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TÍTULO: LUMBAR POLYRADICULOPATHY AS A RARE PRESENTATION OF LANGERHANS CELL HISTIOCYTOSIS: A DIAGNOSTIC CHALLENGE

IMPORTANCIA DEL CASO:

Lumbar polyradiculopathies with diffuse radicular thickening and extensive neuroaxis involvement, represent a significant diagnostic challenge. When clinical, laboratory, and neurophysiological investigations are inconclusive, surgical biopsy may play a decisive role. This case highlights an unusual presentation of Langerhans cell histiocytosis (LCH) and the role of Neurosurgery in complex diagnostic scenarios.

DESCRIPCIÓN DEL CASO CLÍNICO:

We report the case of a 14-year-old patient presenting with left gluteal pain radiating to the posterior thigh for eight weeks, followed by progressive distal motor weakness of the lower limbs over the preceding two weeks. Neurological examination revealed lower-limb weakness, with preserved cranial nerve function and upper-limb strength.

Extensive laboratory investigation, including infectious, autoimmune, and paraneoplastic studies, was unremarkable. Cerebrospinal fluid analysis showed mononuclear pleocytosis and hyperproteinorrachia, with negative microbiological results. Electromyography suggested a subacute motor neuropathy.

Lumbar MRI demonstrated loss of individual definition of the cauda equina roots at the L3 level, with thickening of some nerve roots, particularly above and below this level, without evidence of global radicular enlargement. Mild diffuse contrast enhancement of the roots was noted, and no well-defined tumoral lesion could be identified, leading to a pseudotumoral interpretation.

Given persistent diagnostic uncertainty, surgical biopsy was undertaken. The patient underwent L2–L3 laminoplasty under multimodal intraoperative neuromonitoring, including motor evoked potentials, somatosensory evoked potentials, and free-running EMG, with monopolar stimulation. Intraoperatively, the cauda equina roots appeared thickened and friable, without evidence of tumor or arachnoiditis. A non-responsive sensory root was resected for histopathological analysis, confirming Langerhans cell histiocytosis.

LECCIONES APRENDIDAS O IDEAS CLAVE:



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This case illustrates a rare pseudotumoral presentation of Langerhans cell histiocytosis in a pediatric patient. When imaging findings are non-specific and ancillary studies inconclusive, surgical exploration and biopsy are crucial, highlighting the essential diagnostic role of Neurosurgery in complex spinal inflammatory and infiltrative disorders.



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