ABSTRACT

Spinal epidermoid tumors are rare tumors, constituting about less than 1% of the spinal tumors. Most of them are intradural and extramedullary. We reported a case of a 27-year-old patient with an intradural intramedullary epidermoid cyst at the thoracolumbar region presenting with urinary incontinence and paraparesis along with kyphoscoliosis.

Keywords: Epidermoid cyst, Intramedullary, Intraspinal, Split cord, Thoracic.


Source of support: Nil

Conflict of interest: None

INTRODUCTION

Epidermoid cysts are rare benign neoplasms within the neuraxis, which are commonly located in the intracranial region and account for less than 1% of all intraspinal tumors.1,2 Intramedullary localization of an epidermoid cyst is extremely rare.3,4 Epidermoid cyst can be congenital or acquired. Congenital epidermoid cysts are frequently found in association with spinal dysraphisms, such as syringomyelia, dermal sinus, and spina bifida, while the most common etiology for an acquired cyst is repeated lumbar punctures.4,5 Epidermoid cysts present with neurologic symptoms, such as numbness, weakness, spasticity, progressive paraparesis, sphincter troubles, and motor–sensory complaints, which cause immense distress.2,4-7 Magnetic resonance imaging (MRI) is an effective tool in the diagnosis of intraspinal epidermoid cyst.2 As it is an indolent benign tumor, complete excision is the treatment of choice. However, complete excision is difficult because of adherence of the capsule to the spinal cord or nerve roots. Therefore, the surgical objective remains subtotal resection.2,8

CASE REPORT

A 27-year-old male presented with backache of 3 years duration. The pain was dull aching and nonradiating, with a history of bilateral lower limb weakness for last 2 years, and bowel disturbance and urinary incontinence was present since last 3 months. Patient was found to be kyphoscoliotic since birth. There was no history of trauma or repeated lumbar punctures.

Neurological examination revealed spastic paraparesis with a power of 2-/5 in hip joint, knee joint, and ankle joint. The deep tendon reflexes were brisk at knee and ankle bilaterally. The patient had decreased sensory loss to all sensory modalities below the D12 dermatome. On examination, there was evidence of kyphoscoliosis.

On MRI, there was evidence of well-circumscribed, lobulated, encapsulated, heterogeneously signal-intense, intraspinal mass lesion at D11 to L1 level (Fig. 1), along the conus medullaris, filum terminale nerve roots. It appeared heterogeneously hyperintense on T2 and short tau inversion recovery sequences, and iso- to hyperintense on T1 was noted, suggesting hemorrhage (Fig. 2). Lesions showed large areas of cystic degeneration within it. It measured 8.2 × 3 × 2.2 cm in craniocaudal, transverse, and anteroposterior axis and is causing significant indentation on the conus medullaris and rest of the intrathecal roots. Cord edema is seen extending from D9 to D12 levels. Mild prominence of central canal was seen in the rest of the dorsal cord. Lesion is filling the entire thecal sac at D11 to L1 levels, with smooth posterior scalloping at the adjacent vertebrae. Kyphoscoliotic deformity was seen in lower dorsolumbar region (Fig. 3).
The patient underwent laminectomy from D11 to L1 level with fusiform involvement of dural sac and the lesion was found to be intramedullary (Fig. 4).

A yellowish cheesy material was coming out from the mass after incising the lesion, which was easily suckable (Fig. 5). Two separate mass lesions were also identified, which were firm in consistency; one was at the level of D11 to D12 level (Fig. 6), and the other at below L1 vertebral body (Fig. 7).

The upper mass was densely adhered to the root (Fig. 8), hence, it was not removed. But, the lower mass was resected. Subtotal decompression was done and then saline was given with watertight closure of dura (Fig. 9). Patient recovered well with no postoperative deficits, was able to walk with support over 2 months, and his urinary and bowel dysfunctions also showed improvement over the follow-up period of 5 months.

Microscopic examination of the tumor specimens showed a fibrocollageneous cyst wall lined by keratinized stratified squamous epithelium, with myxoid degeneration and focal chronic inflammatory cell infiltrate and congested blood vessels (Fig. 10).
Multilevel Intramedullary Spinal Epidermoid Cyst

DISCUSSION

Epidermoid cysts in the spine are thought to arise from one of the two possible origins: Congenital or acquired. Benign congenital tumors, being more common, develop during the 3rd to 4th week of fetal life by the inclusion of cutaneous ectoderm into the neural ectoderm. The symptoms and signs of intraspinal epidermoid cysts are directly associated with the size and site of the lesion. The nonspecific symptoms and signs, such as numbness, weakness, spasticity, paraparesis of lower extremities, and defecation disorders pose challenges. Undoubtedly, the complete excision without neural damage is the goal of treatment. Emptying of the cyst material can be performed easily, but intimate adherence between capsule and the spinal cord makes this goal difficult. Hence, subtotal excision tends to be the more common surgical pattern avoiding possible neural damage.

REFERENCES