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Intramedullary neurenteric cyst of the cervicothoracic spine in an infant with an associated sinus tract and a mediastinum cyst. Case report and review of the literature

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Introduction: Neurenteric cysts are rare congenital lesions, most commonly found in the cervicothoracic region of the spinal column and have an extradural location in 95% of cases, with only 5% found intramedullary. In the literature only few cases have been diagnosed in infancy. We report a case of an infant with intramedullary neurenteric cyst, emphasizing on the imaging characteristics and the surgical management.

Methods: A male infant was admitted after it's delivery for the evaluation of an abnormal protuberance in the posterior cervical region with clear liquid secretion.
Clinical examination revealed no motor weakness and good muscle tone. The MRI of the spine indicated an intramedullary, thin walled cyst at C4-T5 level with associated vertebral anomalies. The cyst communicated with a posterior mediastinal cyst and a subcutaneous cyst at the same level. An initial posterior approach was decided and the patient underwent a cervicothoracic laminoplasty and the subcutaneous and the intramedullary cysts were excised.

Results: The histological examination was suggestive of a neurenteric cyst lined by intestinal and respiratory epithelium, along with cartilaginous, fat and meningeal tissue areas (Wilkins and Odom, Type B). The postoperative clinical examination revealed no deficit and radiological follow-up showed the excision of the intramedullary part. The neonate underwent a second operation by a cardiothoracic surgery team with excellent postoperative outcome.

Conclusion: Neurenteric cysts are benign lesions with a wide embryological spectrum of anomalies between the endoderm and the dorsum of the embryo. The aim of the surgical procedure is the total excision of the cyst, avoiding any manipulation of the spinal cord. Literature supports the marsupialization of the cyst and subtotal removal in case there is strong adherence to surrounding structures. Early detection by greater awareness can prevent future cord compression and neurological deterioration from cyst expansion.