

Spinal Lipoma & Tethered Cord: Clinical and Imaging Features

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Lipomyelomeningocele: Clinical features

- Hallmark is a broad-based, raised, skin covered mass, sacral, lumbosacral or lumbar-usually midline but may be asymmetric.
- Cutaneous manifestations include hypertrichosis, dermal sinus, capillary hemangioma, pseudotail, atretic meningocele, deviation of gluteal cleft

Cutaneous manifestations









Cutaneous manifestations (cont)



Lipomyelomeningocele: Clinical features

- Classify as without or with sacral agenesis (majority without).
- Neurological exam usually normal in newborn.
- Infants may have decreased spontaneous foot/toe movement, foot asymmetry, muscle atrophy, absent or decreased ankle jerks.

Lipomyelomeningocele: Clinical features

- Toddlers may be delayed in walking, have leg length discrepancy and an abnormal gait.
- Scoliosis may be present.
- Urinary abnormalities include frequent infections, inability to toilet train, dribbling urine.

Lipomyelomeningocele: Clinical features

- Older children may complain of back or leg pain, have asymmetric motor and/or sensory deficits in the legs and perineal area, scoliosis, constipation.
- Urinary urgency and frequency, less commonly incontinence.
- May have hyperreflexia at knees, with variable findings at ankles.

Lipomyelomeningocele: Clinical features

- Adolescents/adults may present with back/leg pain (1/3)
- May be mixture of muscle atrophy/weakness and spasticity with increased knee jerks and reduced or absent ankle jerks, plus sensory deficit.
- Sphincter dysfunction common.
- May have history of removal of skin lesion in infancy.



Lipomyelomeningocele: Clinical features

- Associated sacral agenesis syndromes:
- Imperforate anus
- Cloacal exstrophy
- VATER syndrome
- Currarino syndrome

Lipomyelomeningocele: Clinical features

- Diagnosis suspected on basis of history, physical exam.
- EMG and urodynamic studies helpful in confirming clinical suspicion when no symptoms or CNS deficits subtle.
- Value of urodynamic testing in young children debatable.

Lipomyelomeningocele: Imaging features

- Ultrasound: Pre-natal may see spina bifida, subcutaneous hypoechogenic mass indicating meningocele plus thick, superficial hyperechogenic tissue; present as early as 17 weeks.
- Ultrasound=Post-natal screening exam of choice for asymptomatic infants with lumbosacral cutaneous stigmata, up to 6 months of age.
- Lipomas more echogenic than epidural fat.

Lipomyelomeningocele: Imaging features

- Plain x-rays: limited value due to lack of sacral ossification in infants.
- Part of routine work-up, especially in older children, looking for segmentation abnormalities, sacral agenesis, diastematomyelia.

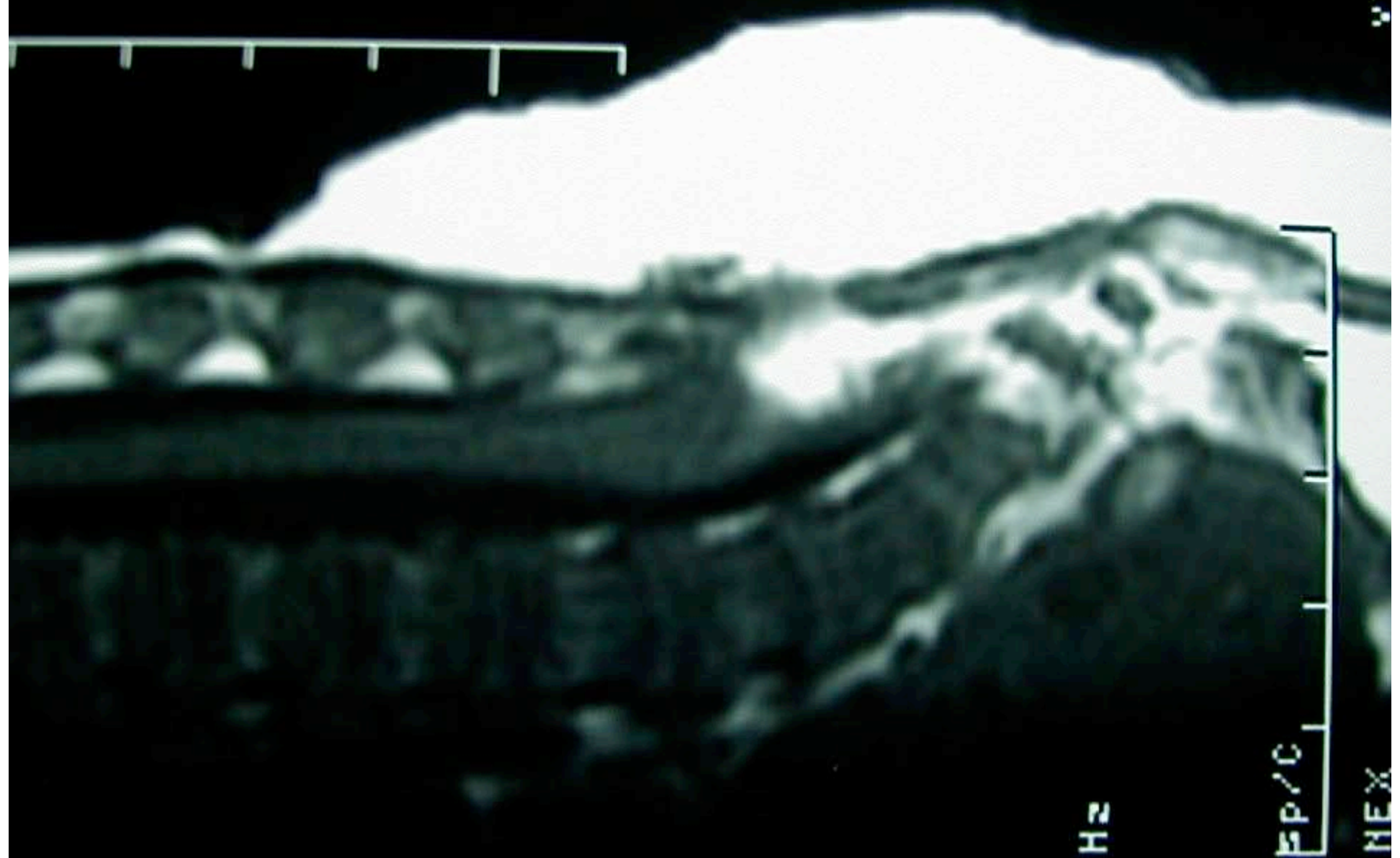


Conus Lipoma: Imaging features

- MRI scanning necessary to define anatomical abnormality, and check for co-existent syrinx/other lesions.
- Classify as caudal (sacral), dorsal (rostrally located), or transitional (most common).
- Need sagittal and axial T1 and T2-weighted images to adequately assess.
- Dynamic MRI studies - evaluate mobility of spinal cord.

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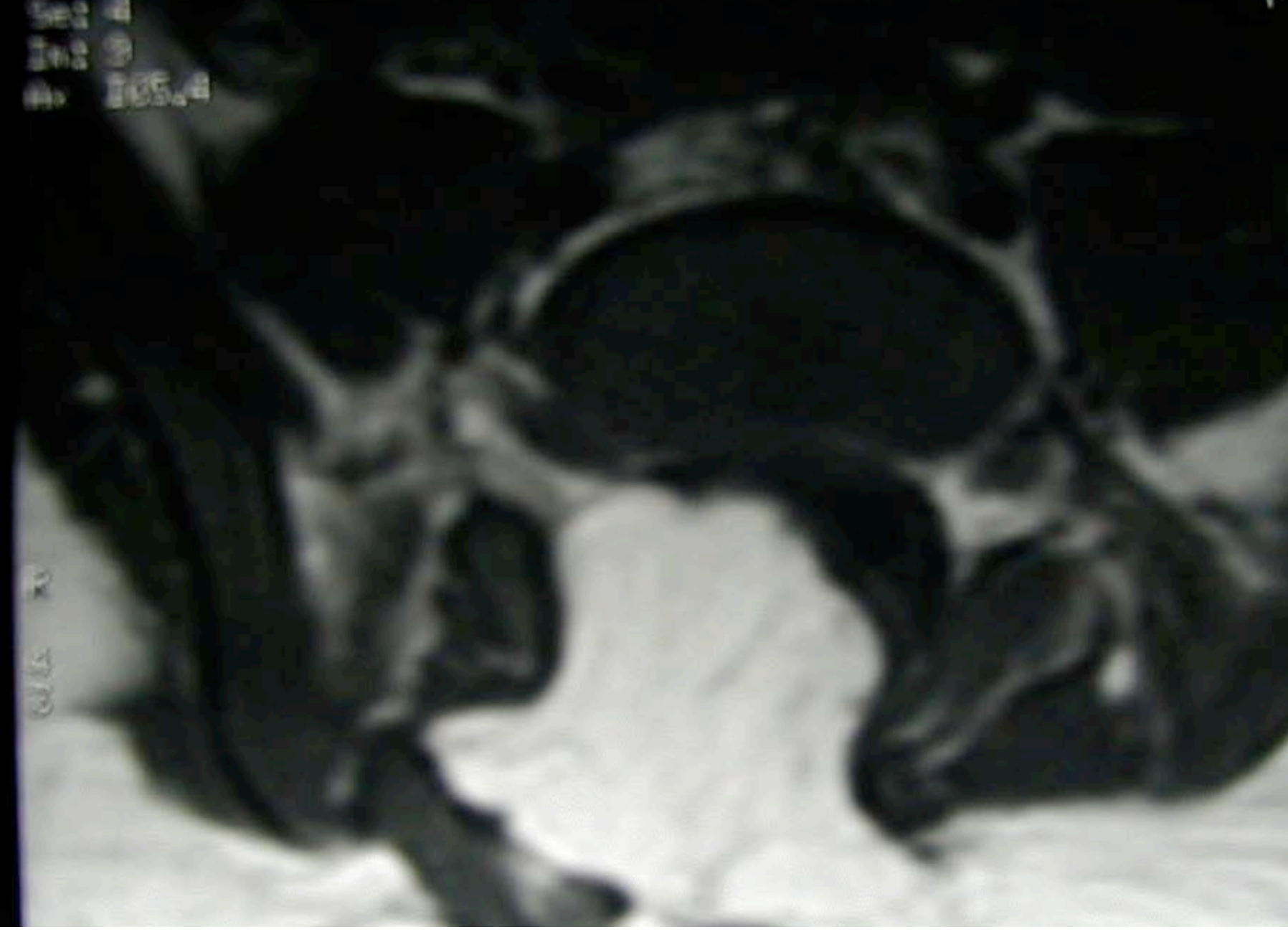


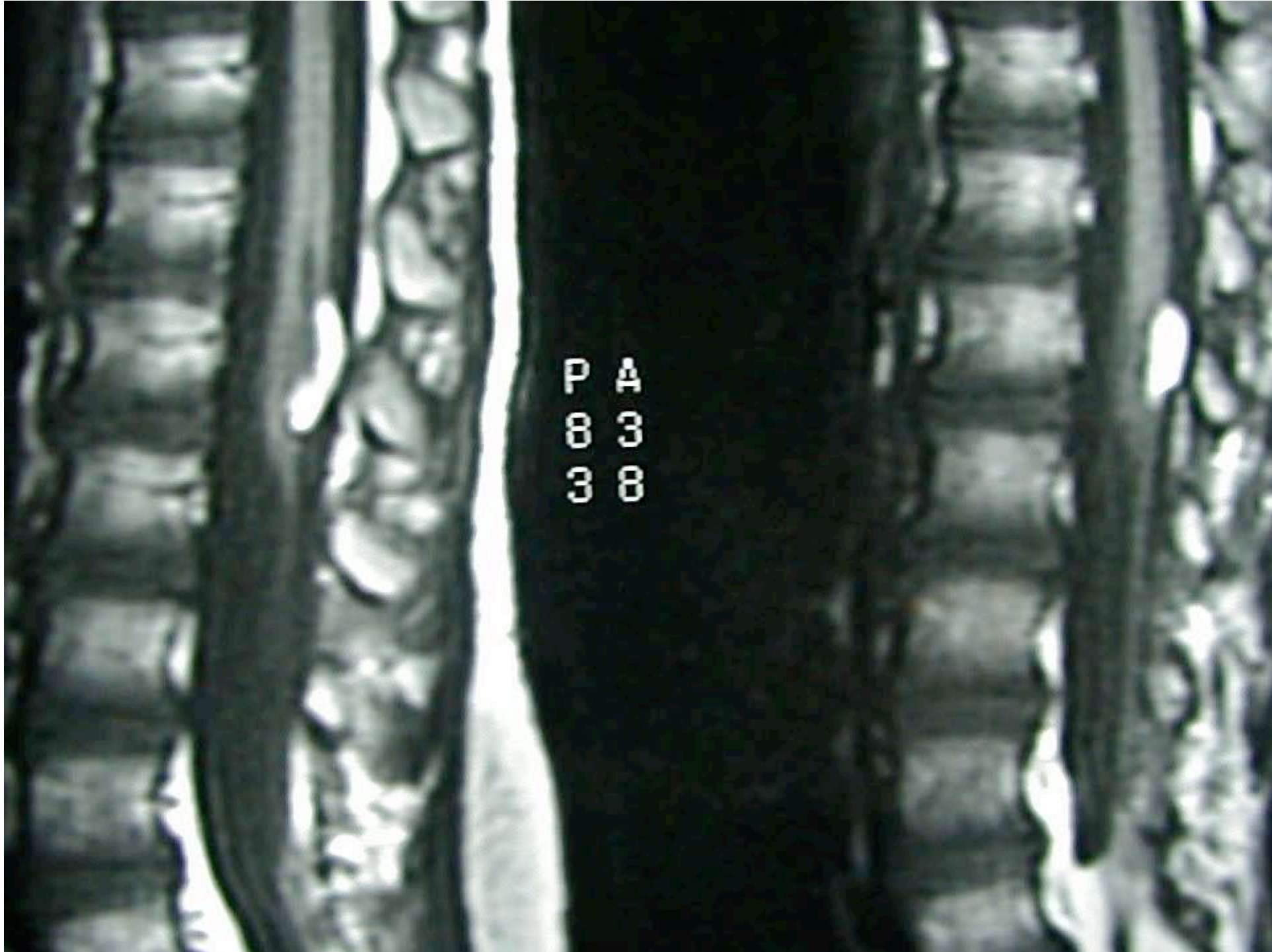
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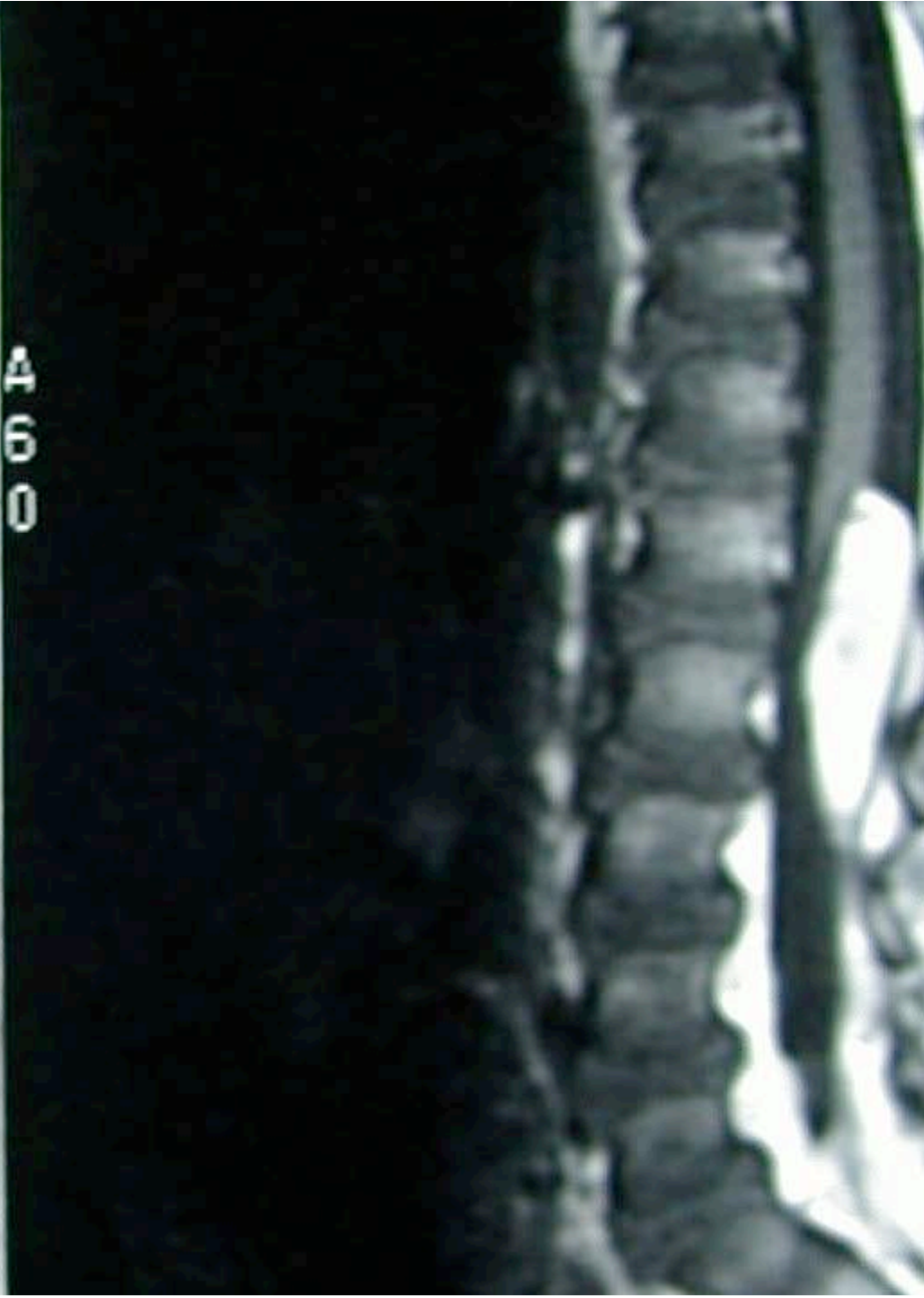




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