Case report

Spinal EPIDERMOID CYST of Cauda equinarevealed BY A HYPOESTHESIA :case report and literature review

ABSTRACT
Spinal EPIDERMOID CYST arebenign malformative tumors of whichthere are two types: congenitalformsfrequentlyassociatedwithother malformations (bone, cutaneous) and exceptionalacquiredforms. Classically, Spinal EPIDERMOID CYST are observed in the paraslearregion or in the cerebellar ponto angle. They are rare in spinal localization or theyrepresentlessthan 1% of intrarachidtumors. Wepresent an unusual observation of giantsquamouscellcyst of the Cauda equina in a 23-year-old patient revealed by back pain and hyposthesia . Complete total removal is the treatment of choice.

Keywords:

Intradural epidermoid cyst
Laminectomy
Spinal epidermoid cyst

Introduction

Epidermoid cysts were first described by Couvelaire in 1835. It means ”perlee tumor” (pearly tumor). Epidermoid cystsare benign, slow-growing lesions that account for <1% of all intraspinal tumors.(1) . They can either be congenital or acquired.Acquired spinal ECs are extremely rare and are mostly caused by trauma or iatrogenic procedures such as lumbar puctures, or spine surgery. (2) However, true intramedullaryepidermoid cysts (IECs) occurring without spinal dysraphism or prior surgery are even moreinfrequent, comprising 0.8% of all spinal epidermoid tumors.(2)
Epidermoid cysts are rarely identified in the cervical and upper thoracic regions compared to the conus, with a slight female predominance.(4) Being a slow-growing tumorwith nonspecific clinical and radiological characteristics, thepre-operative diagnosis is difficult.(5) In most cases, definitive treatment consists of a laminectomy followed by gross total resection of the lesion (3).

Presentation of the case:

A 23-year-old man , admitted for severe lower backwithoutradiation to the lowerextremities ,Hispastmedicalhistorywasunremarkable; there was no history of l congenital anomaly , lumbar puncture, traumatism,surgery to the spine ,at the examination He did not have any motor weakness on neurologic examinationjustslight hyposthesia of lowerlimbs , MRI spine with gadolinium demonstrating Presence of an intracanal, intra dural expansive process, attached to the roots of the Cauda equina and in contact with the terminal filum, occupying the dural cul de sac extended from L5 to S3,(Figure 1).
Within the next few hours the patient underwent decompressive laminectomy (level L5 to S2) ,biopsie and resection of the processus , Biopsy specimens were sent for pathological analysis Pathology confirmed the diagnosis as epidermoid tumor with out malignity signe ,after surgery follow-up, the patient reported significant improvement in pain and sensory deficits.

Discussion :

The pathogenesis of epidermoid cysts of the spine can be divided into two types: congenital and acquired. They are alsoclassified according to segmental distribution, associated congenital lesions, and clinical presentation. (1)
The pathomecanism of congenital EC is thought to be the inclusion of ectodermal cells at the time of closure of the neural tube, between the 3rd and 4th weeks of embryonic life. The association with other epidermal and osseous abnormalities, such as spina bifida, hemivertebrae, myelomeningocele, diastematomyelia, syringomyelia, and cutaneous and dermal defects in the form of pilonidal and dermal sinuses, as well as a discovery before the age of 20, confirm the congenital origin of the tumor. (2)
Acquired epidermoid lesions are discovered years after one or more lumbar punctures and are thought to be the result of iatrogenic skin penetration. (1)
Our patient had no evidenceof spinal cord congenital disorders, including scoliosis, tufts of hair, skin dimpling, skin pigmentation or spinal iatrogenic procedures such as lumbar puctures, spine surgery or trauma
Epidermoid cysts are slow-growing lesionsSymptoms develop as the cyst grows and causes compression of the adjacent neurologic structures. Initial symptoms are usually nonspecific. Patients may experience a dull and localized back pain, numbness or weakness of the loweextremities, and incontinence.Symptoms depend on thelocation and the nerve roots which are compressed.(3)

On MRI, epidermoid cysts are typically iso-intense to the surrounding cerebrospinal fluid. The lesion is usually well defined and peripherally enhances with gadolinium administration, as seen in this case.(6) Diffusion-weighted imaging can help to distinguish epidermoid cysts from arachnoid cysts, with the former demonstrating diffusion restriction, whereas the latter does not.8 However, a definitive diagnosis is made histologically, demonstrating a cyst wall composed of keratinizing stratified squamous epithelium (9) .That was the case of our patient whose MRI showed T1 hyperintensity and T2 hypointensity.

Asymptomatic epidermoid cysts can be treated conservatively; however, for those that showIn symptomatic sign, laminectomy with surgical resection is the treatment of choice. In most cases, a gross totalresection can be accomplished safely.Often, the epidermoid cyst is adherent to surrounding neural tissue, which would require less aggressive subtotal resection and the use of electromyography and somatosensory evoked potentials to ensure postoperative intact neurologic function. The somatosensory evoked potentials of the lower extremity can detect the integrity of the cauda equina through L4 to S1, and the electromyography is used to detect the external anal sphincter activity to ensure the integrity of the S2-4 nerve roots(10) .Gross total resection is facilitated by proper microsurgical technique and theuse of an ultrasonic surgical aspirator for debulking (11) . Although uncommon, recurrence may occur in cases of subtotal resection. Although gross total resection is possible in most cases, the tendency of these tumors to be adherent to surrounding tissue can in some cases leave tumor tissue behind, increasing the likelihood of recurrence. There is at least one documented case of a recurrent epidermoid cyst which required repeat surgery and the placement of an Ommaya reservoir for continual drainage (12) .Tumor regrowth typically takes years, and atypical hyperplasia isexceedingly rare; however, it has been documented (12,13).fortunately,in our patient,total tumor resection obtained, Biopsy specimens were sent for pathological analysis Pathology confirmed the diagnosis as epidermoid tumor with out malignity signe ,after surgery follow-up, the patient reported significant improvement in pain and sensory deficit (14).

Conclusion :

Intramedullary conus epidermoid cysts are rare but not unknown to neurosurgeons. they may arise as congenital lesions or as complications after

lumbar puncture The clinicalsymptomatologyislate, revealedby Symptoms develop as the cyst grows and causes compression. MRI is the examination of choice for post-operativediagnosis and monitoring. The treatment of epidermalcystissurgical. Complete removal of the contents of the cyst and capsule isnecessary.
This casereportillustratesanumberoffeaturesofepidermoidtumor of the spine. The patient had no dysraphic spine andwas no history of lumbar puncture Complete removal tumor was obtained in our case,

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Figure 1 :

Presence of an expansive intraductal, intradural process, attached to the roots of the cauda equina and in contact with the filum terminale, occupying the dural cul de sac extended from L5 to S3. It has a relatively homogeneous

signal in T1 hyposignal, T2 hypersignal, slightly enhanced and heterogeneously after PC injection with individualization of a fleshy portion, surmounted by a cystic portion taking up the contrast at the periphery. It measures: 17 x 20 x 87 mm long axes.