

Intracranial epidermoid cyst

Case report



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Intracranial epidermoid cysts are estimated to constitute 0.2 to 1.8% of brain tumours (4) and they can be divided into four categories describing their anatomic origin and frequent primary location: retrosellar-cerebellopontine angle, parasellar-sylvian fissure, suprasellar-chiasmatic and basilar-posterior fossa. We describe an unusual case of prepontine epidermoid cyst arising in the temporal lobe and in interpenduncular cistern: development and surgical treatment are discussed.

KEY WORDS: Epidermoid cyst, MRY, Surgery.

Introduction

Epidermoid and dermoid cysts represent net of cutaneous tissue misplaced during embryogenesis and are found along lines of ontogenic neurocutaneous differentiation.

Case report

A 49 years old man admitted to our services with a focal convulsive seizure of the right side and transient aphasia. General physical and neurological examination did not reveal abnormality. CT scan showed a hypodense, non-enhancing lesion in the left temporal lobe developing in the sylvian fissure up to the pontomedullary junction displacing the basilar artery to the right side; magnetic resonance imaging revealed a well defined extra-axial mass with signal intensities mildly hyperintense to CSF on T1-weighted images (Fig. 1), iso-intense to CSF on T2-weighted images and hyperintense on proton density images without enhancement on gadolinium administration. A left pterional approach was done and the tumour, with a capsular tissue strongly adherent to neurovascular structures in the deep cisterns of the skull base, subtotally removed, pre-

ferring to take the uncertain risk of recurrence rather the certain risk serious neurological deficits. At the end of the intervention the operating field was irrigated with hydrocortisone solution with Ringer lactate. The postoperative course was uneventful and following neurological examination showed no pathological findings; histological studies confirmed the predictable initial diagnosis of epidermoid tumour and the CT scan performed confirmed the impression of sub total removal with smaller compressive effect of the brainstem (Fig. 2). Patient was discharged on sixth postoperative day

Discussion

Intracranial epidermoid cysts originate from epithelial inclusions isolated in early embryonic life during the period of neural tube closure of the third to fifth weeks. During this time the medullary tube is being formed from the neural groove and the ectoblast is committed to either a neural or cutaneous lineage⁷. These trapped committed cutaneous cells may then give rise to intradural dermoids and epidermoids. If there is persistence of the cutaneous tract with overlying skin, a communicating dermal sinus may develop⁵. Histologically they are composed of an outer capsule, an epithelial layer and in some cases an inner cystic fluid. The outer layer is composed of connective tissue, which surrounds a layer of keratinized stratified squamous epithelium. As the epithelial layer desquamates, the cells accumulate and form a cholesterol-rich inner layer that gives the cyst its characteristic pearly white appearance⁸.

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Fig. 1: MRI, T1-weighted images, axial view, showing epidermoid cyst arising in the left temporal lobe and in interpeduncular and prepontine cisterns.



Fig. 2: Post operative CT scan showing only residual cyst in the interpeduncular cistern.

Magnetic resonance (MR) imaging is the investigation of choice and the typical features of intracranial epidermoid cyst are an extra-axial mass of low signal intensity, without contrast enhancement, on T1 – weighted images and high signal on T2- weighted images ^{6,9}. However some atypical epidermoid tumours have different signal intensity depends on the relative amount of lipid and to some extent on the amount of keratin and cholesterol within the cyst. Ideally the best treatment is the complete removal of the tumour since these cyst are not chemo- and radiosensitive ^{1,10}; nevertheless because of the tenacious adherences of the cystic capsule with vasculo-nervous structures and brain tissue often this is not possible and every aggressive attempt to remove it can result in disastrous outcomes.

Riassunto

Cisti epidermoide intracraniche rappresentano lo 0.2 a 1.8% dei tumori cerebrali e possono essere suddivise in quattro categorie descrivendo la loro origine anatomica ed in considerazione della loro sede di sviluppo più frequente: angolo retrosellare-cerebellopontino, fessura parasellare-silviana, suprasellare-chiasmatica e fossa basilare-posteriore. Noi descriviamo un caso insolito di cisti epidermide prepontina che origina nel lobo temporale ed nella cisterna interpeduncolare: natura istologica e trattamento chirurgico vengono discussi.

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