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Case Report

Spinal intradural epidermoid cyst: Case report☆,☆☆

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ABSTRACT

Spinal epidermoid cysts are rare benign tumors. The etiology can be acquired or congenital. We present a rare case of an 18-month-old girl presented 4 months ago with spontaneous intergluteal swelling fistulized to the skin and lower limbs weakness. Magnetic resonance imaging of the spine demonstrated an intradural tumor from L3 to L5 levels, isointense on T1, hyperintense on T2-weighted images with contrast enhancement after gadolinium injection without any coexistent spinal dysraphism suggested the diagnosis of the dermal sinus. The patient underwent triple-level laminectomy for biopsy and tumor resection. A pearly white tumor was encountered, with a subsequent biopsy confirming it to be an epidermoid tumor. At 6-month follow-up, the neurologic deficit was improved. Spinal epidermoid cysts are rare tumors that evolve slowly. Complete total removal is the treatment of choice.

Introduction

Epidermoid cysts are rare benign tumors that comprise approximately 1% of all intraspinal tumors [1]. They arise from epidermal cells implanted intradurally. This implantation may be either congenital or iatrogenic [2]. Lumbar puncture is a well-recognized iatrogenic cause of implantation of epidermal cells inside the dural sac [2]. Being a slow-growing tumor with nonspecific clinical and radiological characteristics, the preoperative diagnosis is difficult.

In this report, we present a rare case of an 18-month-old girl with a congenital lumbosacral epidermoid cyst.

Case report

An 18-month-old girl was presented 4 months ago with a spontaneous intergluteal swelling fistulized to the skin with lower limb weakness. Her past medical history was unremarkable; there was no history of lumbar puncture, traumatism, or surgery to the spine. On neurologic examination, she had motor deficit of the lower limbs: Medical Research Council

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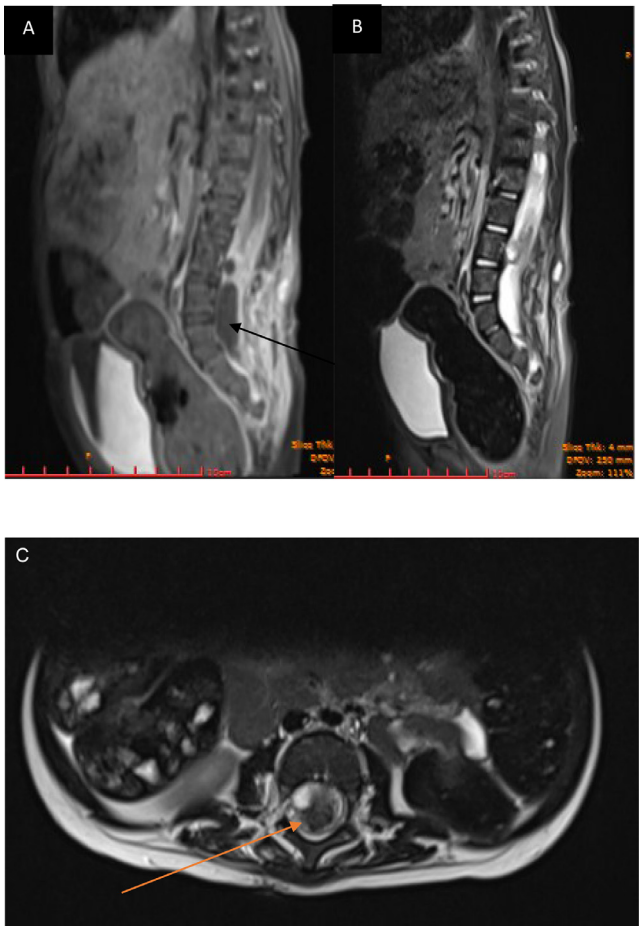

Fig 1 – (A) T1-weighted sagittal image shows a well-circumscribed hypointense intradural lesion at L3-L5 level. (B) T2-weighted sagittal MRI image: The lesion was hyperintense. (C) Axial T1-weighted MRI showing intradural hypointense lesion.

(MRC) grading 1/5. The Achilles reflex was abolished with anal sphincter hypotonia. Local examination showed intergluteal swelling without inflammatory signs fistulized to the skin with pus.

Magnetic resonance imaging (MRI) of the spine demonstrated an intradural tumor from L3 to L5 levels. It was isointense on T1-weighted images and hyperintense on T2-weighted images with contrast enhancement after gadolinium injection. Following clinical and radiological examination dermal sinus diagnosis was considered (Fig. 1).

She underwent total L3-L5 laminectomies. After the dural opening, an encapsulated "pearly white" tumor was encountered. Emptying of the cyst content was performed easily. Unfortunately, the tumor could not be easily removed because the capsule tightly adheres to the adjacent nerve roots. In addition, an inspection of the intradural space did not reveal any spinal dysraphism. Histopathologic examination confirmed an epidermoid cyst (Fig. 2).

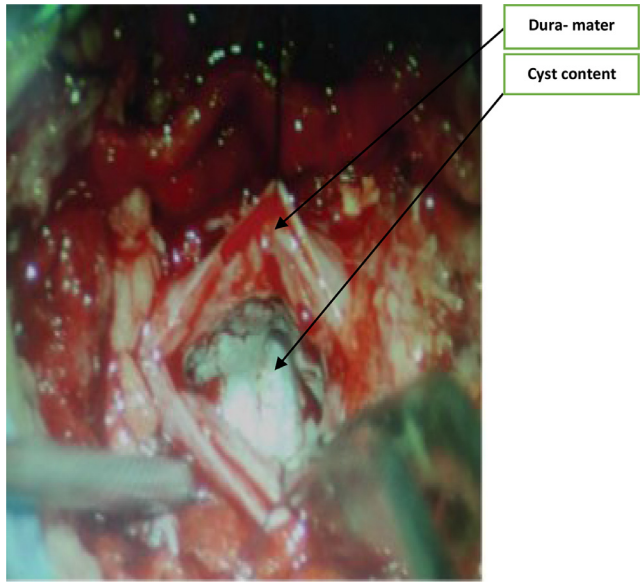

Fig. 2 – Intraoperative image show a circumscribed "pearly white" tumor on opening the dura.

In the immediate postoperative period, she had clinical improvement from a neurological deficit and sphincter disorders. At 6 months of follow-up period, the neurologic deficit was improved from 1/5 to 3/5.

Discussion

We describe here a rare case of a patient with a nondysraphic spine in whom the anamnestic and radiological elements were suggestive of a dermal sinus and that the diagnosis of epidermoid cyst was only objectified intraoperatively.

Epidermoid cysts (ECs) are uncommon benign lesions with an incidence of less than 1% in the spine. The etiology of these tumors is classified as congenital or acquired [1,3].

Congenital ECs are rare and frequently associated with others spinal dysraphism following spina bifida, dermal sinus, and syringomyelia while acquired ECs occur following repeated lumbar punctures, trauma, or surgery [4].

The signs and symptoms of these tumors vary with the level of involvement but do not differ from other lesions in the spinal column [2,5]. Owing to the characteristic slow growing of this tumor, the diagnosis is sometimes delayed. Our patient's symptoms had been evolving for 4 months. On imaging, the MRI is the imaging of choice, the lesion appeared T1-weighted images isointense and hyperintense on T2-weighted and contrast enhancement is uncommon [4,6,7]. However, other tumor in children may have the same characteristics including meningiomas, lipomas, dermoids cyst, and teratomas [3]. Our patient's MRI of the spine demonstrated an intradural tumor from L3 to L5 levels. It was isointense on T1-weighted images, hyperintense on T2-weighted im-

ages with contrast enhancement after gadolinium injection. Nevertheless, in view of these radiological features, the preoperative diagnosis of epidermoid cyst was not retained in the first instance but was based on the intraoperative macroscopic inspection and confirmed by histology subsequently. Per operatively, an encapsulated "pearly white" tumor was encountered. This macroscopic aspect of the tumor is the same as those reported in the literature [1,2,6,8].

Surgical resection is the treatment of choice. Gross total resection is the goal of surgery to avoid the risk of recurrence and aseptic meningitis. However, when the tumor is tightly attached to the surrounding neural tissue a subtotal excision should be performed to preserve neural function [2,5,6,8].

Unfortunately, in our patient, total tumor resection cannot be obtained because after emptying of the cyst content, the capsule tightly adheres to the adjacent nerve roots.

Conclusion

This case report illustrates a number of features of epidermoid tumor of the spine. The patient had no dysraphic spine and was no history of lumbar puncture. Complete removal without tear of the tumor was difficult in our case, because the capsule of the tumor was thin and often adhering to the surrounding nerve roots. However, total resection of the capsule is important to minimize the risk for recurrence.

Patient consent

A written consent was obtained from the patient for publication of this case and any accompanying images.

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