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Giant traumatic implantation parasellar epidermoid tumor: a rare case report.

Shrish Nalin*, Kanika Gupta

Department of Neurosurgery, RPGMC Tanda, India

***Corresponding author:** Nalin S, Department of Neurosurgery, RPGMC Tanda, India; Tel No: 8679377801; E-mail: shrishnalin@gmail.com

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Introduction

Epidermoid cysts or tumors were first described by Cruveilhier1 and designated the most beautiful tumors of the body by Dandy.2 They account for nearly 1% of the intracranial tumors. These tumours are thought to arise from displaced epithelial remnants that remain after the neural tube closure. These are usually benign intradural but extracerebral lesions and are rarely found within the substance of the brain. Intracranial epidermoids are usually congenital in origin, however, acquired lesions following trauma have been rarely reported. We hereby report a case of 40 year old female with acquired parasellar giant epidermoid following trauma in her eye.To our knowledge this is the first report of such case in the available English literature.

CASE REPORT

A 40 year old female patient presented with history of discharge from the right eye for 12 years. Patient also complained of headache on the right side for the last two years. Her past history revealed trauma to right eye 12 years back with wheat twigs which penetrated the medial side of eye deeply while working in the fields . One month later she developed discharge from the same eye for which she took various treatment with no improvement in symptoms. The eye discharge continued for 9 years during which she developed gradual decrease in vision which progressed to complete loss of vision in her right eye. Patient also developed proptosis in her right eye during this period. On consulting an ophthalmologist she underwent an enucleation surgery followed by artificial eye implantation three months later. She remained asymptomatic for one year but again started having same symptoms.

RADIOLOGICAL FINDINGS

Contrast enhanced CT scan of Paranasal sinus was done which revealed -Ill defined non enhancing lesion of right nasolacrimal duct with widening. Also a lytic expansile lesion in petrous part of right temporal bone and clivus with involvement of carotid canal (figure1). Subsequently her MRI brain was done which revealed a well defined heterogeneous mass lesion in right para seller region of 3.3*3.4*2.3 cm size. It was extra axial mass having fluid to soft tissue signal intensity. The above findings were suggestive of a Right Parasellar Epidermoid(figure 2 and 3) .

SURGERY

Patient underwent a Right pterional craniotomy with drilling of clinoid to reach up to the tumor. It was intradural but extracerebral abutting the petrous part of temporal bone . It was a pearly white mass , approximately 4*4*3cm size with a well-demarcated interface with cerebral surface(figure4,5). The mass was well encapsulated, avascular, friable with a greasy consistency. A near-total excision was achieved but the capsular membrane had to be left behind as it was adherent to the underlying cerebral tissue to avoid brain injury. Periosteal graft was used for watertight duroplasty.

Her post-operative recovery was uneventful with no focal neurological deficit. Histopathological examination confirmed the diagnosis of an epidermoid cyst(figure.6). She was discharged on the 7th post-operative day.

On subsequent follow-up, the patient claimed a remarkable subjective improvement in her symptoms. Her eye discharge resolved completely with marked resolution in headache.

DISCUSSION

Epidermoid cysts are also known as Cholesteatoma or Pearly tumor or Ectodermal inclusion cyst. Congenital Epidermoid cysts comprise 0.2%-1.8% of all intracranial tumors with an even gender distribution and with onset of symptoms around third to fifth decade.3,4,5,6 . These are benign tumors of embryonic origin and formed between 3rd and 5th weeks of embryonic development. However, mechanical introduction of such skin elements can also occur later in life by any mode of skin puncture.7 Epidermoid cysts have been reported as sequelae of trauma and surgery in bone, cartilage, and abdominal organs.8,9 The formation of epidermoid cysts after lumbar puncture has also been documented.10,11

They are often found where two ectodermal surfaces fuse such as the skin, epidural, intradiploic and epicranial tissue .These tumours commonly occur in isolation at the Cerebellopontine angle (37%), Suprasellar region (31%), Diploie (16%), Rhomboid fossa (11%) and Spinal canal (5%),12 accounting for approximately 1% of all the intracranial tumors. 13,14,15. Less common locations include the Pineal gland, Thalami, Septum pellucidum and other intraparenchymal locations. In rare cases, they have been reported in other locations such as the lateral ventricles5 Epidermoids are generally slow-growing lesions, remaining asymptomatic for long

periods of development. The presenting symptoms mainly depend on the location and the mass effect of the lesion rather than the natural disease process.

MRI appears to be the best modality for radiological evaluation of these tumors. Typically epidermoid tumors are hypointense on T1-weighted and hyperintense on T2-weighted images with long relaxation times. Due to the low vascularity of these tumors, no post-contrast enhancement is noted. Fluid-Attenuated Inversion Recovery (FLAIR) Sequences help distinguish them from similar-appearing arachnoid cysts, as the former are hyperintense. Diffusion-weighted images further enhance the accuracy of preoperative diagnosis.16,17 Calcifications may be seen within these tumors in 10%–25% of cases.

Surgical excision is the mainstay of treatment, and is low-risk due to the avascular nature of the tumor. As the tumour is waxy ,avascular ,easily suckable it is easy to debulk most of the tumor by a suction catheter. Surgical planning and extent of resection is based on fundamental neurosurgical principles, where preservation of vital structures is followed by maximal debulking. The capsule of the cyst can be problematic in this case as it may be adherent to vital structures and may need to be left behind as was done in our case. The implications of leaving the cyst wall behind include a recurrence of the mass; however, this may be acceptable due to the benign nature of the disease and the indolent pattern of growth giving the patient a long symptom-free interval. Even with subtotal resection of the mass, a mean symptom-free interval of 8 -9years has been reported18 This period can further be enhanced by aggressive resection of the tumor and its capsule; however, it must be balanced within reasonable limits of acceptable risk for neurological deficits.

Although benign in nature, a few cases have been shown to undergo malignant change.19,20,21 On turning malignant, severe deterioration is noticed in patients health. Malignant transformation can be detected by Contrast MRI.

REFERENCES

1. Cruveilhier J. Anatomie Pathologique du Corps Humain, Vol 1, Book 2. Paris: JB Bailliere; 1829-1835, p 341.
2. Dandy WE. Surgery of the brain, In: Lewis D, (editor): Practice of Surgery. Vol 12, Hagerstown, MD: WF Pryor; 1945. p. 628-33.
3. Gao PY, Osborn AG, Smirniotopoulos JG, Harris CP. Radiologic-pathologic correlation. Epidermoid tumor of the cerebellopontine angle. AJNR Am J Neuroradiol. 1992;13:863-72.
4. Li F, Zhu S, Liu Y, Chen G, Chi L, Qu F (2007) Hyperdense intracranial epidermoid cysts: a study of 15 cases. Acta Neurochir (Wien);149:31-9; discussion 9.
5. Hao S, Tang J, Wu Z, Zhang L, Zhang J, Wang Z et al. (2010) Natural malignant transformation of an intracranial epidermoid cyst. J Formos Med Assoc.;109:390-6.
6. Kano T, Ikota H, Kobayashi S, Iwasa S, Kurosaki S, Wada H (2010)Malignant transformation of an intracranial large epidermoid cyst with leptomeningeal carcinomatosis: case report. Neurol Med Chir (Tokyo); 50:349-53.
7. Choremis C, Economos D, Papadatos C, Gargoulas A. Intraspinal epidermoid tumors (cholesteatomas) in patients treated for tuberculous meningitis. Lancet 1956;2:437-9.
8. Lan S, Lejeune LP, Dilenge D, Madarnas P (1977) pidermoid cysts of the spleen. Can J Surg;20:557-60.
9. Muellner T, Nicolic A, Lang S, Schabus R, Kwansy O. Epidermoid cyst after arthroscopic knee surgery. Arthroscopy 1988;14:331-4.
10. Machida T, Abe O, Sasaki Y, Shirouzu I, Aoki S, Hoshino Y, et al. Acquired epidermoid tumour in the thoracic spinal canal. Neuroradiology 1993;35:316-8.
11. Park JC, Chung CK, Kim HJ. Iatrogenic spinal epidermoid tumor. A complication of spinal puncture in an adult. Clin Neurol Neurosurg 2003;105:281-5.
12. Ulrich J. Intracranial Epidermoids. A Study on Their Distribution and Spread. J Neurosurg. 1964;21:1051-8.
13. Berger MS, Wilson CB. Epidermoid cysts of the posterior fossa. J Neurosurg. 1985;62:214-9.
14. Hsieh CH, Huang KM, Kao MC, Peng S, Wang CC. Hemorrhage in intracranial epidermoid cyst. J Formos Med Assoc. 1996;95:173-5.
15. Yamakawa K, Shitara N, Genka S, Manaka S, Takakura K. Clinical course and surgical prognosis of 33 cases of intracranial epidermoid tumors. Neurosurgery. 1989;24:568-73
16. Iaconetta G, Carvalho GA, Vorkapic P, Samii M. Intracerebral epidermoid tumor: a case report and review of the literature. Surg Neurol. 2001;55:218-22.
17. Cecchini A, Pezzotta S, Paoletti P, Rognone F. Dense dermoids in craniocervical region. J Comput Assist Tomogr. 1983;7:479-83.
18. Talacchi A, Sala F, Alessandrini F, Turazzi S, Bricolo A. Assessment and surgical management of posterior fossa epidermoid tumors: report of 28 cases. Neurosurgery. 1998;42:242-51; discussion 51-2.
19. Ge P, Luo Y, Fu S, Ling F. Recurrent epidermoid cyst with malignant transformation into squamous cell carcinoma. Neurol Med Chir (Tokyo). 2009;49:442-4.
20. Anton-Badiola I, San Miguel-Fraile P, Peteiro-Cancelo A, Ortiz-Rey JA. [Squamous cell carcinoma arising on an epidermal inclusion cyst: a case presentation and review of the literature]. Actas Dermosifiliogr. 2010;101:349-53.
21. Nakao Y, Nonaka S, Yamamoto T, Oyama K, Esaki T, Tange Y, et al. Malignant transformation 20 years after partial removal of intracranial epidermoid cyst--case report. Neurol Med Chir (Tokyo). 2010;50:236-9.