Intraspinal Epidermoid Cyst
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History
5 year old female with back pain and lower extremity paresthesias.

Diagnosis
Intraspinal Epidermoid Cyst

Additional Clinical
History of lumbar puncture as an infant for evaluation of a febrile illness.

Discussion
Epidermoid cysts can be either congenital or acquired. Congenital epidermoid cysts result from epithelial inclusion during neural tube formation during between the third and fifth week of development. The acquired cysts arise from inclusion of epidermal structures after trauma (penetrating trauma, lumbar puncture, needle biopsy, or even a surgical procedure). The stratified squamous epithelium forms the wall of the epidermoid cyst, which is supported by an outer layer of collagenous tissue. The process of desquamation and breakdown of keratin from the epithelial lining produces the contents of the cysts, which are rich in cholesterol crystals, triglyceride and fatty acids. The contents and the wall can be calcified.

MRI can show a wide variety of characteristics. The capsule may or may not demonstrate linear enhancement. Cyst contents usually follow CSF signal but may demonstrate T1 hyperintensity if hemorrhage or lipid are present. Epidermoid cysts usually show restricted diffusion. Differentiation between intraspinal dermoid and epidermoid tumor is of little practical importance in regards to clinical presentation, radiological examination or outcome.

Findings
MR-Ovoid non-enhancing intrathecal lesion following CSF signal with peripheral displacement of the nerve roots of the cauda equina. Note the marked distention of the urinary bladder.

Reference
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