

Idiopathic spinal intradural arachnoid cysts in children

Evangelou et al. systematically reviewed the literature of idiopathic [spinal intradural arachnoid cyst](#) in children in total, 21 pediatric cases including the presented cases.

Epidemiology

Anterior idiopathic spinal arachnoid cysts are predominantly located in the cervical spine in 87.5 % of all cases, whereas posterior cysts can be found at thoracic and thoracolumbar segments in 84.6 % of the patients.

Clinical Features

Most children presented with motor deficits (76.2 %). Twenty-five percent of anterior spinal arachnoid cysts caused back pain as the only presenting symptom.

Treatment

Open fenestration by a dorsal approach has been used in the vast majority of cases.

Complications

No major surgical complications have been reported.

Outcome

Ninety-four percent of all patients did improve or showed no neurological deficits. Recurrence rate after successful surgical treatment was low (9.5 %).

Idiopathic spinal intradural arachnoid cysts can present with neurological deficits in children. Pathologies are predominantly located in the cervical spine anteriorly and in thoracic and thoracolumbar segments posteriorly to the spinal cord. In symptomatic cases, microsurgical excision and cyst wall fenestration via laminotomy are recommended. The radiological, intraoperative, and pathological findings support the cerebrospinal fluid obstruction and vent mechanism theory of arachnoid cysts ¹⁾.

Lee et al. present three cases in the pediatric age group with spinal intradural arachnoid cysts without a preceding history of trauma. Three patients with symptomatic intradural arachnoid cysts were investigated with conventional T1- and T2-weighted magnetic resonance imaging (MRI). The MRI scans demonstrated the intradural arachnoid cysts with slightly lower CSF signal intensity on the gradient echo images and slightly higher signal intensity on T1-weighted images. The first cyst was

located at the level T12-L1 and compressed the conus medullaris, with neurogenic bladder and cauda equina syndrome for 2 months. The second was located at the level C5-T1 ventrally, with spastic gait and neurogenic bladder for 4 years. The other was located at T2-3 ventrally, with sudden onset of quadriplegia after jumping rope. The combined treatment of total resection and wide fenestration in our three patients produced an excellent return of neurologic function in each one, except for residual urinary disturbance in case 2. Intradural spinal arachnoid cysts appear to result from an alteration of the arachnoid trabeculae; some such cysts are ascribed anecdotally to previous trauma or arachnoiditis, whereas the majority are idiopathic and congenital. The majority of intradural spinal arachnoid cysts occur in the thoracic region and most are dorsal to the neural elements. Only 10 cases have been reported in which the intradural arachnoid cysts were located anterior to the cervical spinal cord, of which 8 were in the pediatric age group, like our case 2. Myelography, postcontrast CT myelography and MRI have been demonstrated as useful for the diagnosis of intradural arachnoid cysts. MRI is the imaging modality of choice, and the extent, size and nature of the lesion in our cases were well demonstrated by MRI. Surgical treatment is necessary if progressive neurological dysfunction appears in the course of spinal cord compression. Complete surgical excision of the cysts is the best choice of treatment, and wide fenestration and shunting of the cyst to the peritoneum, pleural cavity or right atrium were the modalities of choice. MRI offers a noninvasive and effective means to make the diagnosis of arachnoid cysts easier. Intradural arachnoid cysts may cause progressive myelopathy; however, the postoperative prognosis is good if the operation is performed prior to neurologic deficits ²⁾

1)

Evangelou P, Meixensberger J, Bernhard M, Hirsch W, Kiess W, Merkenschlager A, Nestler U, Preuss M. Operative management of idiopathic spinal intradural arachnoid cysts in children: a systematic review. Childs Nerv Syst. 2013 Apr;29(4):657-64. doi: 10.1007/s00381-012-1990-7. Epub 2012 Dec 9. Review. PubMed PMID: 23224408.

2)

Lee HJ, Cho DY. Symptomatic spinal intradural arachnoid cysts in the pediatric age group: description of three new cases and review of the literature. Pediatr Neurosurg. 2001 Oct;35(4):181-7. Review. PubMed PMID: 11694795.

From:
<https://neurosurgerywiki.com/wiki/> - Neurosurgery Wiki

Permanent link:
https://neurosurgerywiki.com/wiki/doku.php?id=idiopathic_spinal_intradural_arachnoid_cysts_in_children

Last update: 2024/06/07 02:53

