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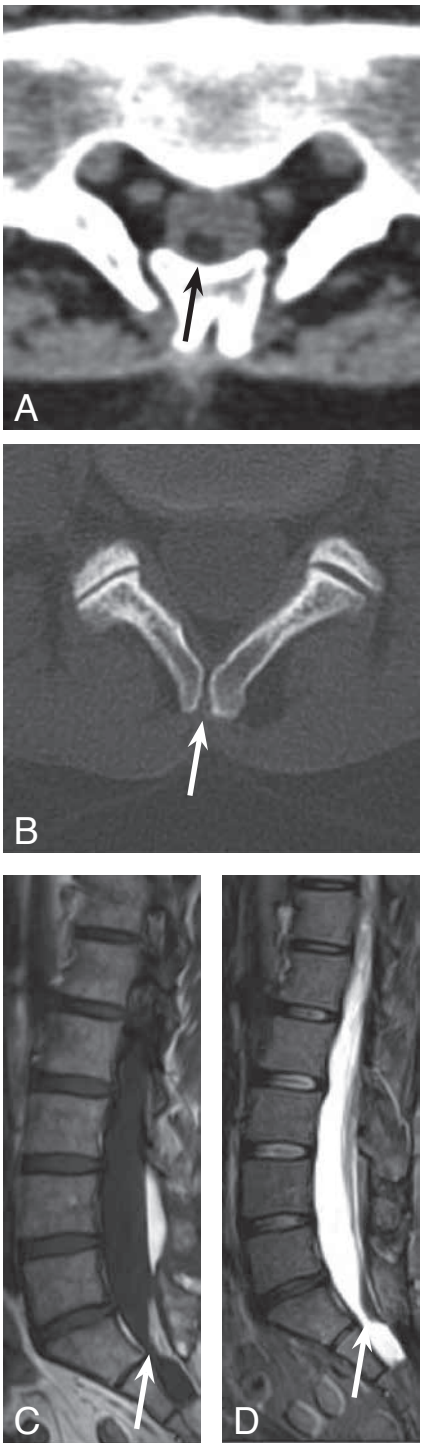
IMAGES IN CLINICAL RADIOLOGY



Adult intradural lipoma with tethered spinal cord syndrome

J. Horrion[1], M.A. Houbart[1], A. Georgiopoulos[2], N. Bottosso[1]

A 48-year-old woman presented to our imaging department with lumbar sciatica. The patient had a medical history of low back pain and spina bifida. A transverse section lumbar spine CT-scan, obtained with soft-tissue window setting (Fig. A, arrow) showed, a fat-density (45-HU), oblong, posterior intradural supracentimetric lesion, at level of L5-S1. The use of bone window setting revealed a spina bifida at L4-L5-S1 (Fig. B, arrow). Lumbar spine MRI performed shortly afterwards confirmed the presence of a posterior intradural supracentimetric lesion, at level of L5-S1, hyperintense on T1 (Fig. C, arrow) and T2, and hypointetense on T2 Stir weighted imaging (Fig. D, arrow), and showed that the filum terminale was attached to the aforementioned lesion.

It also demonstrated that the conus medullaris was in an abdormally low position, set at the spinal level of L3-L4.

Intradural spinal lipoma with tethered spinal cord was diagnosed.

The patient will benefit from physiotherapy and a surgical option could be envisaged according to the clinical evolution.

Comment

Medullary lipomas are rare tumors that account for approximately 1% of all spinal cord tumors. In children, they are responsible for tethered spinal cord syndrome in 25% to 30% of cases. The main anatomical features of this syndrome include a stretched and thickened filum terminale (over 2 mm), a conus medullaris located below L2, and a spinal cord that is attached to the posterior wall of the dural sac (by the lipoma). The most common causes of tethered spinal cord syndrome are spinal lipomas (including intradural lipomas, lipomyelomeningocele and lipoma of the filum terminale), which account for 72% of all cases. Other causes include thin filum terminale (< 2 mm in diameter) of no fatty consistency, diastematomyelia and myelomeningocele.

Three clinical syndromes can be distinguished: the neuro-orthopedic syndrome, which associates sensory, motor, and trophic deficits (pain being the main symptom in adults), the lumbosacral cutaneous syndrome, which associates a dermal sinus, a subcutaneous swelling, or an angioma (absent in 70% of cases in adults, but at least one lesion is present in 90% of cases in children), and sphincter disorders (80% of all cases).

As in all other spinal cord lesion, MRI provides the best imaging technique for spinal dysraphism. It is an essential technique for the preoperative assessment of this type of lesion, as CT-scans offer poor soft tissue discrimination, and don't allow sufficient study of the spinal cord, or its relation to the lipoma.

Lipomas spontaneously appear hyperintense on T1, and isointense relative to subcutaneous fat on T1 and T2. The use of gadolinium is of no interest as there would be no signal modification.

Reference

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1. Dpt of Neuro Imaging, 2. Medical Student, CHU Liège, Liège, Belgium.