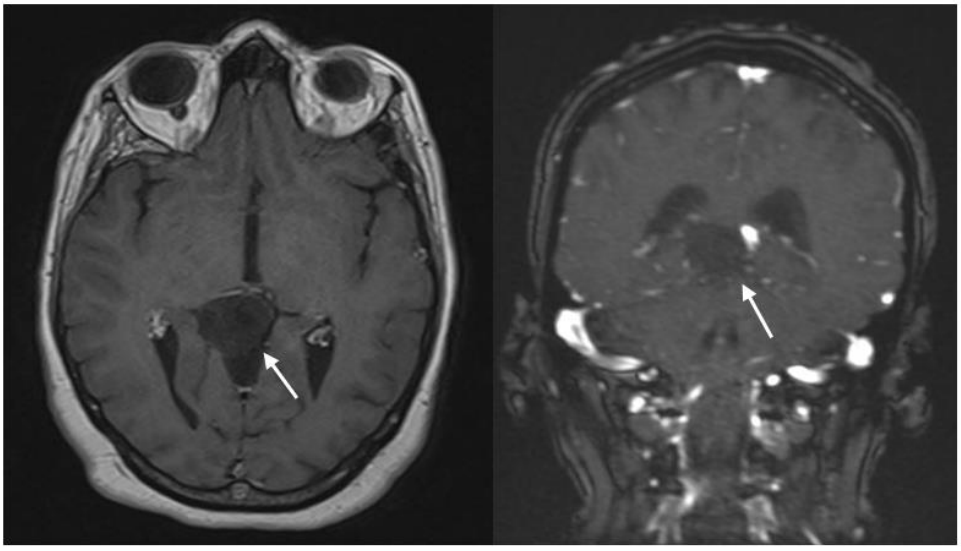

Fig-3: Axial postcontrast T1-weighted MR image showing the pineal cyst hypointense with no contrast enhancement

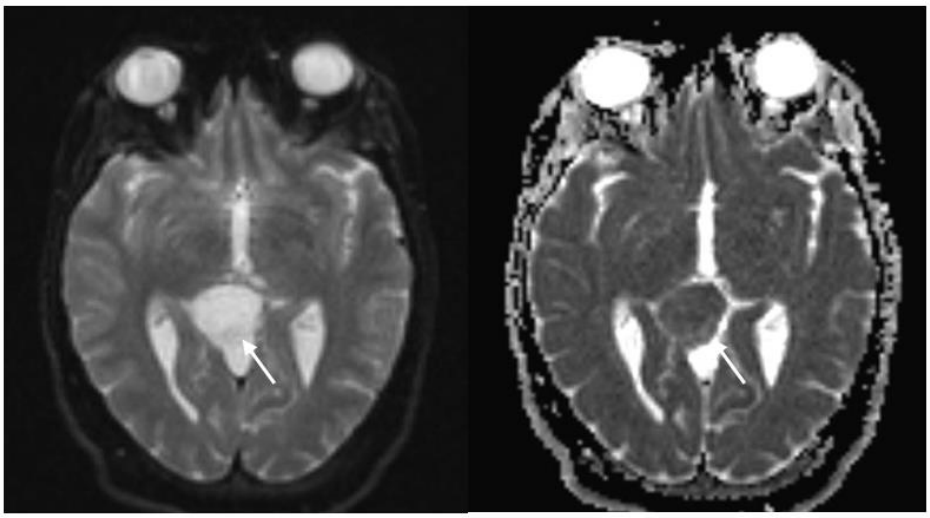

Fig-4: Diffusion MRI sequence: Hypersignal diffusion and with ADC restriction

DISCUSSION

The Epidermoid cyst is a rare and slow growing brain tumor. It represents approximately 1% of all intracranial tumors. This lesion is known to be often located in the Cerebellopontine angle whereas dermoid cyst prefers midline localization. The pineal localization is a very rare form of this intracranial lesion. It represents 0,2-1% of all intracranial tumors [4].

Epidermoid cysts arise from rests of ectodermal cells misplaced during the division of the neuroectodermal and cutaneous ectoderm during the 3rd or 4th week of intrauterine development. A pearly aspect characterizes the epidermoids. The histological examination describes a capsule of stratified squamous epithelium containing desquamated epithelial cells, keratin and cholesterol [5].

They may or may not be symptomatic. When they are asymptomatic, their discovery is fortuitous and their size is less than 1 cm.

The CT scan shows a cyst lesion. The density is similar to cerebrospinal fluid, with no contrast enhancement, but the surrounding glandular parenchyma takes up the contrast [6].

On MRI, epidermoid cyst is typically iso to hypointense compared to the brain parenchyma on T1 weighted images and hyperintense on T2-weighted and FLAIR images with no contrast enhancement. The diffusion-weighted images (DWI) allow to make a difference between an epidermoid cyst and an arachnoid cyst [7]. Epidermoids are bright on DWI compared with other cystic lesions.

In almost all cases no treatment is necessary, and in most cases, provided that the cyst is small, no imaging follow-up is required.

When cysts are above 10-12 mm in diameter, follow-up imaging may be necessary, as a cystic pineocytoma may appear similar [8].

CONCLUSION

The epidermoid cyst is a benign tumor of slow but inevitable linear evolution, justifying surgical treatment. Diagnosis is becoming increasingly easy, especially with the advent of diffusion sequences in MRI.

BIBLIOGRAPHIE

1. Lopes, M., Capelle, L., Duffau, H., Kujas, M., SICHEZ, J. P., & Van Effenterre, R. (2002). Prise en charge chirurgicale des kystes épidermoïdes intracrâniens: a propos de 44 patients et revue de la littérature. *Neuro-chirurgie (Paris)*, *48*(1), 5-13.
2. Cobbs, C. S., Pitts, L. H., & Wilson, C. B. (1997). Epidermoid and dermoid cysts of the posterior fossa. *Clinical neurosurgery*, *44*, 511-528.
3. Oulali, N., Moufid, F., Ghailan, M. R., & Hosni, B. (2012). Kyste epidermoïde de la grande citerne et du quatrieme ventricule. *Pan African Medical Journal*, *13*(1).
4. Hassani, F. D., Bouchaouch, A., El Fatemi, N., Gana, R., El Abbadi, N., & Maaqili, M. R. (2014). Pineal epidermoid cyst: case report and review of the literature. *Pan African Medical Journal*, *18*(1), 259.
5. MacKay, C. I., Baeesa, S. S., & Ventureyra, E. C. (1999). Epidermoid cysts of the pineal region. *Child's Nervous System*, *15*(4), 170-177.
6. Gauvrit, J. Y., El Haj, L., Reyms, N., Dubois, F., & Pruvo, J. P. (2003). Tumeurs cranioencéphaliques de la ligne médiane. Encycl Méd Chir (Editions Scientifiques et Médicales Elsevier SAS, Paris, tous droits réservés), Radiodiagnostic - Neuroradiologie-Appareil locomoteur, 31-658-B-10, 14p.
7. Ahmed, I., Auguste, K. I., Vachhrajani, S., Dirks, P. B., Drake, J. M., & Rutka, J. T. (2009). Neurosurgical management of intracranial epidermoid tumors in children. *Journal of Neurosurgery: Pediatrics*, *4*(2), 91-96.
8. Barboriak, D. P., Lee, L., & Provenzale, J. M. (2001). Serial MR imaging of pineal cysts: implications for natural history and follow-up. *American Journal of Roentgenology*, *176*(3), 737-743.